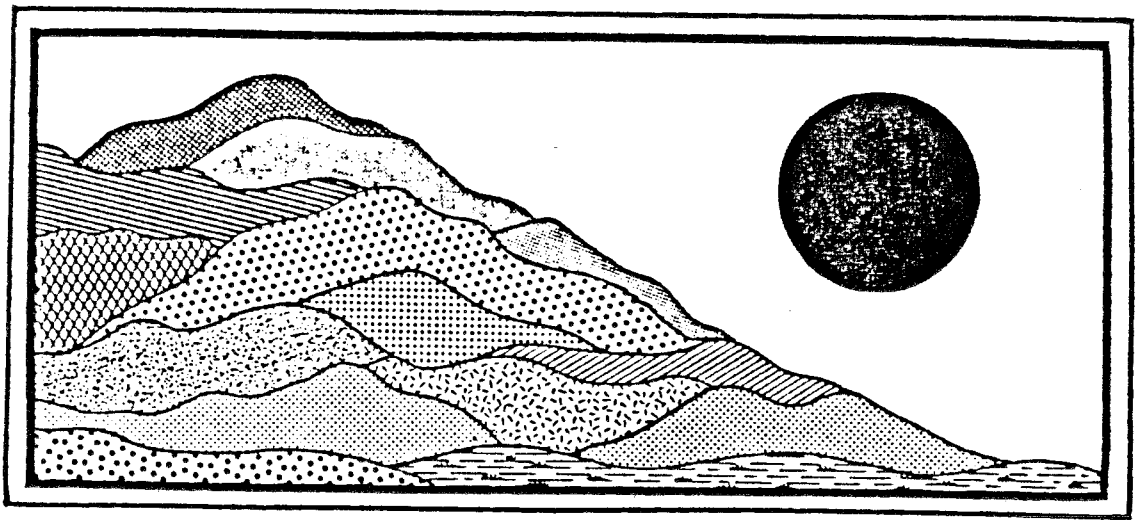
LAKE LACONIA ESTATES

Clinton, Connecticut

April 1988



ENVIRONMENTAL REVIEW TEAM REPORT

EASTERN CONNECTICUT RESOURCE CONSERVATION AND DEVELOPMENT AREA, INC.

LAKE LACONIA ESTATES

Clinton, Connecticut

Review Date: FEBRUARY 8, 1988

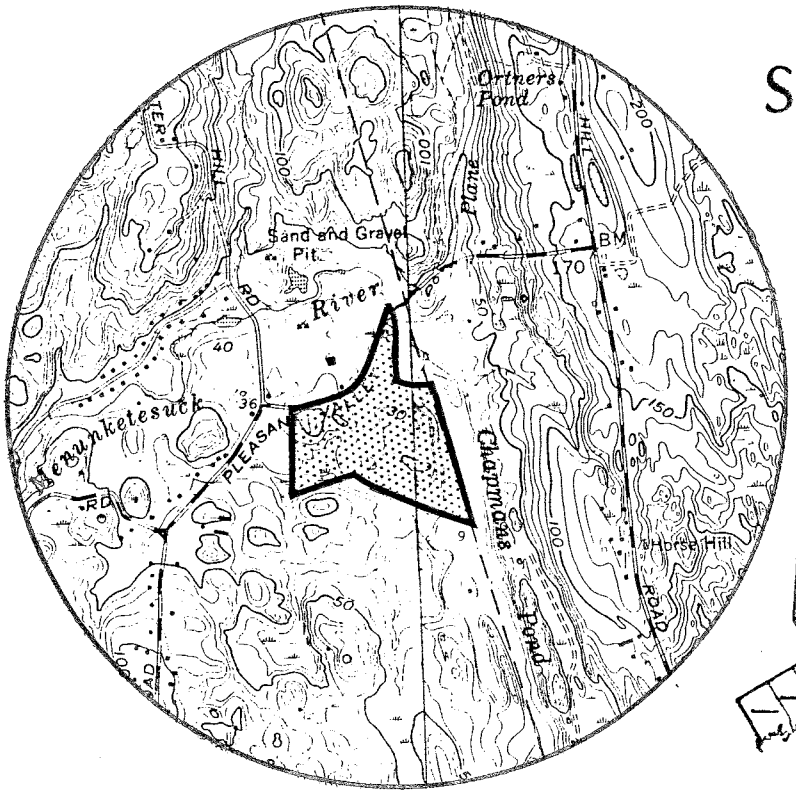
Report Date: APRIL 1988

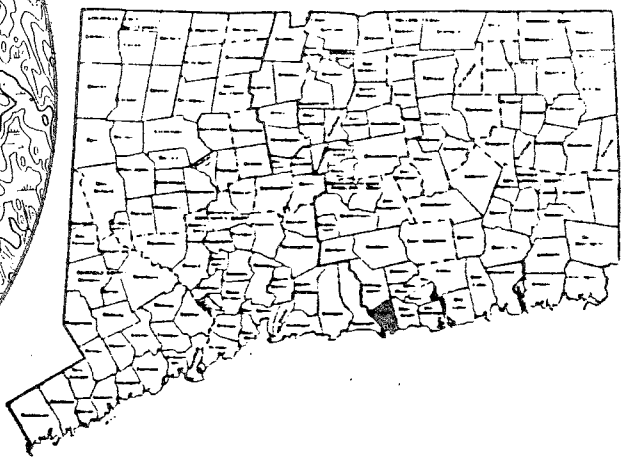
RC&D

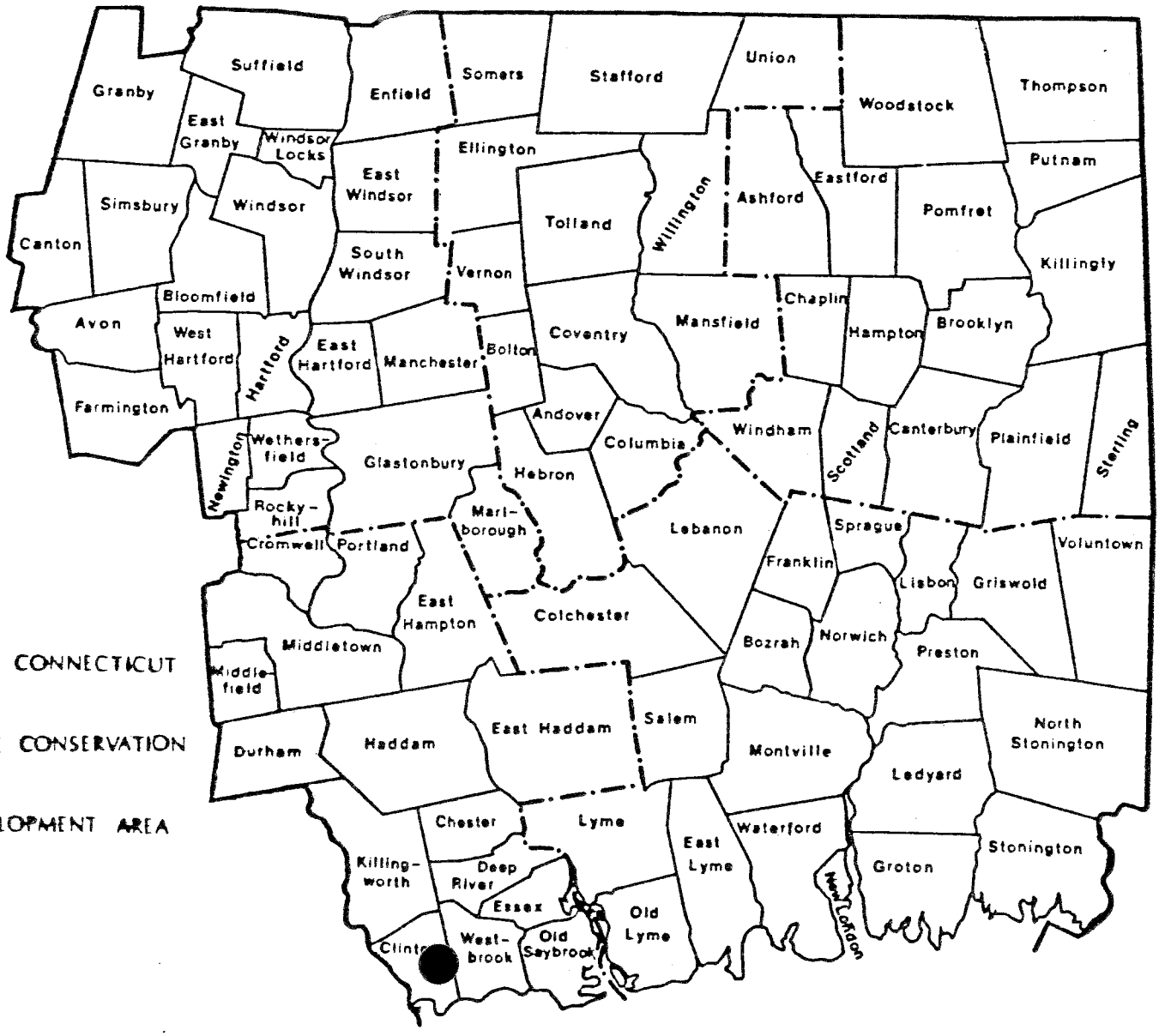
ENVIRONMENTAL REVIEW TEAM
PO BOX 198
BROOKLYN, CONNECTICUT 06234

Site Location

LAKE LACONIA ESTATES SUBDIVISION
CLINTON, CONNECTICUT







EASTERN CONNECTICUT

RESOURCE CONSERVATION

& DEVELOPMENT AREA

ENVIRONMENTAL REVIEW TEAM REPORT
ON
LAKE LACONIA ESTATES
CLINTON, 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 and the measure reviewed by the Eastern Connecticut Environmental Review Team (ERT).

The ERT met and field checked the site on Tuesday, March 8, 1988. Team members participating on this review included:

Nicholas Bellantoni	-State Archaeologist - CT State Museum of National History
Emery Gluck	-Forester - DEP, Cockaponsett Forest Headquarters
Steve Hill	-Wildlife Biologist - DEP, Eastern District
Tom Ladny	-Acting District Conservationist - U.S.D.A., Soil Conservation Service
Brian Murphy	-Fisheries Biologist - DEP, Eastern District
Nancy Murray	-Biologist - DEP, Natural Resources Center
Richard Stoecher	-Regional Planner - CT River Estuary Regional Planning Agency
Elaine Sych	-ERT Coordinator - Eastern CT RC&D Area
Bill Warzecha	-Geologist - DEP, Natural Resources Center

Prior to the review day, each team member received a summary of the proposed project, a list of the Town's concerns, a location map, a topographic map and a soils map. During the field review the team members were given subdivision plans. The Team met with, and were accompanied by the Vice-Chairman of the P&Z Commission, another Commission member, the Town's Planning Consultant, an RC&D member and the two engineers for the project. Following the review, reports from each team member were submitted to the ERT Coordinator for compilation and editing into this final report.

This report represents the Team's findings. It is not meant to compete with private consultants by providing site designs or detailed solutions to development problems. The Team does not recommend what final action should be taken on a proposed project -- all final decisions and conclusions rest with the Town and landowner. 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. The results of this Team action are oriented toward the development of better environmental quality and the long-term economics of land use.

The Eastern Connecticut RC&D Executive Committee hopes you will find this report of value and assistance in making your decisions on this proposed subdivision.

If you require any additional information, please contact:

Elaine A. Sych
ERT Coordinator
Eastern Connecticut RC&D Area
P. O. Box 198
Brooklyn, CT 06234
(203) 774-1253

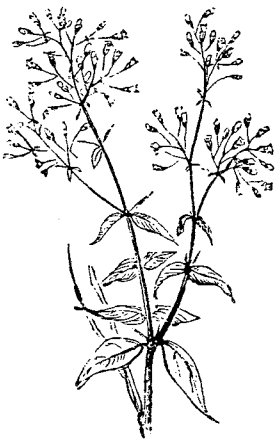


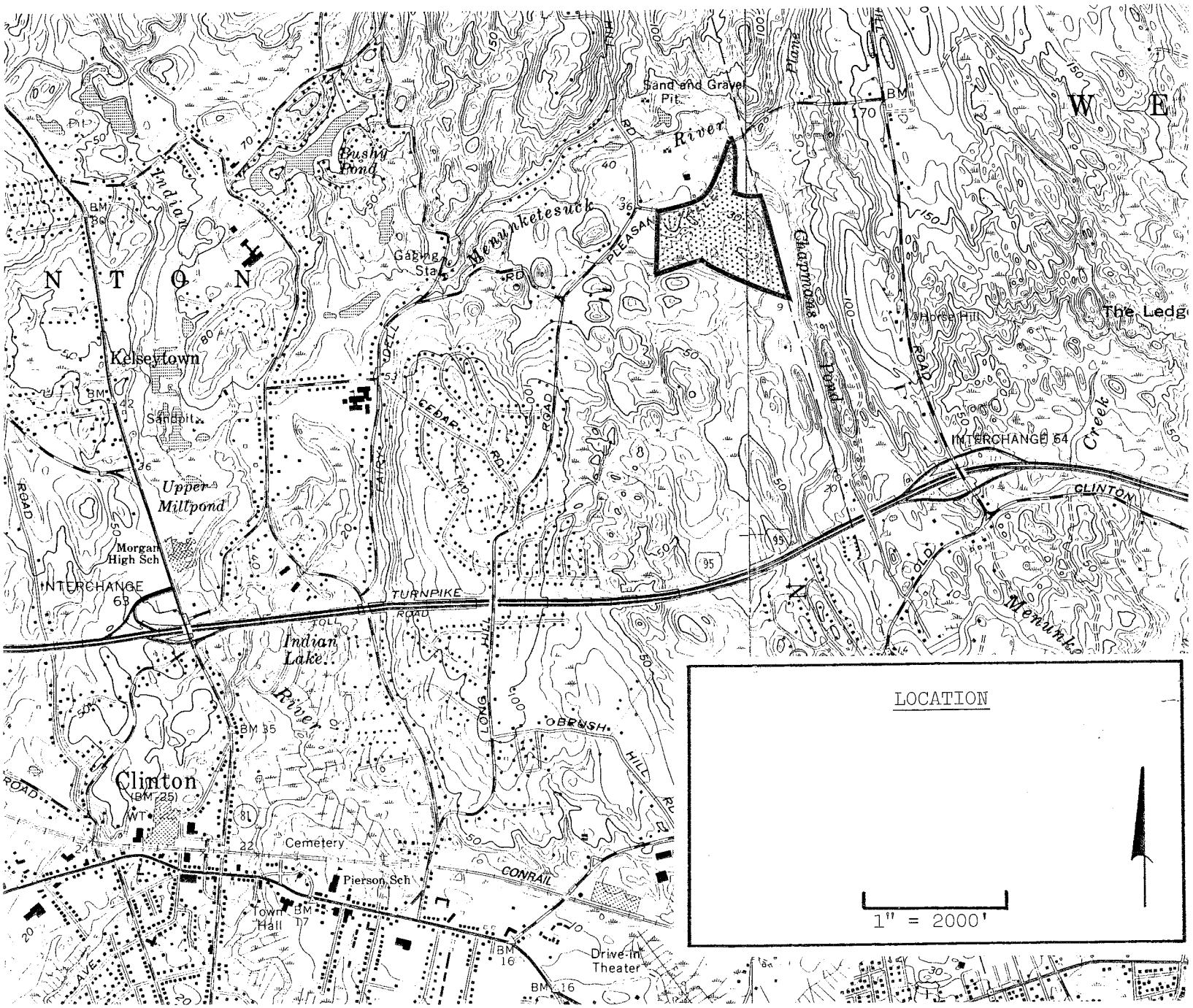
TABLE OF CONTENTS

TABLE OF MAPS

I. INTRODUCTION

The Eastern Connecticut Environmental Review Team has been asked to assist the Clinton Planning and Zoning Commission in the review of the proposed Lake Laconia Estates Subdivision.

The following sections of this report contain information on the natural resource base of the site, and comments upon areas of concern. Also included are recommendations and mitigating measures which should be taken into consideration during the decision making process.



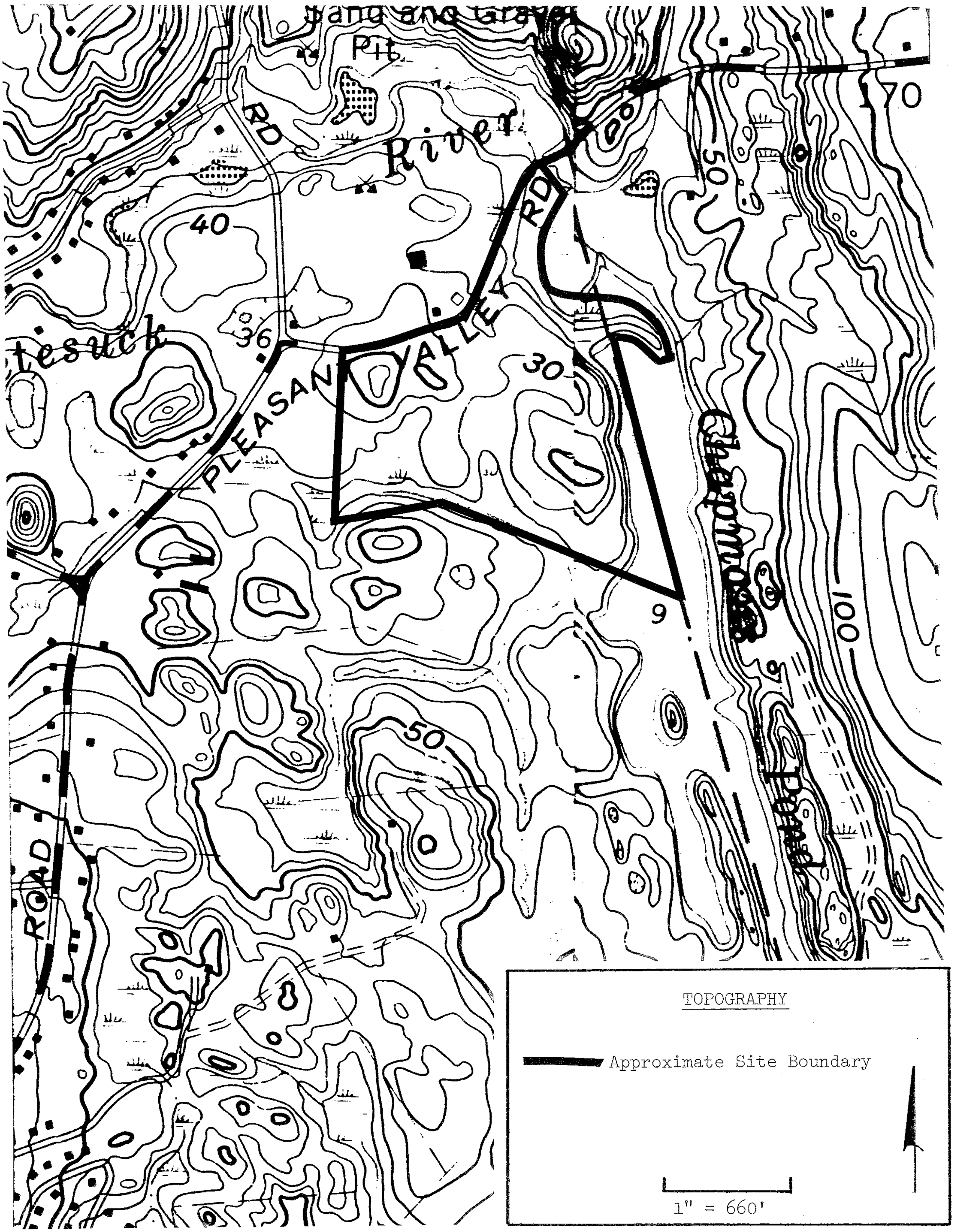
II. TOPOGRAPHY AND SETTING

The proposed subdivision site is located at the eastern limits of Clinton. The eastern property boundary marks the Clinton/Westbrook town line. Chapman's Pond, a ±40 acre surface water body and a Menunketesuck River impoundment, lies east of the site. The site consists of about 50 acres of wooded land, on which 16 building lots are presently proposed. It is located in a R-80 zone, which requires minimum building lots to be 80,000 square feet or about 2 acres in size. Present plans indicate lots will range in size from 1.84 acres to 3.79 acres. It is understood that all building lots will be served by individual on-site wells and septic systems. Access to the site is off Pleasant Valley Road. The main road into the site is Laconia Drive, which will be terminated between lots 4 and 5 as a cul-de-sac. Another spur, called Fernwood Lane is proposed off of Laconia Drive. It will terminate between lots 8 and 9 also as a cul-de-sac.

The site consists of an area of hummocky and irregular terrain. Except for the rocky knolls (ledge areas) on the site, land surface throughout most of the site is controlled by the unconsolidated materials (sand and gravel) that overlie tap bedrock surface. Site elevations range from about 10 feet above mean sea level at the eastern limits to 60 feet above mean sea level on top of the rocky knolls on the site. The majority of slopes range from flat to gentle. Areas of very steep slopes are concentrated along the eastern limits near the Menunketesuck River.

Bedrock exposures were observed in the southern part. This area has been delineated on the subdivision plan. Bisecting the central parts of the site in north/south direction are a series of low-lying topographic depressions. These conical shaped depressions are probably sites where large ice blocks detached from glacier ice during retreating periods stood and melted, leaving a void and conical depression in the final landscape. The term "kettle" or "kettle hole" is used for these depressions. (see GEOLOGY section)

Current land use in the area of the proposed subdivision is characterized by medium density single family homes and undeveloped, wooded land. Open farm fields also characterize the area.


Sand and Gravel
Pit
River
RD
RD
40
36
PLEASANT VALLEY
30
170
50
9
100
50
Pond
ROAD
TOPOGRAPHY
Approximate Site Boundary
1" = 660'

III. GEOLOGY

The subdivision site is located mainly in the Clinton topographic quadrangle. The eastern parts are encompassed by the Essex topographic quadrangle. Surficial geologic maps and bedrock geologic maps have been published for both quadrangles by the Connecticut Geological and Natural History Survey. These maps are available at DEP's Natural Resources Center in Hartford.

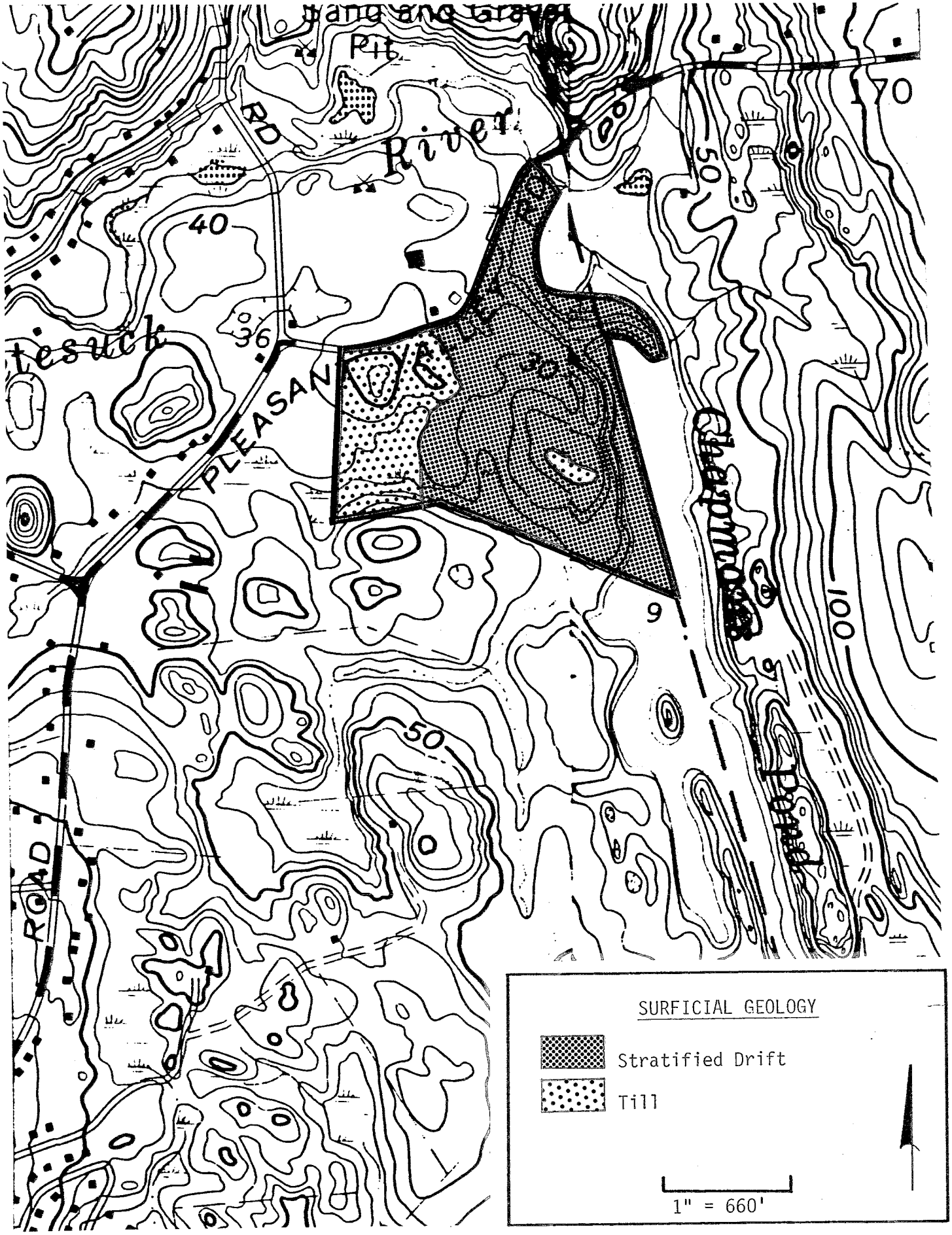
Except for the western part of the site and the top of the rocky knoll in the east central part, the site is covered by a blanket of glacial sediment called ice contact stratified drift. The western parts of the site and the rocky knoll are covered by glacial sediments called till. The till consists of a mixture of sediments that range in size from clay size particles to large boulders. Based on deep test hole data and soil mapping data, the texture of the till on the site is generally sandy and loose, but some test holes revealed the presence of silt-sized material that were more tightly compacted mostly at deeper depths. The till sediments were deposited by glacial ice as it moved across the bedrock surface from north to south-southeast. It is ten feet thick (or less) in most places.

As mentioned earlier, the remainder of the site is covered by ice-contact stratified drift. Sand and gravel are the major components of stratified drift. Sand and gravel are the major components of stratified drift. Sand and gravel are the major components of stratified drift. The sand and gravel was deposited by streams from melting glacial ice that occupied the Menunketesuck River Valley. The hummocky and rugged topography occurs where the sand and gravels were deposited on thick layers of unmelted glacial ice. Subsequent melting of the ice collapsed the sand and gravel deposits leaving a rugged, chaotic landscape which geologists refer to as collapsed stratified drift.

Overlying the stratified drift and till sediments, mainly along the Menunketesuck River and a drainage swale in the southern parts are regulated inland-wetland soils. These soils have formed since the retreat of glacial ice. Their boundaries have been delineated by a certified soil scientist and transferred to the subdivision map by survey methods. This will be a great aid to commission members as it represents a relatively accurate portrayal of regulated areas for land-use decision making.

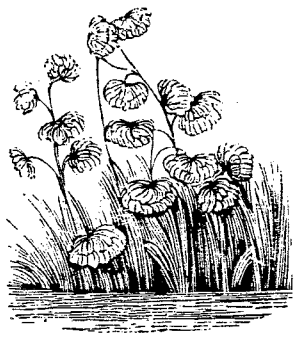
Bedrock in the vicinity of the site consists of a light to dark gray, biotite-plagioclase quartz gneiss with black amphibolite layers called Monson Gneiss. The northern parts of the site are underlain by a gray, rusty weathering medium to coarse grained, interlayered schist and gneiss called Brimfield Schist. This rock unit, which is more susceptible to weathering processes than the adjacent Munson Gneiss, does not break the ground surface. The terms gneiss and schist used in the preceding paragraphs refer to metamorphic rocks (rocks changed by great heat and pressure within the earth's


Pit
RD
River
40
36
PLEASANT
VALLEY RD
30
50
100
9
ROAD
BEDROCK GEOLOGY
Monson Gneiss
Brimfield Schist
1" = 660'


Sand and Gravel Pit
RD
River
40
36
PLEASANT
ROAD
50
100
9
SURFICIAL GEOLOGY
Stratified Drift
Till
1" = 660'

crust). "Gneisses" are generally coarse-grained, foliated rocks characterized by alternating bands of light and dark minerals. "Schists" are generally cleavable rocks with layers defined by the parallel arrangement of platy or flaky minerals.

The underlying bedrock is a source of water to many homes in the region and will be the likely source of domestic water to homes in the proposed subdivision.



IV. SOILS

The soils mapping as shown in the Middlesex County Soil Survey differs from the mapping as shown on the "Index Map and Supplemental Site Plan" submitted by the developer. The differences, however, are insignificant in regard to the overall resource management. For the purposes of this report, the soils shown on the site plan will be used, with one exception: soil classification CrC (Charlton-Hollis complex) will be added. It is believed that this soil classification exists intermingled with the soils delineated as CcC due to a few small rock outcrops found on the property. The wetland boundaries appear to be properly delineated and shown on the site plans.

Soil Descriptions

CcC - Canton & Charlton very stony fine sandy loams, 8 to 15% slopes are sloping, well drained soils on hills and ridges of glacial till plains. Areas of this unit consist of Canton soils or Charlton soils or both. The soils are mapped together because they have no significant differences that affect use and management.

The permeability of the Canton soils is moderately rapid in the surface layer and subsoil and rapid in the substratum. The permeability of the Charlton soils is moderate or moderately rapid. Both soils are medium to strongly acid.

These soils have good potential for community development with slope and stoniness as the main limitations. Steeper sections have a severe erosion hazard. Prompt establishment of plant cover, providing temporary diversions and establishing siltation basins are suitable management practices during construction.

CrC - Charlton-Hollis very stony sandy loams, 3 to 15% slopes. This complex consists of gently sloping and sloping, well drained and somewhat excessively drained soils on ridges where the relief is affected by the underlying bedrock and on upland glacial till plains. The soils in this complex are in such an intricate pattern that it is not practical to map them separately.

The permeability of the Hollis soils is moderate or moderately rapid above the bedrock. Runoff is medium to rapid. Unlimed areas are very strongly acid. Hard, unweathered schist bedrock is typically within 14 inches of the surface.

This complex has fair potential for community development. The shallow depth to bedrock in the Hollis soils and the bedrock outcrops present limitations for development, but may add aesthetic value for home sites. Septic systems located in Hollis soils require very careful design and installation. For this development proposal, a few areas of bedrock outcrop have been identified on the plans and in the field.

United States Department of Agriculture

Soil Conservation Service

Middlesex County USDA-SCS
Middlesex County Extension Center
Haddam, CT 06438
345-3219

Scale 1" = 1320'

HkC - Hinckley gravelly sandy loam, 3 to 15% slopes, is excessively drained and gently sloping or undulating soil on stream terraces, kames and eskers. This soil has rapid to very rapid permeability and water capacity is low. Unlimed areas are extremely acid to medium acid.

This soil has good potential for community development with limitations by slope and droughtiness. Steep side slopes of excavations are unstable, and on-site sewage disposal systems need careful design and installation. Lawns have many pebbles on the surface. Lawn grasses, shallow-rooted trees and shrubs require watering in the summer. Quickly establishing plant cover is a recommended management practice during construction.

HME - Hinckley and Manchester soils, 15-45% slopes are moderately steep to very steep and excessively drained. They are located on kames and eskers of outwash terraces and plains.

The permeability and runoff are rapid, and these unlimed soils are acidic. These soils have poor potential for community development. They are limited mainly by steep slopes which are unstable when excavated.

On-site septic systems need very careful and often special design and installation to ensure that effluent does not seep to the surface. Lawns, shallow-rooted trees and shrubs need watering in the summer. Quickly establishing plant cover, providing temporary diversions and establishing siltation basins are suitable management practices during construction.

HpE - Hollis-Charlton extremely stony fine sandy loam complex, 15-40% slopes consists of moderately steep to very steep, somewhat excessively drained and well drained soils on ridges where the relief is affected by the underlying bedrock on upland glacial till plains. The areas have a rough surface with bedrock outcrops, narrow, intermittent drainageways and small, wet depressions.

The permeability of the Hollis and Charlton soils is moderate to moderately rapid. Unlimed areas are moderately to very strongly acidic.

This complex has poor potential for community development, limited mainly by the steep slopes, shallowness to bedrock, rock outcrops and stoniness. Excavation is difficult because of the shallow depth to bedrock in many places. On-site septic systems require very careful and often special design and installation. The rock outcrops, stones and boulders have aesthetic value and are sometimes left undisturbed. During construction, quickly establishing plant cover, providing temporary diversions and establishing siltation basins are suitable management practices.

Ru - Rumney fine sandy loam is a nearly level, poorly drained soil found on flood plains of the main streams and their tributaries. This soil is a regulated inland-wetland soil as defined under P.A. 155.

This soil has a seasonal high water table at a depth of about 10 inches from late fall until mid-spring. The soil is subject to frequent flooding, mostly from fall through spring.

This soil has poor potential for community development. The soil is poorly suited for homesites because it is limited mainly by the hazard of flooding and high water table. Steep slopes of excavations are unstable. Quickly establishing plant cover, providing temporary diversions and establishing siltation basins are suitable management practices during construction.

V. HYDROLOGY

The entire subdivision site lies within the Menunketesuck River watershed. Menunketesuck River ultimately flows into Lond Island Sound. At the head of Chapman's Pond, the Menunketesuck River drains an area of about 14.1 square miles or 9,024 acres. The subject site, which is about 50 acres in size, represents about .5 percent of this drainage area. The wetland areas as well as Chapman's Pond will serve as natural runoff detention areas. This will help to lessen the effects of post-development runoff from the site. Also, because the proposed density is relatively low, post-development runoff increases would not be expected to be very high. However, in order to determine the impacts of post-development runoff, the applicant needs to produce a stormwater management plan which includes pre- and post-development hydrologic calculations. The applicant's engineer has not provided computations to date. Once the stormwater drainage plans and computations have been completed, the town's engineer and/or a consulting engineer familiar with road drainage should review the plan.

Another concern with increased runoff is the potential for stream-bank erosion and gulleying. In view of the very steep slopes along the Menunketesuck River, sandy soils, and existing high water quality of the River and Chapman's Pond in the eastern part, the potential for erosion related problems would be expected to be high, especially if a comprehensive erosion and sediment control plan is not developed for the subdivision. The Connecticut Soil Erosion and Sediment Control Act (Public Act Number 83-388), which became fully effective July 1, 1985, requires a detailed erosion and sediment control plan for the project. The erosion and sediment control plan should be properly enforced by the Town. Disturbed areas should be kept to a minimum under such a plan. Every effort should be made to protect the Menunketesuck River, Chapman's Pond and the watercourses on the site from road sand and silt. The erosion and sediment control measures called for under the plan should be shown on the final subdivision plan. (See Section VI for further detailed information)

Groundwater in the area is classified by the Department of Environmental Protection as GA, which means that it is suitable for private drinking water supplies without treatment.

VI. EROSION AND SEDIMENTATION CONTROL

The Lake Laconia Estates subdivision proposal encompasses 50.6 acres of rolling and uneven terrain, generally in the 3 to 15% slope category. A few bedrock outcrops have been identified, and a very high and steep slope borders Chapman's Pond and the Menunketesuck River on the eastern border of the property. The southern boundary borders a wetland and the northern border is bounded by Pleasant Valley Road.

The majority of the site is rolling and uneven. Most of the slopes are short, not to seep, and they frequently border depressions which act as siltation basins.

Traditional erosion and sediment control measures as described in the 1985 Connecticut Guidelines for Soil Erosion and Sediment Control, if properly installed and maintained, should prove effective. Chapter 4 of the Guidelines provides a list of what should be incorporated in the erosion and sediment control plan, and it is recommended that this list be consulted and plans developed accordingly. To decrease the chance of erosion and sedimentation, a few recommendations are suggested:

--Limit the amount of exposed land at any one time.
--Temporary seed and mulch disturbed areas, especially around home sites, until grading and reseeding with permanent vegetation are accomplished.
--Limit site disturbance to the period between late spring to early fall; additional disturbance after this period should be avoided.
--Temporary and permanent seeding and mulching should be completed no later than October 1 for the winter and spring months. Seeding after October 1 would not provide adequate protective cover for these months.
--Quickly establish plan cover and mulch.
--Apply approximately 2 to 3 tons per acre of lime with 10-10-10 fertilizer for better vegetative growth.
--Because of the general droughtiness of the soils, late summer-early fall (August 15--October 1) seedings would be expected to grow and become better established. Summer dry spells may kill spring seedings.

The two areas of erosion and sediment control concern are along the wetlands and the southern and eastern borders of the property. Special efforts must be made to control and trap any sediment and silt at the site of disturbance and to exclude it from the wetlands.

The steep slopes on the eastern border along the Menunketesuck River and Chapman's Pond mapped as HME, Hinckley and Manchester soils and CcC, Canton and Charlton soils are extremely sensitive to disturbance, and the slopes should not be cleared nor developed. Once cleared of protective vegetation, this slope would erode quickly and would be difficult to restabilize properly. Including this slope as part of a conservation zone or open space to protect its vegetative cover is highly recommended.

The erosion and sediment controls indicated on the site plans are generally adequate and should be reviewed by the town commission to insure that all required information is presented and that the identified sensitive sites will be adequately protected.

VII. GEOLOGIC DEVELOPMENT CONCERNS

Based on soil mapping data, deep test hole information and geologic mapping data, the geology of the site should not pose any major difficulties with respect to the proposed subdivision. Except for two percolation tests (Lots 2 and 13), which revealed percolation rates faster than 1 minute per inch, deep test holes excavated on each lot indicates that conventional septic systems can be accomplished on each lot. Because of the recorded fast percolation rate (faster than 1 minute per inch), the prescribed 75 foot separating distance between the water supply well and septic system on Lots 2 and 13 should be doubled to 150 feet provided the withdrawal rate of the well is under ten gallons per minute. Since lot sizes are relatively large, the design engineer will have greater flexibility for locating septic system areas. It should be noted that an area of ledge outcropping was observed during the field walk. It is designated as HpE on the site plan and is located in the northwest corner of the site. The bedrock surface was not encountered in the deep test holes on these lots. If the septic system is located outside the areas originally tested, it would be wise to test within each exact leaching area.

As mentioned earlier, sandy and gravelly soils cover the eastern portions of the property. A principal concern with the installation of waterlines and electric lines is the possibility of "cutback cave-ins" in the sandy and gravelly soils. The trenches in these sandy and gravelly soils should have the pipes and conduits placed and backfilled as soon as possible after excavations. Proper shoring of sides should be accomplished in trenches over five feet deep.

Another area of concern which should be given further attention is the setback distance of structures on Lots 15 and 16 from the top of the very steep embankment that parallel the river. Present plans indicate a 25-30 foot setback from top of slope on these lots. This setback distance should probably be a minimum at best. It would be wise for the applicant to consult with a soils engineer on this matter to ensure that slope failure (slumping soil) does not occur. Generally, it is desirable to maintain at least a 3:1 slope from the bottom of the structures foundation to the top of slope. Because of its close proximity to the river, sandy and gravelly soils and steepness of slopes, these areas should require controlled land use to minimize the hazard of pollution, erosion and slope failure.

VIII. WATER SUPPLY

Since there are no public water supply lines accessible to the parcel, it seems likely the proposed subdivision would be served by individual on-site wells. It appears that wells will need to tap the underlying bedrock aquifer. Wells drilled in bedrock generally supply small but reliable yields of groundwater. However, since the yield of a given well depends upon the number and size of water bearing fractures that it intersects and since the distribution of fractures in bedrock is irregular, there is no practical way outside of expensive geophysical testing, of predicting the yield of a well drilled in a specific location. Because fractures in the rock generally occur within the first 100 to 150 feet below the surface, it has been shown that the probability of increasing the yield of a well decreases with depth below this level.

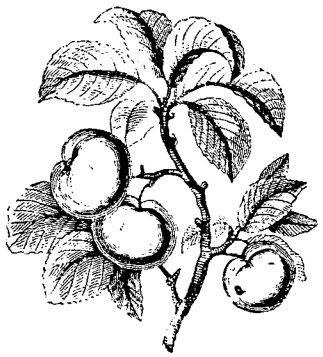
Ideally, each well should be located on a relatively high portion of lot, properly separated from the sewage disposal system and any other potential pollutant (e.g., fuel oil storage tank, etc.) and in a direction opposite the expected direction of groundwater movement. They should all be cased with steel pipe into the underlying bedrock. In order to provide adequate protection of the quality of the bedrock water, all wells will need to be properly installed in accordance with applicable State Public Health Code and Connecticut Well Drilling Board regulations. In addition, the Town Sanitarian for each Town will need to inspect and approve well locations.

In the lower Connecticut River Basin, 314 wells tapping crystalline bedrock (i.e., gneisses, schist, etc.) were surveyed in Connecticut Water Resources Bulletin No. 31. Of these, approximately ninety percent (90%) yield just under 2 gallons per minute or more; approximately fifty percent (50%) yielded about six (6) gallons per minute or more; and approximately ten percent (10%) yielded eighteen (18) gallons per minute or more. A well yield of three (3) gallons is generally satisfactory for most domestic uses.

The natural quality of groundwater should be satisfactory. The schists and gneisses beneath the site may have elevated amounts of iron/and or manganese minerals which would lower the overall quality. Of the rock units underlying the site, Brimfield Schist would have the greatest potential for this. If elevated iron and/or manganese levels are present in the water, it may be necessary to provide suitable treatment filters.

The sandy and gravelly deposits in the eastern limits may have textures saturated thicknesses and other hydrogeologic qualities that are favorable for yielding moderate to very large amounts of water (50-2,000 gallons per minute) to individual wells. Hydrogeologic data for the sand and gravel deposits on the site are incomplete and verifications require further investigation.

The applicant wished to develop several lots in this area, ranging between 2 and 4 acres. Due to the low density of the lots and with sufficient testing, proper design and construction practices for on-site sewage disposal systems, the risks to groundwater quality in this area would be expected to be low.



IX. VEGETATION

The vegetation of the property is typical of the central hardwood zone that occurs in southern Connecticut. The property can be divided into five vegetation types: a hardwood swamp, an abandoned field, two mixed hardwood types and a field. The acreage of the vegetation types were obtained from aerial photographs and should only be used as estimates.

Vegetation Type Description

Type A (mixed hardwoods) - this fully stocked stand (23 acres) is predominantly composed of poor and medium quality sawtimber (trees 11.1" in diameter at breast height and larger) and poles (trees 6.1" to 11" DBH). The overstory is composed of white oak, scarlet oak, black oak, red oak, hickory, beech, red maple and yellow birch. The understory includes beech, American chestnut, white pine, black birch, red maple, sugar maple, scarlet oak. The shrub layer and ground cover are made up of American hornbeam, evergreen wood fern, mountain laurel, maple-leaf viburnum, lowbush blueberry, sweet pepperbush, stripe pipsissewa and ground cedar. Scarlet and white oak are more abundant along the ridges while red oak, beech and yellow birch are more prevalent close to the drainages.

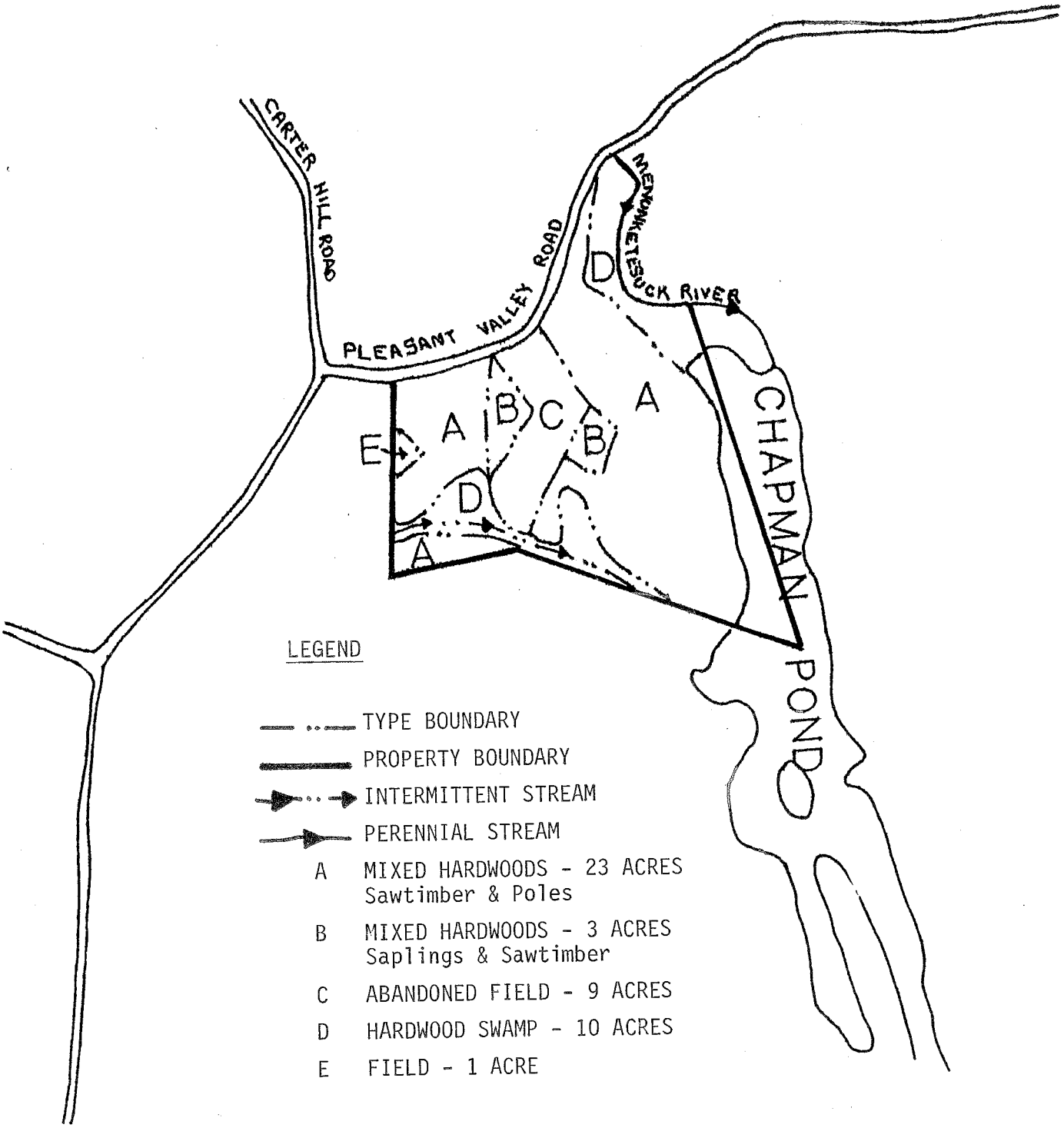
The stand appears to be relatively healthy considering the excessively drained soils often lead to droughty growing conditions. A modest proportion of the black oak is experiencing some dieback in their crowns. The excessively drained soils provide a poor growing site for hardwoods on the ridges while the moister soils close to the drainages and on the lower slope provide an average hardwood growing site. The overstory trees vary from 90 to 120 years old.

Type B (mixed hardwoods) - this sawtimber and sapling (trees 1.1" to 6" DBH) stand (3 acres) seeded in naturally when the grazing of livestock in the area ceased. The large low branches on the sporadic sawtimber trees are indicative of trees grown in the open or a pasture-like area. Black oak, scarlet oak, and white oak occur in the overstory. Scarlet oak, white oak, white ash, sugar maple and red cedar occur in the understory.

The larger black oak on the western proportion of the stand is experimental with some oak decline. The rest of the stand appears relatively healthy. This area represents a poor to average site for growing hardwoods.

Type C (abandoned field) - the termination of agricultural use has allowed this field (9 acres) to start the natural reforestation process. The tree species present (red cedar, trembling aspen, black cherry, sassafras, grey birch, red maple, white pine and white oak) are common to early successional forests. The lesser vegetation includes bayberry, sumac, shadbush, sweet fern and Dyer's greenweed.

VEGETATION


CARTER HILL ROAD
PLEASANT VALLEY ROAD
MENOMONKETESUCK RIVER
CHAPMAN POND
A
B
C
D
E
LEGEND
TYPE BOUNDARY
PROPERTY BOUNDARY
INTERMITTENT STREAM
PERENNIAL STREAM
A MIXED HARDWOODS - 23 ACRES Sawtimber & Poles
B MIXED HARDWOODS - 3 ACRES Saplings & Sawtimber
C ABANDONED FIELD - 9 ACRES
D HARDWOOD SWAMP - 10 ACRES
E FIELD - 1 ACRE

Type D (hardwood swamp) - this sawtimber and pole stand (10 acres) is fully stocked. Red maple is the predominant tree species. Scarlet oak, black gum, red oak, sassafras, tulip poplar, grey birch, white oak, and white cedar made up the small tree species.

The lesser vegetation includes hop hornbeam, American hornbeam, spicebush, swamp azela, sweet pepperbush, green briar, skunk cabbage, spagnum moss, grape, American wisteria and highbush blueberry.

The growing site is limited by the high water table in the areas next to the river and the swamp. The drier sections of this type provide an average site for growing hardwoods.

Field - 1 acre

Limiting Conditions/Potential Hazards

The overall condition of the forested area is acceptable. There are a few trees that have advanced decay. Most of the advanced decay is associated with forest fires that have occurred in Type A. The decay is prevalent in rot prone scarlet oak.

Some of the black birch is affected with nectia canker. The formation of cankers on the trunks of these trees structurally weakens the trees and makes them more susceptible to breakage. The number of black oaks experiencing oak decline and subsequent mortality should be expected to increase as the trees age in Types A and B.

Windthrow is a potential hazard in Vegetation Type D. Tree root depth is restricted by saturated soils. Saturated soils are more pliable than unsaturated soils. Shallow root systems and saturated soils make wetlands very susceptible to windthrow. Heavy harvesting of trees that produce openings in the forest canopy should be avoided in areas with saturated soils since trees rely on each other for support.

Construction activities should be planned and conducted to minimize disturbances around the trees and in sections of the forest that are to be saved. Road building, filling, excavation and soil compaction (from heavy machine use) may adversely affect the moisture and aeration balance within the soil. This could lead to the decline in tree health and vigor and may eventually lead to the death of the tree within three to five years. Physical damage to the root system and trunk of the tree by machinery may also result in the decline of individual trees and/or the introduction of decay. It is advisable that construction activities and heavy machine use should not be allowed on the steep slope (up to 48% grade) bordering Chapman Pond. These activities would reduce the permeability of the soils (through compaction) and therefore would increase the runoff and erosion potential. The cutting of trees on the slope will cause little or no increased erosion. The only erosion expected is if any trees slide downhill. Other than trees

sliding, soil disturbance will be minimal. The soil will be held in place by the root system of the existing vegetation and those of the severed trees (which will retain its binding power for several years). New vegetation will germinate where there is an increase in sunlight or exposed soil by the next growing season.

Aesthetic Considerations

This forested parcel of land offers many of the rural amenities that prospective homeowners are interested in. The larger size of the proposed house lots will allow the possibility of leaving much of the forest intact. A continuous forest would offer good screening effect and privacy between house lots. Also, a forested parcel gives the appearance of being larger than an open lot of the same size.

Large, healthy trees are usually considered aesthetically pleasing. The retention of these trees could add a considerable amount of aesthetic and shade value to the residential area. The healthy overstory trees have the most potential to increase rapidly in size and should be retained where possible. Most of the healthy dominant red oak and beech should be able to grow to 20" to 26" in diameter. Most of the healthy dominant white oak and scarlet oaks should be able to grow to 11" to 20" in diameter.

The aesthetics of the property can be enhanced (in certain areas) if the depth of the view in the forest is not limited (or obstructed) by numerous small trees. Better views of the rock outcrop, the brook and the lake (through a forest setting) would be an asset to the forest aesthetics.

The removal of a large percent of the trees may have an adverse effect on the remaining trees. The sudden shock of being left in the open may be too much for a tree grown in the forest all its life. White oak, in particular, has a high mortality rate once it suddenly experiences total exposure. Oak will sprout unsightly epicormic branches along its trunk when the trunk is exposed to direct sunlight. Trees in the open are also more susceptible to damage from ice storms that may cause considerable crown breakage. Windthrow is also more prevalent in areas where a large percent of the trees have been removed.

Most of this woodland tract is particularly susceptible to infestation by gypsy moth because of its large component of oak and location on a dry ridge. The defoliation has also been a factor that contributed to the crown dieback of oak. Moisture stress, defoliation, and adverse environmental factors may lead to oak decline. Favoring trees that the gypsy moth does not like to feed upon would make the area less susceptible to defoliation. Black birch, sugar maple, pignut hickory, yellow birch, red maple and tulip are some of these species that are not readily defoliated.

Management Consideration

The maintenance and development of healthy, vigorous forests should be a major concern in the development of the tract. Low vigor trees are more susceptible to insect and disease problems and therefore have a higher mortality rate.

Forest stands that are experiencing stress from crowded conditions or lack of moisture may decline in health. Good forestry practice reduces stress by relieving the crowding of overstocked stands. Properly managed forests also grow at a faster rate and therefore trees obtain a larger girth.

Vegetation types A & B would benefit from a light thinning. Undesirable trees that compete with a healthy overstory of trees for growing space should be harvested. This will account for less than one third of the overstory trees. Trees with significant amounts of decay and those experiencing crown dieback can be considered undesirable.

The thinning could include removing undesirable understory trees in those areas where the view depth in the forest is important. Management should favor shade tolerant trees (i.e. sugar maple, black birch, beech) so that there will be some healthy trees in the understory to replace overstory trees as they die out in the future.

With good planning, the sawtimber trees in the areas to be cleared (i.e. where roads, drive, and building areas will be located) could be removed in the thinning operation. The side roads for thinning and land clearing should follow the route of the proposed roads and driveways in order to minimize disturbance in the forest.

Softwoods are more suitable than hardwoods on the gravelly knolls Type A. Conifers, which have lower nutrient requirements than hardwoods, would be under transition to a stand with a softwood component could be made if white pine is underplanted on a 15' spacing after a thinning that removes at lease one third of the poorest hardwoods. Additional hardwoods should be removed within 25 years of the underplanting since white pine will loose its vigor if shaded for a long period of time.

X. NATURAL DIVERSITY DATA BASE

The Data Base maps and files regarding the study area have been reviewed. According to our information there are no Federally listed Endangered Species or "Species of Special Concern" that occur within the proposed project area.

The following information is provided so you may be aware of the nearby presence of these biologic resources. Based on the limited information provided, no direct negative impacts are foreseen to these resources. If evaluation of additional information presents any questions, please contact the Natural Diversity Data Base.

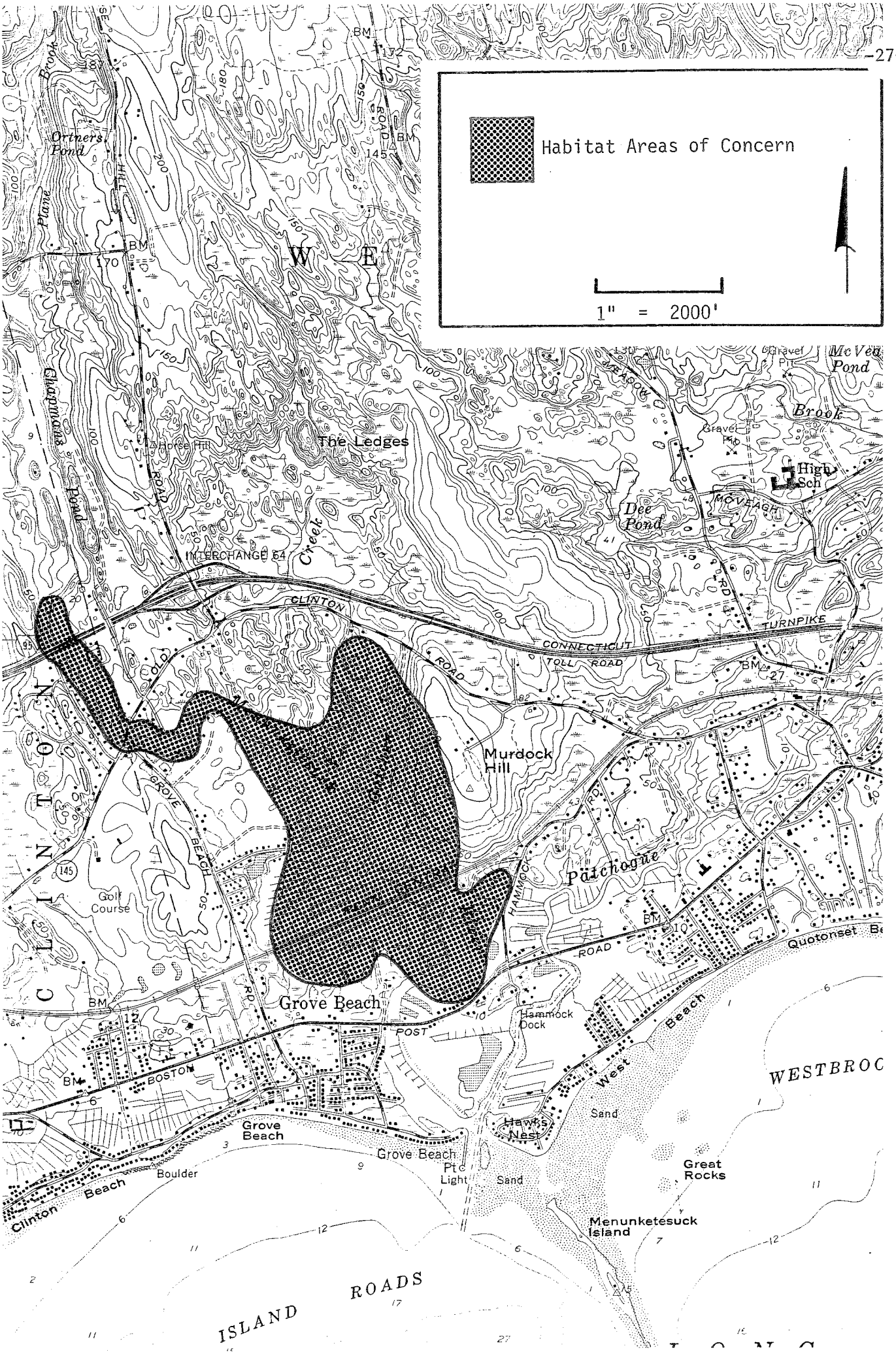
However, the records indicate several "Species of Special Concern" and a habitat of concern below the dam at the southern end of the lake. The habitat of concern is a Natural Area Inventory site and a Wetland of Special Concern (described below).

Natural Area Inventory sites: In 1972 the Connecticut Forest and Park Association, Inc. prepared a Natural Area Inventory which included 459 sites. These were nominated as significant sites for one or more of the following attributes: geologic, hydrologic, biologic, archeologic, cultural, aesthetic, research/educational. A site receives no legal protection by being included on the Natural Areas Inventory list.

Wetland of Special Concern: A document entitled Wetlands of Special Concern in CT was provided to Commissioner Carothers in March 1988. Wetlands on this list were recommended based upon their having a number of features such as 1) presence of Species of Special Concern, 2) outstanding biological productivity, 3) rare or infrequent habitat types, 4) significant concentrations of plants or wildlife, 5) rare or infrequent biotic communities, 6) critical scientific/research areas.

A small parcel of the area indicated on the following map is owned by The Nature Conservancy.

Natural Diversity Data Base information includes all information regarding critical biologic resources available to us at the time of the request. This information is a compilation of Geological and Natural History Survey and cooperating units of DEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultation with the Data Base should not be substituted for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available.


Habitat Areas of Concern
1" = 2000'
Orriners Pond
Plane Brook
Horse Hill
The Ledges
Cedar Swamp
Pond
Creek
INTERCHANGE 64
CLINTON
CONNECTICUT TURNPIKE
TOLL ROAD
COLD
GROVE BEACH
Golf Course
Murdock Hill
Dee Pond
McVEAGH
High Sch
Gravel Pit
McVeigh Pond
Brook
Päichogue
HAMMOCK
Quotonset
Grove Beach
POST
BOSTON
Hammock Dock
West Beach
Sand
Hawks Nest
Grove Beach Pt
Light
Great Rocks
Menunketesuck Island
Clinton Beach
Boulder
WESTBROC
ISLAND ROADS

XI. WILDLIFE HABITAT

The site is comprised of four distinct wildlife habitat types: mixed hardwoods, hardwood swamp, old field and wetland.

Mixed Hardwoods

This habitat type dominates the site and is composed of a diversity of oak species, hickory, beech, yellow birch, and red maple. Understory vegetation includes beech, red maple, American hornbeam, mountain laurel, maple-leaf viburnum, and lowbush blueberry.

Wildlife frequenting such habitat include deer, fox, raccoon, grey squirrel, woodpeckers, and a diversity of songbirds.

Hardwood Swamp

This habitat type is predominantly composed of red maple. Other overstory tree species include a variety of oak species and grey birch. Understory vegetation includes spicebush, greenbriar, blueberry and hop-hornbeam.

Wildlife frequenting such habitat includes wood ducks, raccoon, mink, and a variety of amphibian and songbird species.

Old Field

This habitat type created by the abandoned past agricultural use is composed of red cedar, black cherry, trembling aspen, sassafrass, and associated vegetation common to early successional forests.

Wildlife utilizing old field habitat include deer, woodcock, woodchuck, fox, raccoon, morning doves, eastern kingbird, mockingbird, flycatcher, warblers, hawks, owls and rabbits.

Wetland

These wetland habitat types are transitional sites between terrestrial and aquatic systems. This includes the area located along the stream and lake in the eastern and southern section of the property. Additional wet seep areas (semi-permanent pools of water) are located on the property.

Wildlife frequenting such habitat types include raccoon, beaver, wood ducks, and a variety of reptile and amphibian species.

XII. FISH RESOURCES

Site Description

The proposed 16 lot subdivision borders approximately 2,640 feet of the Menunketesuck River and Chapman's Pond, an impoundment of the river. A total of 5 lots (numbers 9-11 and 15-16) directly abut the river and Chapman's Pond.

A wide variety of aquatic habitat exists in this area. The inlet to Chapman's Pond, the Menunketesuck River, is approximately 30 feet in width and comprised of a sand and gravel bottom. Waters are slow moving in this low gradient stretch. Fish habitat exists in the form of "pools" that range from 1 to 4 feet deep. Some "riffles" were observed that have been created by fallen trees. Pools are utilized by fish as resting and hiding areas whereas the upper stretches of riffles are locations where fish seek food items. A well developed vegetative canopy was observed. Tree canopy provides beneficial shading and cooling of stream waters. The Menunketesuck River flows through a mixed hardwood swamp and wetland habitat before entering the upper section of Chapman's Pond. Surface waters in this area are classified by the DEP as "Class A". Designated uses for this classification are: potential drinking water supply; fish and wildlife habitat; recreational use; agricultural, industrial supply and other legitimate uses.

Chapman's pond is a shallow, nutirent-enriched warmwater pond. The pond contains a narrow littoral zone which is the shallow interface region between land (pond's edge) and the open water region of the pond. The pond shoreline is comprised of very steep slopes along the proposed development, especially near proposed building lots 10-11 and 15-16. The variety and abundance of rooted aquatic vegetation in the littoral zone could not be determined at the time of the field review since aquatic weed growth had not yet been initiated. Currently, no limnological information is available for the pond. One intermittent stream exists on the southern edge of the proposed development. This stream flows through wetland habitat before emptying into Chapman's Pond.

Waters below the Chapman's Pond Dam are tidal in nature flowing into the Long Island Sound. Distance from the dam to the mouth of the Menunketesuck River in the Long Island Sound is only 3 river miles. Tidal surface waters are classified as "SB/SA". Uses are as follows: marine fish, shellfish, and wildlife habitat; recreation; industrial and other legitimate uses including navigation. Future goals for this classification are to improve water quality standards to "SA".

Fish Population

The Menunketesuck River is annually stocked by the DEP Bureau of Fisheries with more than 800 adult (9-12") brook and brown trout in the towns of Clinton and Killingworth. Other valuable fish species expected to inhabit the river are: blacknose dace, longnose dace, common shiner, tesselated darter, white sucker, and fallfish.

Chapman's Pond is expected to support a warmwater fishery. Fish which can be found in the pond are: largemouth bass, chain pickerel, bluegill sunfish, pumpkinseed sunfish, hellow perch, golden shiner, and brown bullhead. Suitable fishing access exists along the edges of Chapman's Pond. The intermittent stream would not be expected to support year-round fish populations.

The Menunketesuck River below Chapman's Pond serves as an important nursery for a host of marine fishes and shellfish. Species of marine fish which inhabit this river are: striped bass, blue fish, winter flounder, fluke, windowpane flounder, alewives, blueback herring, menhaden, mummichogs, American eel, white perch, and Atlantic silversides. The river supports a substantial population of alewives which migrate into the river during early spring. Due to large population levels, this river has been targeted as a potential "stock" source of alewives. Thus, alewives could be captured in the Menunketesuck River, transported, and released into other valuable Connecticut coastal rivers which do not support self-sustaining population levels. Additionally, areas within the river support populations of soft-shell clams, hardshell clams, and oysters. Blue crabs also are a very abundant and important resource in the river.

Impacts

The following impacts of the Lake Laconia Estates Subdivision development on Chapman's Pond can be expected if proper mitigation measures are not implemented:

1. Construction site soil erosion and sedimentation of the pond through increased runoff from unvegetated areas - erosion and sedimentation due to subdivision construction has long been regarded as a major stimulus in the pond eutrophication or aging process. Accelerated pond fertilization brought on by development can seriously impact resident fishes, water quality and overall pond recreational value. Siltation of the Chapman's Pond shore below the development will:

   - Reduce fish egg survival - adequate water flow, free of sediment particles is required for egg respiration (biological process of extracting oxygen from water) and successful hatching.

- Reduce aquatic insect production - sediment-free water is also required for successful aquatic insect egg respiration and hatching. Aquatic insects are the primary food source of young and adult fishes. Reduced insect levels will adversely affect fish growth and survival.

- Reduce water depth in the littoral zone.

- Contribute to the depletion of oxygen - organic matter associated with soil particles is decomposed by micro organisms contributing to the depletion of oxygen in waters overlying sediments.

- Encourage the growth and survival of rooted aquatic plans and precipitate dense "algae blooms" - eroded soils contain plant nutrients such as nitrates and phosphates. Although algae and aquatic plans require these nutrients for growth, most ponds contain very limited amounts. Consequently, these nutrients act as fertilizers once they are introduced into a pond resulting in accelerated plant growth. Extensive algae blooms may turn the water a pea-soup or soupy brown color. Fish kills due to oxygen depletion in the summer called "summerkill" may occur when algae populations die. Dead algae are rapidly decomposed by bacteria in the summer causing a possible oxygen deficiency. Unfortunately this is the time of the year when pond dissolved oxygen levels are naturally at their lowest.

2. Percolation of septic effluent into the pond - a failure of individual septic systems to operate properly would be potentially dangerous to the pond environment. Nutrients and assorted chemicals that may be placed in septic systems could enter pond waters in the event of a failure or possible infiltrate groundwater, especially when water tables are seasonally close to the surface. The introduction of septic effluent could result in a major threat to fish, public health, and overall water quality conditions. Effluent will stimulate the growth of rooted nuisance aquatic weeds along the Chapman's Pond shoreline and help stimulate algae blooms.

3. Aquatic habitat degradation due to the influx of stormwater drainage - surface drainage from roads may allow salt, sand, nutrient-enriched sediment, gasoline and oil to enter the pond. Sediment catch basins if designed properly can trap most of the heavy particulate matter; however, fine particles cannot be effectively removed from stormwaters. Stormwater runoff will eventually fertilize pond waters and result in water quality problems.

4. Transport of lawn fertilixers and chemicals to the pond - Runoff and leaching of nutrients from fertilizers placed on subdivision lawns will stimulate nuisance aquatic weed growth. The introduction of nutrients will

accelerate the pond eutrophication process. Introduction of lawn chemicals may result in fish kills and water quality degradation.

5. Impacts to downstream environments - any water quality problems and habitat degradation that directly occurs within Chapman's Pond will eventually be observed downstream in the fragile marine environment of the Menunketesuck River and further add to the pollution of the Lond Island Sound. Cooperative State and Federal efforts are now underway to identify all sources of pollution to the Long Island Sound and subsequently implement mitigation measures necessary to effectively minimize pollution in marine environments.

Recommendations

The wide ranging impacts on Chapman's Pond and the Menunketesuck River may be somewhat minimized by implementing the following suggested recommendations:

1. Install and maintain proper erosion and sedimentation controls during site construction activities - this includes such mitigative measures as silt fences, hay bales, and catch basins. The Town of Clinton should have an appointed official that would be responsible for checking this development to ensure that contractors have complied with all stipulated mitigation devices. Past pond and stream siltation disturbances in Connecticut associated with residential housing developments have occurred when individual contractors either improperly deployed mitigation devices or failed to maintain these devices on a regular basis.

2. Properly design and locate individual septic systems (refer to Sewage Disposal Section) - the addition of septic effluent to Chapman's Pond can be one of the greatest threats to pond ecology. Septic systems should be maintained on a regular basis. Prevent the disposal of harmful chemicals into septic systems which may negatively effect operation and possibly result in system failure.

3. Maintain at the minimum of 100 foot open space buffer zone along the edges of the Menunketesuck River, Chapman's Pond, and the intermittent stream - no construction and alteration of riparian habitat shall take place in this zone. Research has shown that 100 foot buffer zones will help prevent surface runoff and other pollutants from entering aquatic ecosystems. Buffer zones protect fisheries resources and help maintain existing water quality conditions (USFWS 1984: USFWS 1986; ODFW 1985).

4. Properly design, locate, and maintain catch basins to ensure the proper management of stormwaters - maintenance is very critical. The Town of Clinton should regularly maintain all catch basins to minimize adverse impacts to the pond.

Stormwaters should not be directly outletted to aquatic environments. Catch basins should trap most sediments reducing the likelihood of excessive sedimentation; however, waters that contain pollutants such as salts and even small amounts of find enriched sediments will eventually cause water quality and aquatic habitat degradation. This impact cannot be prevented.

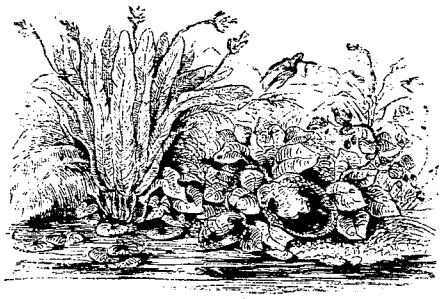
5. Limit liming, fertilization, and the introduction of chemicals to subdivision building lots - this will help abate the amount of additional nutrients to the streams. Non-phosphorus lawn fertilizers are currently available from various lawn care distribution centers.

Bibliography

ODFW (Oregon Department of Fish and Wildlife) 1985. The Effects of Stream Alterations on Salmon and Trout Habitat in Oregon. Oregon Department of Fish and Wildlife, Portland, Oregon. 70 pp.

USFWS (United States Fish and Wildlife Service) 1984. Habitat Suitability Information: Rainbow Trout. United States Fish and Wildlife Service, Biological Report FWS/OBS-82(10.124). 64 pp.

USFWS (United States Fish and Wildlife Service) 1986. Habitat Suitability Index Models and Instream Flow Suitability Curves: Brown Trout. United States Fish and Wildlife Service, Biological Report FWS/OBS-82/(10.60). 65 pp.

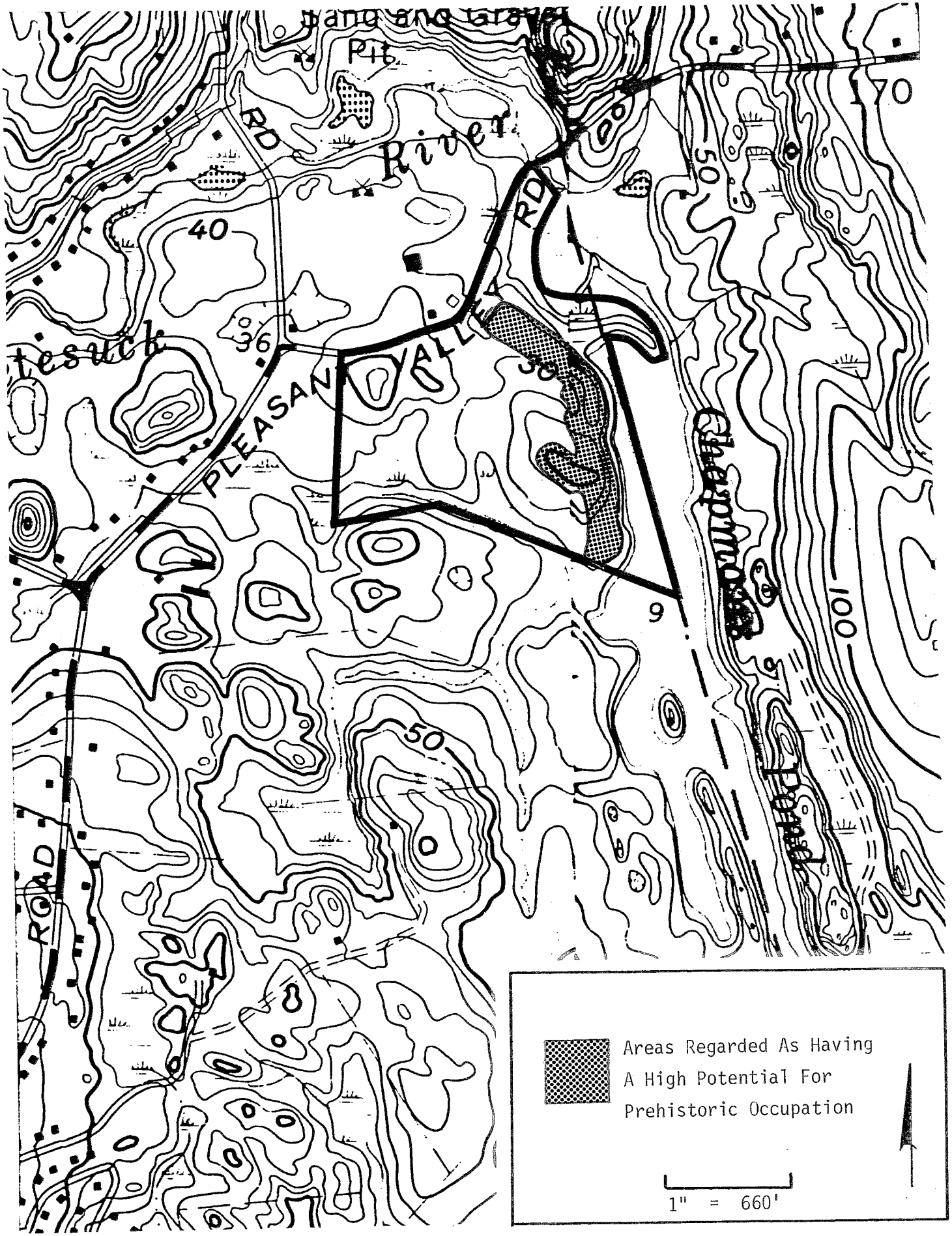


XIII. ARCHAEOLOGICAL REVIEW

The proposed subdivision lies on adjacent knolls south and west of the Menunketesuck River and Chapman's Pond. The pond is the result of historic damming operations, however, the natural state of the pond area would have been low-lying wetlands along the river. The knolls would have provided prehistoric cultural groups with an advantageous settlement location. The elevated soils are well-drained, the topography is relatively flat, and the area is readily accessible to wetland resources. In addition, the knolls offer a commanding view of the lower river drainage which would suit the needs of hunters as a lookout for game animals. The natural wetland floral resources especially useful to the aboriginal populations of the area may have included, wild rice (Zizania aquatic), swamp-milkweed (Ascelepias incarnata), and carpetweed (Mollugo verticillate).

A review of the State of Connecticut's Archaeological Site Files and Maps show no prehistoric occupations within the boundaries of the proposed project area. However, a number of sites have been located along the banks of the Menunketesuck River in Westbrook and Clinton, especially near its mouth at Long Island Sound. Archaeological surveys conducted along other river drainages in Connecticut indicate that elevated knolls overlooking navigable waterways and adjacent to swampy wetlands have a high incidence of prehistoric occupational use. The area would have been ideal for base camp locations in which hunting and gathering operations were carried out on a recurrent basis, as well as for temporary camps with more specialized activities. Base camps have relatively thick cultural deposits and a highly variable range of artifacts reflecting re-occupation over a long period of time. Temporary camps would be generally small with a limited artifactual assemblage indicative of an occupation of short duration. The fact that these sites have not been previously located is a reflection of past archaeological research rather than the area not being utilized by prehistoric peoples. For example, most archaeologists have concentrated efforts along the coast and major river drainages. Smaller drainages like the Menunketesuck River have received little archaeological attention in the past, even though the probability of locating prehistoric sites is good.

On-site inspection located no cultural materials within areas where the immediate topsoil had been disturbed. However, this survey method is extremely limited and subsurface testing may very well reveal evidence of prehistoric occupations. The proposed development project would adversely impact such cultural resources. Based on predictive models of archaeological site surveys conducted in Connecticut, the impact area is regarded as having a high potential for prehistoric occupation, especially along the knolls adjacent to and immediately above the wetlands. A professional archaeological reconnaissance survey is strongly recommended in order to locate and identify all prehistoric archaeological resources which might exist in the project area. All archaeological studies should be undertaken in accordance with the Connecticut Historical Commission's Environmental Review Primer for Connecticut's Archaeological Resources.


Sand and Gravel
Pit
RD
River
RD
170
105
40
36
35
Pleasant Valley
9
100
50
ROAD
Areas Regarded As Having
A High Potential For
Prehistoric Occupation
1" = 660'

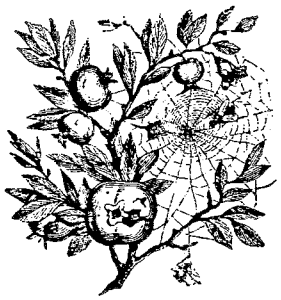
In summary, the project area is located in a critical area of importance to prehistoric hunting and gathering economic societies. It is strongly recommended that all feasible efforts be undertaken to identify and ensure the preservation and conservation of the prehistoric cultural resources in the area.

XIV. PLANNING REVIEW

Lake Laconia Estates would be located in a R-80 zoning district of Clinton bordering Chapman's Pond. The Town of Westbrook borders the pond to the east and has designated the area as a Water Resource District. The purpose of establishing these districts is to provide protection to public health by preventing the contamination of ground and surface water used for public water supply. The Westbrook Planning Commission has expressed concern that the subdivision would affect areas located in the Water Resource District. The Commission has recommended that the same special restrictions for the district be placed on the property located in Clinton.

They wish to see minimum setbacks of 50 feet from the edge of both the stream and pond for any building activity, including structures, septic systems and driveways. Non-point pollution caused by surface water run-off from streets and driveways containing tars and salts is another major concern of the Westbrook Commission. Any inessential paved surfaces should be avoided as it would only create more excess runoff with possible overflow into sensitive areas.

The developer has offered a parcel of open space along Pleasant Valley Road to be deeded to the Town of Clinton. The area has been used for discarding trash and debris. Before the parcel is deeded to the Town, the developer should clear the area of debris. One of the principal reasons for open space buffers along roadways is to enhance existing land use not to be a detriment. Another parcel of open space, which consists primarily of open water, would be deeded to the Homeowner's Association which the developer intends to establish. The Homeowner's Association which would include property owners on the Westbrook side of the pond, and would eventually be responsible for the dam at the southern end of Chapman's Pond. It is important that all parties are aware of the proposed Homeowner's Association so that future legal liabilities are avoided. Detailed information on the Homeowner's Association and on the dam maintenance agreements should be reviewed by the Planning Commissions of both towns.



XV. TRAFFIC CIRCULATION

The proposed plans call for a traffic island to be located at the entrance to the development off of Pleasant Valley Road. This would seem to be unnecessary and could be a road hazard for people entering the development off Pleasant Valley Road.

Trip Generation

	Trips to and from site per day	Peak A.M.	P.M.
16 lots	156	11	16

The traffic generated by the proposed subdivision would access Pleasant Valley Road in Clinton. Traffic volume counts are not available for Pleasant Valley Road at the present time. In the 1987 Regional Transportation Plan, Clinton lists Pleasant Valley Road on the recommended project list for reconstruction from Fairy Dell Road to Carter Hill Road. The road improvement is not an immediate concern, but nevertheless seen as a priority item. It can be assumed that most of the subdivision traffic will access I-95 via Breakneck Hill Road and Route 145 in the Town of Westbrook to the east. The recorded ADT in 1986 on Breakneck Hill was 376 with a recent resurfacing. The west end section of Breakneck Hill in Westbrook is very narrow (12 feet wide) and has a series of sharp curves. There is a steep grade and narrow width along the center and western sections of the road. Overall the present road network would be capable of handling the increased traffic generation created by the 16 lots however future extensive site development would warrant road improvements.

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--an 86 town 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, a statement identifying the specific areas of concern the Team should address, and the time available for completion of the ERT study. 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 Elaine A. Sych (774-1253), Environmental Review Team Coordinator, Eastern Connecticut RC&D Area, P.O. Box 198, Brooklyn, Connecticut 06234.