

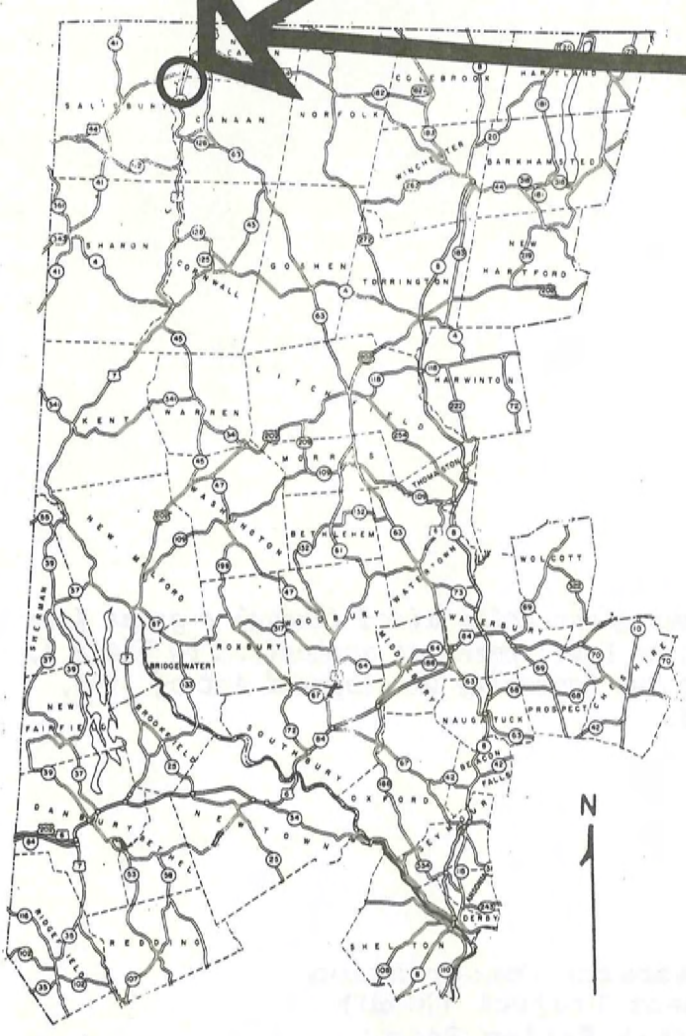
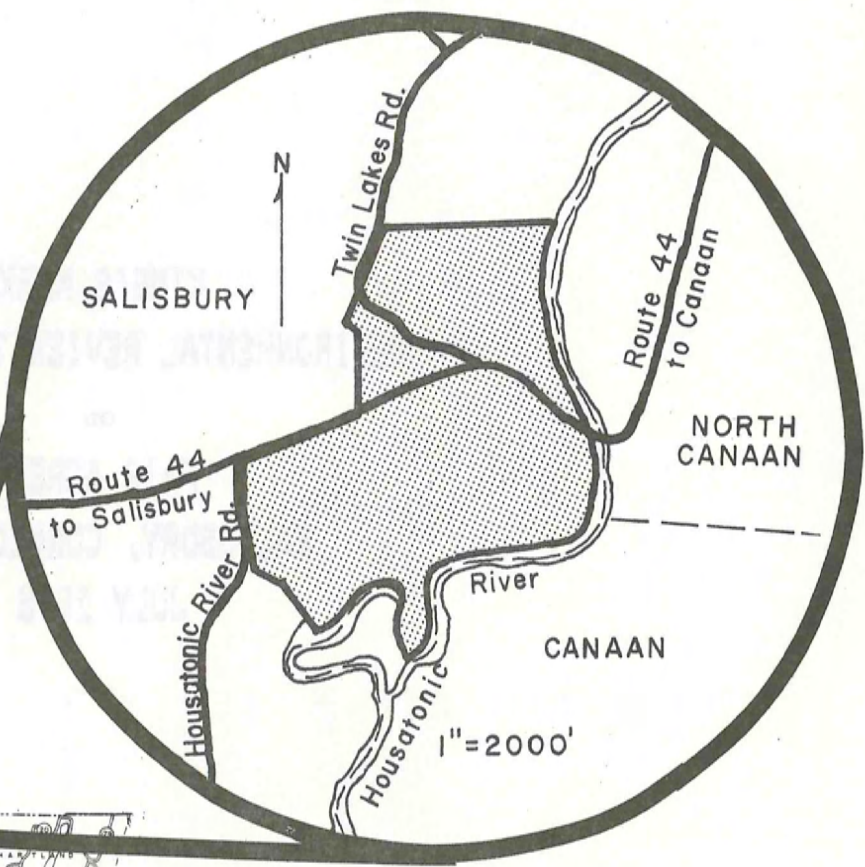


FAIR ACRES
SALISBURY, CONNECTICUT

KING'S MARK
RESOURCE CONSERVATION AND DEVELOPMENT PROJECT

LOCATION OF STUDY SITE

FAIR ACRES



**ENVIRONMENTAL REVIEW TEAM REPORT
ON
FAIR ACRES
SALISBURY, CONNECTICUT**

This report is an outgrowth of a request from the Salisbury Planning and Zoning Commission, with the subsequent permission of the landowners to the Litchfield County Soil and Water Conservation District (S&WCD). The S&WCD referred this request to the King's Mark Resource Conservation and Development (RC&D) Project Executive Committee for their consideration and approval as a project measure. The request was approved and the measure reviewed by the King's Mark Environmental Review Team (ERT).

The Environmental Review Team draws together a range of professionals in the fields of natural resources, engineering, and planning, who, based upon existing available data and field investigation, formulate an analysis of a proposed land use activity.

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

The members of the Environmental Review Team consisted of the following: Arthur Cross, District Conservationist, SCS; Sid Quarrier, Geologist, Connecticut Department of Environmental Protection (DEP); Steven Jackson, Wildlife Biologist, DEP; Lawrence Bandolin, Fishery Biologist, DEP; John F. Nye, Jr., Dairy Extension Agent, Connecticut Cooperative Extension Service; Clifford McClellan, Jr., Sanitarian, Connecticut Department of Health; Joseph Zaragoza, Regional Planner, Northwestern Connecticut Regional Planning Agency; Carol Youell, ERT Coordinator, King's Mark RC&D Project.

The Team met and field reviewed the site on Wednesday, June 16, 1976. Reports from each Team member were sent to the ERT Coordinator for review and summarization for this 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 Town of Salisbury, the owners, and the developers. 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 King's Mark RC&D Project Executive Committee hopes this report will be of value and assistance in making decisions on this particular site.

If any additional information is required, please contact: Carol E. Youell, Environmental Review Team Coordinator, King's Mark Resource Conservation and Development Project, P. O. Box 30, Warren, Connecticut, 06754, 868-7342.

INTRODUCTION

Mr. and Mrs. Andelmo Ortiz, owners of a tract of land known as "Fair Acres Farm", are proposing residential and recreational development for their property into what has been termed a "Residential Country Club". The 250 acre tract is located adjacent to the Housatonic River both north and south of Route 44 at Dutcher's Bridge in the Town of Salisbury.

The land is currently being used for the production of turf and silage corn (turf mainly north of Route 44 and corn to the south). Approximately 157 acres of the site contain soils which are classified as inland wetlands under Public Act 155, the Inland Wetland and Water Courses Act. (Inland wetlands are all soils that are very poorly drained, poorly drained, alluvial, or flood plain as categorized by the National Soil Survey of the Soil Conservation Service, U. S. Department of Agriculture.) Some of the wetland area contains oxbows or meander scars which are the result of the former activity of the river. The site is considered to be a flood-prone area according to the United States Geological Survey (USGS) and by the federal Department of Housing and Urban Development (HUD), Federal Insurance Administration (FIA). The approximate boundaries of the flood-prone areas will be illustrated later in this report.

The site has been subject to extensive preliminary work by Allen W. Hixon, Jr. and Associates of Simsbury, land planners for the project. Preliminary plans for the site indicate there will be approximately 104 single family residential units in various clustered arrangements (approximately 65 north of Route 44 and 39 south of it), an 18-hole golf course to the south of Route 44, and a central recreation core area to the north of the highway which will include indoor and outdoor tennis courts and swimming pools, riding stables and a clubhouse. (See Sketch Site Plan Map.) The plan includes alterations to wetlands and the creation of a pond. Most of this activity will be associated with the development of the golf course.

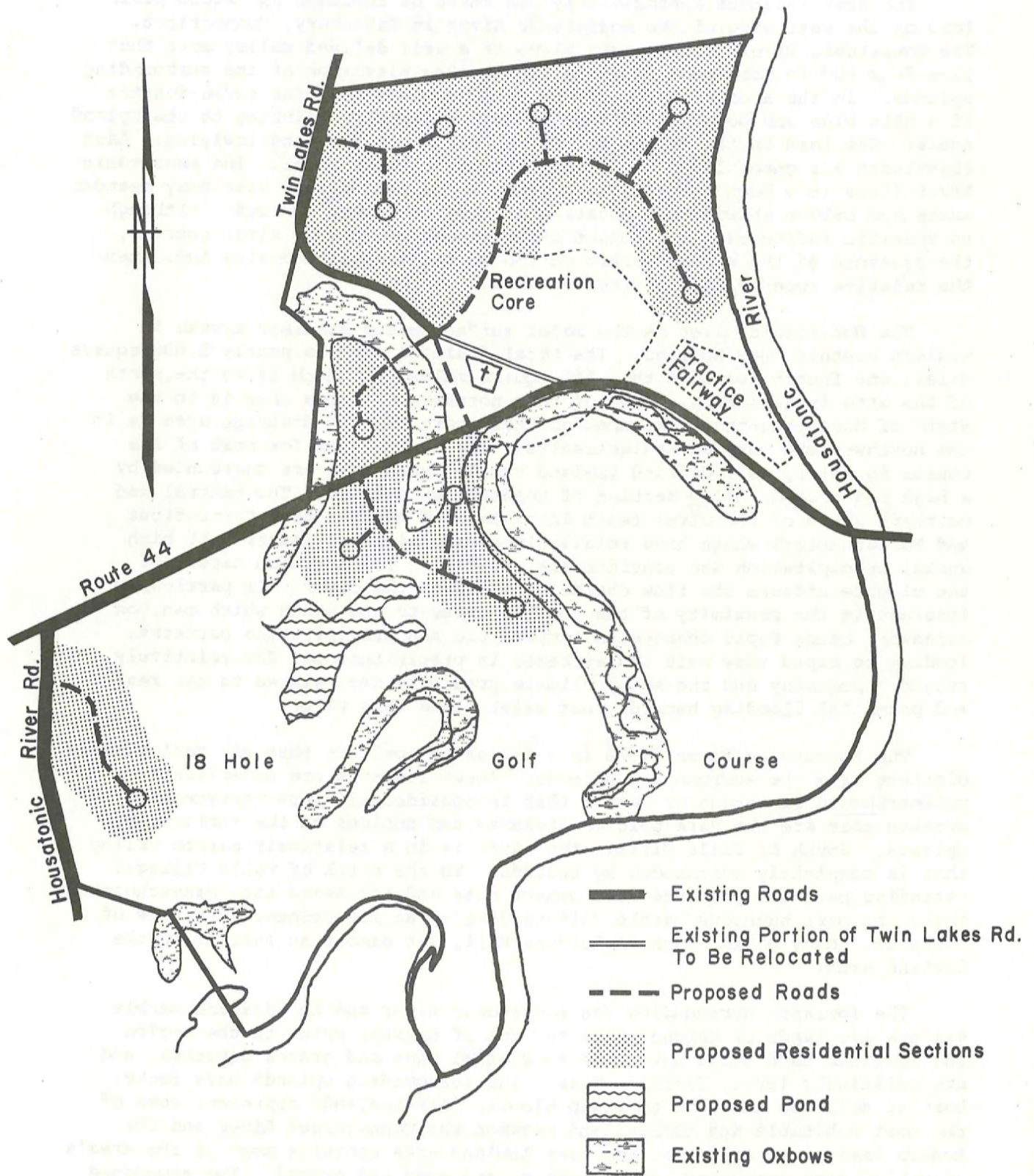
The breakdown of acreage is as follows: approximately \pm 90 acres is to be developed in homes and central core recreation uses, with on-site sewage disposal systems and two or more community wells; \pm 160 acres is to be devoted to open space (wetlands) and an 18-hole golf course.

Some aspects of the development discussed by the Environmental Review Team involve the suitability of the soils for on-site sewage disposal, hazard of ground water pollution, inland wetland considerations, and the risk of flooding to any development which may occur on the site.

This report will present a general description of the topography, geology, soils, and other natural characteristics of the site. Consideration will be given to the compatibility and suitability of the development relative to the natural resource base. Hopefully, this report will be of assistance in determining the ultimate development of the land. Comments or recommendations made within the report are presented for consideration by the town and developer in the preparation and review of development plans and should not be construed as mandatory or regulatory in nature.

SKETCH SITE PLAN

FAIR ACRES — SALISBURY



SCALE 1" = 660'



GENERAL PHYSIOGRAPHY

The area includes approximately 250 acres of lowlands and flood plain land on the west side of the Housatonic River in Salisbury, Connecticut. The Housatonic River in this area flows in a well defined valley area that lies from 600 to more than 1,000 feet below the elevation of the surrounding uplands. In the area of the site the valley bottom is about three-fourths of a mile wide and beyond this the land rises sharply, climbing to the upland areas. The land in the valley bottom is relatively flat and lowlying. Land elevations are generally 5 to 10 feet above the river level. The Housatonic River flows in a meandering pattern through the bottom land with many meander scars and oxbows showing the location of previous river courses. Although no specific information was sought as to recent changes in river courses, the presence of the meander scars on top of the glacial deposits indicates the relative recency of the river changes.

The Housatonic River is the major surface water drainage system in western southern New England. Its total drainage area is nearly 2,000 square miles, one fourth (or more than 500 square miles) of which is to the north of the site in Salisbury. Most of this northern drainage area is in the State of Massachusetts. The most northern part of this drainage area is in the northwestern part of Massachusetts. The river flows for most of its course in fairly well defined lowland valley areas that are surrounded by a high and rugged, hilly section of western New England. The central and northern areas of the river reach into areas of northwestern Connecticut and Massachusetts which have relatively severe winter climates with high annual precipitation and considerable snowfall. The northern aspect of the climate affects the flow characteristics of the river. Of particular interest is the proximity of the coastal areas to the south which can, on occasion, cause rapid changes in temperature and precipitation patterns, leading to rapid snow melt and extremes in precipitation. The relatively rugged topography and the steep climate gradients are related to the real and potential flooding hazards that exist along this river.

The Housatonic River flows in a series of lowlands that are geologically distinct from the surrounding uplands. These lowlands are underlain by a metamorphosed limestone or marble that is considerably less resistant to erosion than are the dark colored gneisses and schists of the surrounding uplands. South of Falls Village the river is in a relatively narrow valley that is completely surrounded by uplands. To the north of Falls Village, extending past the proposed development site and northward into Massachusetts, there are more numerous marble valleys forming an interconnected series of lowlands. Many hills, such as Dutcher Hill, set almost as islands in the lowland area.

The lowlands surrounding the Housatonic River and in adjacent marble valleys are lands of unique character and of unusual value to the region. The lowlands have soils developed on glacial sand and gravel deposits, and are relatively level, fertile areas. The surrounding uplands have rocky, hardpan soils on moderate to steep slopes. The lowlands represent some of the most habitable and arable land between the Connecticut River and the Hudson River. In addition, the same lowland area contains most of the area's valuable earth resources, ground water, and sand and gravel. The abundance of water and the scenic topography have also created the use of the area for various types of recreation.

GEOLOGY

The site is underlain by a metamorphosed limestone, marble, that is estimated to lie more than 50 feet below the land surface. On top of the bedrock surface are a series of sand, gravel, silt, and clay deposits that were washed in by the melting water from the most recent glacier (stratified drift). A test hole located near the intersection of Route 44 and Twin Lakes Road indicated the following subsurface materials:

- 0 to 23 feet - Coarse to medium sand
- 23 to 36 feet - Coarse to very coarse sand
- 36 to 44 feet - Clay to silty clay
- 44 to 46 feet - Till?

This area of the site is underlain by 25 to 35 feet of medium to very coarse sand. These general conditions may well extend to most areas of the site. Recent river alluvium, swamp deposits, and local surface soil deposits are developed on top of this sandy base.

The medium to fairly coarse grained texture of the underlying sandy materials tends to create a fairly level ground water table. Land that is 5 to 10 feet above the river level will be quite well drained. Low lying land will be wet seasonally and will be subject to more frequent influence by water level changes in the Housatonic River.

SOILS

The physical characteristics of the site together with the natural processes operating within an area, create situations which can be beneficial or problematic to the proposed development. In addition to the geologic data, soil classifications provide a good indicator of the suitability of an area for development.

A detailed Soils Map of the property is given in the Appendix to this report along with a Soils Limitations Chart. As the map is an enlargement from the original field mapping, 1320'/inch scale to 660'/inch, the soil boundary lines should not be viewed as precise boundaries but rather as guidelines to the distribution of soil types on the property.

The Soils Limitations Chart indicates the probable limitations for each of the soils for various community and recreation uses including: on-site sewage disposal, buildings with basements, landscaping, streets and parking lots, and athletic fields. An explanation of the numbered ratings for particular land uses is provided in the Appendix.

Soils vs. Present Land Use

The best indication of a soil's productive capacity is revealed by its capability class. Soils are rated according to their suitability for most agricultural production, and are credit for inherent limitations, risk of damage when used, and response to treatment. Capability classes range from I - VIII. The numerals indicate progressively greater limitations and narrower choice for practical uses.

Seventy-five percent (187 acres) of the soils on the property are soil mapped as prime agricultural soils, capability classes I, II, and III with high potentials for agricultural use because of such factors as:

1. Level to gently rolling; therefore having a very low hazard of erosion.
2. High moisture holding capacities, and yet drainage is such that it does not interfere with crops during their growing season.
3. Easy to work and responsive to good management (fertilizer, tillage methods).
4. Free from stones.

These soil areas are being used for the production of either turf or corn silage with the exception of approximately 10 to 15 acres used for homes, barns, etc. The approximate breakdown is as follows:

<u>Class I</u>	Hartland silt loam (HbA)	63 acres	(34% of Prime Agricultural land)
<u>Class II</u>	Belgrade silt loam (BaA)	16 acres	
	Copake loam (CwB)	5 acres	
	Eel silt loam (Ee)	23 acres	
	Genessee silt loam (Gf)	9 acres	
	Hartland silt loam (HbB)	4 acres	
	Hero loam (HeA)	3 acres	
	Ondawa fine sandy loam (On)	<u>35 acres</u>	
		95 acres	(51% of Prime Agricultural land)
<u>Class III</u>	Suncook loamy fine sand (St)	27 acres	
	Windsor loamy fine sand (WvA)	<u>2 acres</u>	
		29 acres	(15% of Prime Agricultural land)
			100%

The acreage (63) of Class I soils is the highest amount concentrated in one contiguous area now presently being used for agriculture in Salisbury (according to the Prime Agricultural Soils Map on file at the Litchfield County Conservation District office).

The remaining 25 percent (63 acres) of the soils are soil mapped as capability classes IIIw-2, VIw-1, and VIIw-1 and are poorly and very poorly drained soils regulated under Connecticut Public Act 155 (Inland Wetland and Water Courses Act).

Class IIIw-2	Limerick silt loam (Im)	10 acres
Class VIw-1	Saco silt loam (Sb)	47 acres
Class VIIw-1	Peat and Muck (Pk)	<u>6 acres</u>
		63 acres

These preceding soil areas are presently in their natural state. Shallow water areas cover much of the soils. The combination of food, cover plants, and water make the areas well suited to wildlife such as duck, Canada geese, muskrat, deer, and non-game birds.

Of the total site acreage, approximately 60.4 percent or 151 acres of the site are classified as being subject to flooding based upon their soil profile having shown deposition. These flood plain soils appear under Natural Soil Group "E" in the Soils Limitations Chart and they are regulated under Public Act 155.

Soils vs. Proposed Land Use

Approximately 100 percent of the Class I Prime Agricultural soil, Hartland silt loam (HbA) now being used for the production of either silage corn or turf is now proposed for 15,000 - 22,000 square feet homesites, roads, and central recreation core uses (clubhouse, tennis courts, swimming pools, etc.). Although the permeability is favorable for operation of septage effluent absorption fields, the percolation rate and underlying sand and gravel may allow ground water pollution particularly under heavy loading (see Waste Disposal section).

Approximately 24 percent of the Class II and III Prime Agricultural soils are proposed for 15,000 - 22,000 square feet homesites and roads. These soils are Belgrade silt loam (BaA), Copake loam (CwB), Hero loam (HeA), and Windsor loamy fine sand (WvA).

The Belgrade silt loam and Hero loam have a moderately high water table during wet seasons which remains 15 to 20 inches from the soil surface. Special measures such as drainage and filling are necessary for successful operation of septic systems and to prevent seepage into basements.

The Copake loam and Windsor loamy fine sand, underlain by sand and gravel have favorable permeability for septic effluent leach fields. Caution should be observed to not overload the soil to create possible ground water pollution.

The remaining [†] 76 percent of Class II and III Prime Agricultural soils are proposed for the golf course. Of the soils under regulation by Connecticut Public Act 155, a large percentage are proposed for activities such as ponds, filling and regrading for the golf course.

WATER SUPPLY

Preliminary information from the one test hole which was drilled for the water resources evaluation of the region, indicates that the saturated sand and gravel deposits could be developed with wells to yield 30 to 60 gallons per minute. Several wells of this capacity would be more than enough to serve the proposed development.

The area underlying the proposed development site could be considered an aquifer. An aquifer may be defined as an underground layer of porous rock, sand, etc. containing water into which wells can be sunk. The local and regional significance of this aquifer relates directly to the region's long range water resources needs and the plans that have been made to meet these needs. The region includes several extensive aquifers, and long range water planning should identify which ones, if any, are to be used for municipal water supplies. It would be unwise to plan relatively intensive development for land overlying an aquifer which is to be used for a municipal water supply.

The amount and location of septic waste disposal should be a major consideration in locating the wells to supply water to the proposed development. Ideally, the wells should be upgradient (ground water) from the waste disposal areas. If this is not possible, wells should be separated by a considerable distance. If the wells are downgradient, there is no guarantee that they will not become affected.

It is possible that agricultural activities on the site have already had some effect on ground water quality. Since this area has been used

extensively in the past for agriculture and has probably been subject to constant fertilization, there is the possibility that the water coming from the wells will exceed the United States Public Health Service Standards for nitrate (NO_3) levels. These excessive levels can be detrimental to the health, and in some instances, fatal to infants and children under one year of age. At present, there is no method of economically removing excessive amounts of nitrate from the water. It is recommended that preliminary testing be done early in the planning stage to determine if the ground water is of reasonable quality.

An increasing problem in areas overlying aquifers is the slow but eventual leaking of petroleum products from rusting inground storage tanks into the ground water. It is recommended therefore, that oil storage tanks for all of the facilities (residential and other) on this site be in non-rusting tanks (fiberglass or other), or in above-ground tanks in cellars, etc. It takes several decades for the problem to develop, but once created, it can pollute wells and be very difficult to solve.

WASTE DISPOSAL

Based on the composition of ground materials, most areas of the site proposed for housing that sit well above the ground water level are generally suitable for on-site subsurface waste disposal except when they are flooded or when ground water levels are extremely high because of flooding. An evaluation should be made of the recurring flood heights. It would not be good planning to install septic systems within several feet of the expected elevation of the annual flood height. A general policy decision would have to be made concerning the less frequent and higher floods.

A limiting factor such as the potential threat of flooding and high ground water make the densities of land use an important factor to consider. The disruption, cost, and potential health hazard problem caused by infrequent flooding of houses in a rural area (one house per 5 to 10 or more acres) will be considerably less than the potential problems caused by flooding of an area 2 to 3 houses per acre.

One hundred and fifty units will discharge something in the order of 35,000 gallons of liquid a day into the ground. The waste water from these systems will be entering the aquifer area underlying the site. Well designed septic systems should remove virtually all of the harmful bacteria; however, chemical nutrients (nitrogen compounds) and household chemicals will be carried with the waste water into the ground water. At this time there is not sufficient knowledge or understanding of the interacting physical and chemical systems to come up with specific guidelines for so called "safe densities or setbacks" related to waste disposal and water supply from the same ground water system. With waste disposal on 1/3 to 1/2 acre lots, there is a high likelihood that the ground water in the immediate vicinity of the houses will become partly contaminated. Spreading the houses out at one per acre would lessen the potential for contamination, but would potentially effect a greater area.

The direction of flow of ground water should probably be determined for the various areas of the site. This would help in understanding the areas of potential contamination. Common sense dictates the wide separation of the main water supply wells from the septic disposal sites. Ideally, the water wells should be on the upstream side of the ground water flow. It would not be good planning to locate intensive waste disposal activities over an aquifer that is to be used for municipal water supplies.

It is important that test holes and other ground tests be performed in areas for proposed on-site waste disposal before actual lot sizes and lot locations are finalized. All lots should be tested, in accordance with Section 19-13-B20j of the Connecticut Public Health Code, before final approval is given to the subdivision. All soil tests should be done in the presence of the town sanitarian and/or the State Department of Health.

FOUNDATION DEVELOPMENT

Soil conditions are generally favorable for homes with basements on most of the land proposed for residential development. Two of the soil types, the moderately well drained Belgrade silt loam (BaA) and Hero loam (HeA) due to their moderately high seasonal water table will need drainage and/or filling if basements are to be constructed. The Soils Limitations Chart confirms these findings.

There should be a sediment and erosion control plan developed and implemented prior to construction. This will help prevent siltation and damage to adjacent wetlands.

The major consideration in developing homesites will be attempting to reduce the risk of loss from potential flooding.

ROADS

Route 44 is the principal arterial highway in the Northwestern Connecticut Planning Region and measures to improve highway safety leading up to and on Dutcher's Bridge is the region's highest priority transportation improvement project. The proposed subdivision would affect transportation volumes on Route 44 within the immediate area and would diminish the highway's capacity to handle traffic, and therefore is a matter of regional concern.

The preliminary plan (see Sketch Site Plan) calls for a significant improvement to the site line distance at the present intersection of Route 44 and Twin Lakes Road. This change should reduce the number of accidents at this location.

Creating a cross intersection on Route 44 with two subdivision roads (as asked by the Department of Transportation and not shown on the sketch), rather than two "T" intersections (as shown) seems to make sense, even though "T" intersections are often safer than cross intersections. The reason for a cross intersection is the relatively short distance between the "T" intersections as proposed; only 500 feet. The zig-zag from one local street on to an arterial and back to a local street would probably cause more accidents than a single cross intersection.

The entrance to the proposed clubhouse via two curb cuts on Route 44 could prove hazardous both to travel on Route 44 and within the clubhouse area.

Existing Subdivision Regulations clearly state new road requirements. A cul-de-sac will require a turning radius of 90 feet; as shown on the site plan the turning radius is inadequate. Roads to be built over wetlands require special permits from the Salisbury Conservation/Inland Wetlands Commission.

AESTHETICS AND PRESERVATION

Fisheries

The Housatonic River is heavily stocked with trout and produces some excellent fishing for trout as well as smallmouth bass. The silt load in the river is already very high. Any additional silt would degrade the fish habitat.

To minimize the impact of this development on the Housatonic River, a minimum buffer strip of 100 feet should be left along the river. The trees and brush that are present have produced a dense mat of roots that have stabilized the soil. Removing the trees and brush that are there now and re-planting will not be anywhere as satisfactory as leaving the present growth.

Runoff from the golf course and any other fertilized areas will add to the nutrient load of the river. The Housatonic is already one of the, if not the richest rivers innutrients, in the State. Any extra load may complicate the algae blooms that plague Lakes Zoar and Lillinonah.

Wildlife

As Fair Acres now stands, little improvement could be made in terms of land management to improve the area for wildlife south of Route 44. The distribution of farmland, woodland, and water areas is excellent for all types of wildlife. The section of the property north of Route 44 is much too open at the present time for maximum utilization by wildlife.

The proposed development would severely reduce the land's value for many types of wildlife primarily due to loss of habitat and conflict with man. Of course, there are many types of development which could be more detrimental than what is planned. Increasing human activities alone, will reduce the value of the area. There will likely be conflict between wildlife and golf course management on the site.

The following recommendations are made to reduce destruction of wildlife habitat and in other cases encourage wildlife.

1. A minimum 100 foot buffer between the river and open land (lawns, fairways, etc.) should remain completely unchanged. Grape vines, brush, trees, weeds, etc. should remain unchanged. Landscaping for beautification would reduce the natural qualities of the river and increase disturbance of river wildlife. The river is of great value to such wildlife as ducks, otter, mink and muskrats.
2. The oxbow of the Housatonic in the proposed golf course site just south of Route 44 is also prime wildlife habitat. It should not be filled, in the area suggested for a putting green and pro-shop. If filling a section is unavoidable by bridging, it is recommended that the width of the filled area be reduced to a minimum and shifted to the east as much as possible. A 100 foot buffer of undisturbed cover should remain over as much of the entire length as possible. Fairways should not run to the edge of the oxbow's water line. The present level of shallow water in the oxbow is valuable to wildlife. Dredging the oxbow would reduce that value significantly. Again, landscaping of that 100 foot buffer would reduce its wildlife value. Open areas at its edge should be very limited.

3. The proposed pond would not be objectionable from a wildlife standpoint; however, a minimum 100 foot buffer should be maintained over as much of the edge as possible. An island or two of at least 150 square feet would encourage nesting waterfowl.
4. It is suggested that the rough areas between fairways be planted as long lanes no less than 20 feet wide in shrubbery growth to allow and provide for movement and cover for wildlife. This shrubbery lane should be as continuous as possible.

With or without the above recommendations incorporated into the design, there will still be problems with the wildlife in the area. Geese may tend to utilize the ponds and fairways for feeding and raising young. Deer may at times cross the greens pushing holes into it. This will require continual maintenance and should be planned on with virtually no relief. Woodchucks may also dig holes in the fairways. For these reasons, the recommendation is made that hunting and trapping be allowed on areas that fall within the State regulation of a 500 foot safety limit. This activity could be restricted to times when golf is not being pursued.

Agriculture

The prime agricultural land on the property is suitable for growing excellent corn and/or alfalfa. It would also be suitable for other crops, including vegetables. However, spring flooding and the possibility of late spring and early fall frosts might limit it for vegetable production. The land is in an excellent state of fertility.

One dairyman, Albert Giulian, has rented the land almost continuously since 1940, except when the present owners have used some or all of the land themselves.

The Canaan area is the only area in Litchfield County that has had an increase in dairy cow numbers in the past fifteen years. Removal of this prime agricultural land from crop production will adversely affect the operation of several dairy farms in the vicinity.

HAZARDS

The physiography of the Housatonic River creates the potential for extremely rapid runoff and resulting flooding during special weather and precipitation conditions. Locally, this flooding can be concentrated by the configuration of the immediate valley area and by conditions of a special flood, ice jamming, etc. The local land forms suggest that the river is still actively moving back and forth across the flood plain and that the flood plain is an active one.

The property lies within what has been mapped by the U. S. Geological Survey as an area that is occasionally flooded. (Refer to the U.S.G.S. Flood-Prone Area Map.) Much of this property is subject to relatively frequent severe flooding. The property has been flooded at least three times in the past 40 years. The most accurate information on flooding was obtained from the U. S. Army Corps of Engineers' survey for the December 31, 1948 - January 1, 1949 flood. The high water at Dutcher's Bridge was 648 feet above mean sea level. This flood inundated most of the property including much of what is intended to be subdivided into house lots. The reason for the severity of the 1949 flood at this site was primarily due to debris and ice jams at Dutcher's Bridge.

Two other floods, August 1955 and September 1938, also caused extensive portions of the property to be inundated including areas designated for home-sites according to persons interviewed. Unlike the 1949 flood, the river did not, to any significant extent at this location, spread beyond its banks. Flooding in 1955 and 1938 occurred as a result of intensive rainfall and inadequate drainage within the site.

What would actually happen given a specific flow past the site cannot be determined with precision because of the existence of Dutcher's Bridge. Should Dutcher's Bridge be jammed by debris such as trees and buildings, a relatively minor flood could have a major impact on the Fair Acres site. With more development in the flood way, the likelihood of jamming the bridge with structures increases.

Since the 1955 flood, flood control structures have been installed on certain tributaries to the Housatonic River such as the Blackberry River. Small watershed flood control dams were authorized under Public Law 566, the Watershed Protection and Flood Prevention Act of 1954. It is acknowledged by the Soil Conservation Service that P.L.566 dams have a relatively insignificant effect on flooding along the watershed's main stem (in this case, the Housatonic River). P.L.566 dams protect only the immediate sub-watershed. Flooding along the Housatonic River will be for all practical purposes unaffected by the Blackberry River SCS dams. These dams will protect at most, Canaan Village and above.

Areas subject to flooding are specifically regulated by both the existing Salisbury Subdivision Regulations and by action taken by the Salisbury Board of Selectmen upon agreeing to participate in the federal government's Flood Insurance Program. The following two sections discuss these aspects.

EXISTING SUBDIVISION REGULATIONS

Section 4.3(i) of the Salisbury Subdivision Regulations provides the Planning and Zoning Commission with the discretionary authority to require of the subdivider to provide for protective flood control measures in "areas contiguous to brooks, rivers or other bodies of water subject to flood."

Partial Quote of Section 4.3(i)

When the Commission in its discretion feels that circumstances so warrant because of the unusual topography of the land to be sub-

The purpose of the flood-prone area maps is to show to administrators, planners, and engineers concerned with future land developments those areas that are occasionally flooded. The U.S. Geological Survey was requested by the 89th Congress to prepare these maps as expressed in House Document 465. The flood-prone areas have been delineated by the Geological Survey on the basis of readily available information.

Flood-prone area maps were delineated for those areas that meet the following criteria: (1) Urban areas where the upstream drainage area exceeds 25 square miles, (2) rural areas in humid regions where the upstream drainage area exceeds 100 square miles, and (3) rural areas in semiarid regions where the upstream drainage area exceeds 250 square miles.

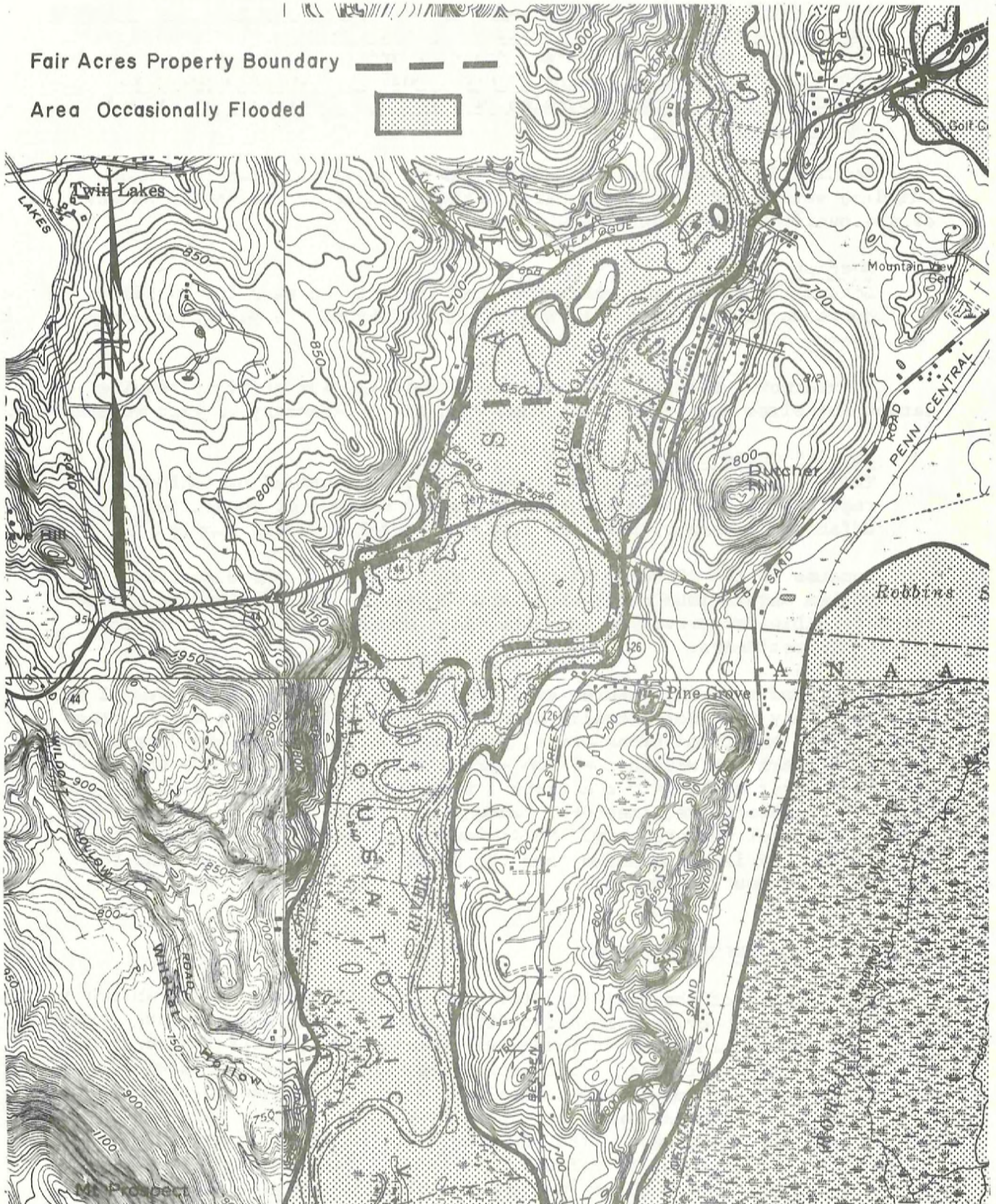
This map indicates only areas that may be occasionally flooded, and provides no information on the frequency, depth, duration, and other details of flooding. Larger areas than those shown on the map may be inundated by less frequent floods.

Flood-hazard reports provide the detailed flood information that is needed for economic studies, for formulating zoning regulations, and for setting design criteria to minimize future flood losses. When detailed information, such as that contained in the flood-hazard reports, is required, contact the U.S. Army, Corps of Engineers; the U.S. Geological Survey; or the Tennessee Valley Authority in the areas of their jurisdiction.

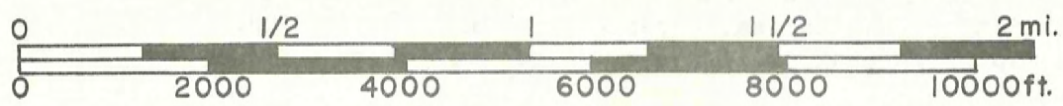
FLOOD - PRONE AREA MAP

U. S. GEOLOGICAL SURVEY, 1969

ASHLEY FALLS - SOUTH CANAAN QUADRANGLES



SCALE 1" = 2000'



divided, ..., high water table, poor soil porosity, or for any other reason the Commission feels unusual conditions are present, then evidence must be submitted to the Commission showing that the land to be subdivided is of such character that it can be used for building purposes without danger to health or public safety, that proper provision will be made for water, drainage and sewerage and in areas contiguous to brooks, rivers to other bodies of water subject to flooding, that proper provision will be made for protective flood control measures...

Section 3.4 calls upon the subdivider to develop a plan for which building within individual lots are "without danger to health and safety of the public or the occupants".

Section 3.4

Lots shall be of such character that they can be used for building purposes without danger to health and safety of the public or occupants.

Furthermore, Section 3.2 gives the Commission authority to require larger lot sizes than zoning minimums when it is necessary to improve drainage.

Partial Quote of Section 3.2

The Commission may require larger lots than required by zoning regulations when it deems them necessary because of conditions affecting drainage, sanitary sewage disposal or water supply.

Because of the flooding history at this location, those sections of Subdivision Regulations cited above should apply. The subdividers should be responsible for providing adequate flood control measures to protect any future residents.

The flood control measures available to the subdividers in view of the fact that they will not actually construct the dwelling units are to place lots outside the flood-prone areas, or to physically elevate the development portion of each lot within the flood-prone area to a point above the 648 foot high water mark, or to construct a flood wall that is designed to meet Corps of Engineers' requirements. Adequate drainage should also be provided throughout the property. No diminution of existing drainage should be allowed. It is recommended that the final plan take into account both surface and subsurface drainage.

NATIONAL FLOOD INSURANCE PROGRAM

The purpose of the National Flood Insurance Program is to establish a system that will provide subsidized flood insurance for existing structures in each participating town including Salisbury, and to deter further construction within designated flood-prone areas without certain safeguards that will greatly reduce the potential for future flood damage and loss of life. These flood-prone areas are considered to be areas within the so called 100-year flood way. (The 100-year flood way is that area of land which would be inundated by a flood that has a 1 in 100 chance of occurring each year.) The most accurate map delineating the 100-year flood way in Salisbury has recently been prepared by a national engineering firm (Michael Baker, Jr., Engineers) under contract by the Federal Insurance Administration (FIA) of the federal Department of Housing and Urban Development (HUD). This map shows that the 100-year flood will reach 650 feet above sea level

in the vicinity of the Fair Acres Farm site. This 100-year flood map will not be in effect for the Town of Salisbury until October 6, 1976. At the present time, a more general "Flood Hazard Boundary Map" dated June 28, 1974 is the basis for identifying the flood hazard area for the Town. This map shows the entire Fair Acres property within the "Special Flood Hazard Area". (The map is on file in the Town Hall.) The following describes the status of the National Flood Insurance Program as it impacts Salisbury.

Upon entering into the Flood Insurance Emergency Program with the Flood Insurance Administration, U. S. Department of Housing and Urban Development, the Town of Salisbury agreed to enforce the following minimum flood plain management procedures for all FIA designated flood-prone areas:

1. require building permits for all new construction or substantial improvements and
2. review the permit to assure that sites are reasonably free from flooding.

For its flood-prone areas which includes the Fair Acres property in its entirety, the Town of Salisbury must also require:

1. proper anchoring of all new structures,
2. the use of construction materials and methods that will minimize flood damage,
3. adequate drainage for new subdivisions, and
4. that new or replacement utility systems (i.e., sewer, water, gas, electric) be located and designed to preclude flood loss.

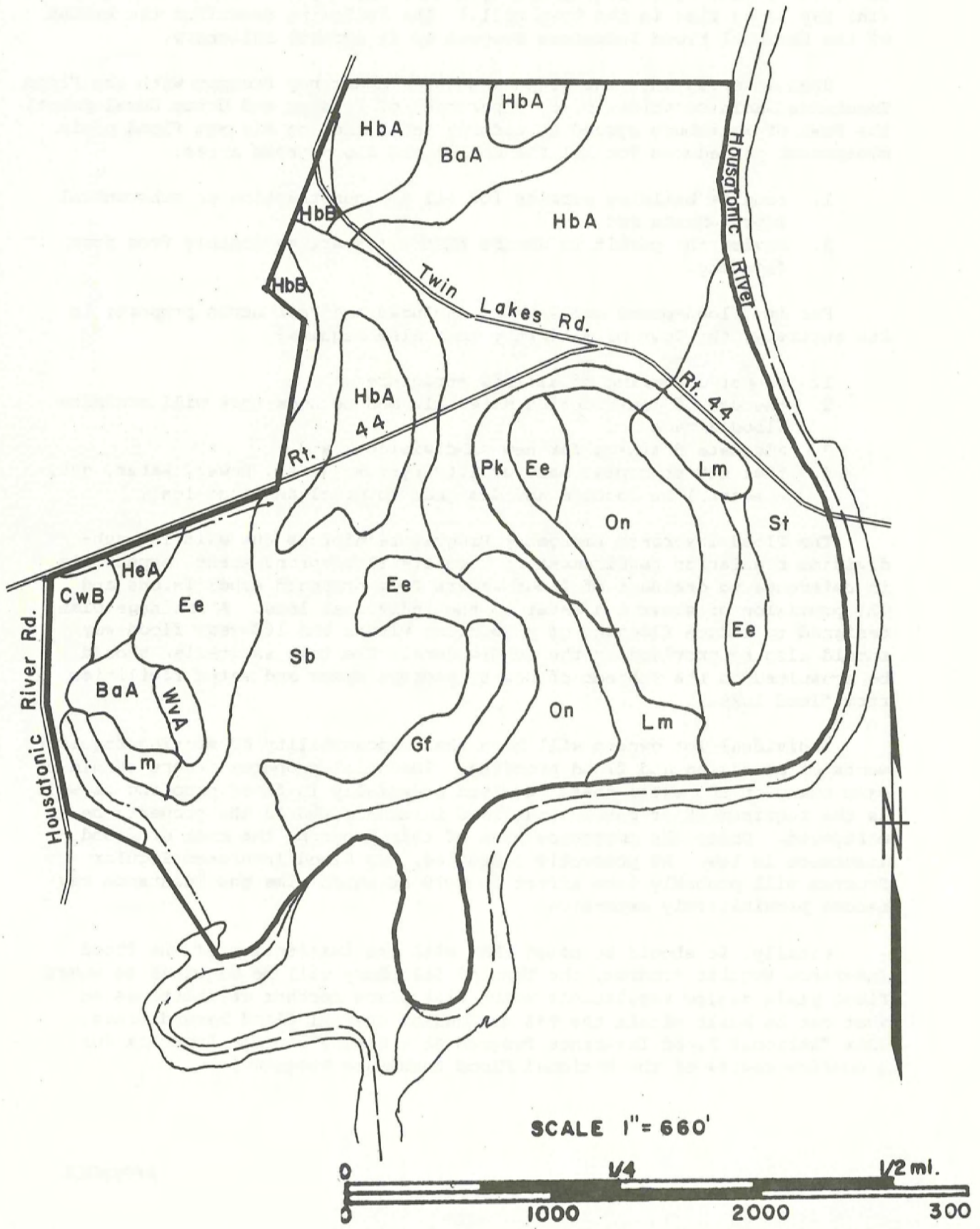
The Flood Insurance Emergency Program reinforces the existing subdivision regulation requirement to regulate flood-prone areas, especially in reference to drainage of flood waters from proposed subdivisions and the provision of sewer and water to the individual lots. A drainage plan designed to reduce flooding of properties within the 100-year flood way should be provided by the subdividers. The town sanitarian should be consulted on the subject of how to protect sewer and water facilities from flood loss.

Individual lot owners will have the responsibility of meeting requirements of anchoring and flood proofing. Potential property owners should be made aware of the extra costs involved especially in flood proofing as well as the requirement of purchasing flood insurance should the property be mortgaged. Under the emergency plan of this program, the cost of flood insurance is low. As presently scheduled, the Flood Insurance Regular Program will probably take effect in 1979 at which time the insurance may become prohibitively expensive.

Finally, it should be noted that with the institution of the Flood Insurance Regular Program, the Town of Salisbury will be required to enact flood plain zoning regulations which will place further restrictions on what can be built within the FIA designated special flood hazard areas. (See "National Flood Insurance Program at a Glance" in the Appendix for a concise review of the National Flood Insurance Program.)

SOIL MAP

FAIR ACRES — SALISBURY



SOILS LIMITATIONS CHART
Fair Acres, Salisbury, Connecticut

Natural Soil Group ⁺	Mapping Symbol	Slope %	Approx. Acres	Percent of Total Acres	Limitation Ratings for*:					Principal Limiting Factor(s) for other than Slight Limitations
					On-site Sewage	Buildings with Basements	Land-scaping	Streets and Parking	Athletic Fields	
A-1a	WvA	0-3	2.0	0.8	1	1	3	1	3	droughtiness
A-1d	CwB	3-8	5.0	2.0	1	1	1	2	2	slope
A-1d	HbA	0-3	63.0	25.2	1	1	1	1	1	--
A-1d	HbB	3-8	4.0	1.6	1	1	1	2	2	slope
A-2	BaA	0-3	16.0	6.4	2	2	1	2	2	seasonal water table
A-2	HeA	0-3	3.0	1.2	2	2	1	2	2	seasonal high water table
E-1	Gf	-	9.0	3.6	3	3	2	3	2	flood hazard
E-1	On	-	35.0	14.0	3	3	2	3	2	flood hazard
E-1	St	-	27.0	10.8	3	3	3	3	3	flood hazard, droughtiness
E-2	Ee	-	23.0	9.2	3	3	2	3	3	flood hazard, seasonal high water table
E-3a	Lm	-	10.0	4.0	3	3	3	3	3	flood hazard, high water table
E-3b	Sb	-	47.0	18.8	4	4	4	4	4	flood hazard, very high water table
F-1	Pk	-	6.0	2.4	4	4	4	4	4	very high water table, organic material
TOTALS			250.0	100.0						

* Limitation Ratings: 1 - slight; 2 - moderate; 3 - severe; 4 - very severe (subclass of 3).

• Inland Wetland soils as defined under Public Act 155.

+ Refer to Know Your Land, Natural Soil Groups for Connecticut, Soil Conservation Service, USDA, Connecticut Cooperative Extension Service, for further explanation of the natural soil groups.

Note: All soils in Natural Soils Group "E" are classified as flood plain soils by the USDA, SCS.

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. Detailed 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 the 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.

1. 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.
2. 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. The additional cost ranges from average to higher than average outlay when such areas are compared with areas rated as having slight limitations.
3. 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.

Very Severe Limitations. Areas rated as having very severe limitations are generally not feasible for the specific use or the limitations would require extreme and costly measures to correct.

NATIONAL FLOOD INSURANCE PROGRAM AT A GLANCE

Description of program and program limits. (a) The National Flood Insurance Program was enacted by the Congress in 1968 as a means of making flood insurance, which was previously unavailable from the private insurance industry, available at reasonable rates through a joint Government-industry program, within communities that meet eligibility requirements by adopting certain flood plain management regulations, consistent with Federal criteria to reduce or avoid flooding in connection with future construction in their flood plains.

(b) The program is highly subsidized and seeks in its early stages to assure wiser future flood plain management rather than to obtain adequate premiums for the coverage provided. However, flood insurance for buildings constructed within identified special flood hazard areas after the effective date of the initial Flood Insurance Rate Map can only be made available at actuarial rather than the subsidized premium rates. Such rates can be prohibitively expensive unless the buildings are properly elevated or flood-proofed to lessen flood damage.

(c) Communities entering the National Flood Insurance Program generally do so in two phases. They first become eligible for the sale of flood insurance in the Emergency Program under which only half of the program's total limits of coverage are available and all such insurance is sold at subsidized premium rates. After the flood insurance rate study has been completed, a community enters the Regular Program under which full limits of coverage are available.

(d) Under the Regular Program, buildings constructed on or before the effective date of the initial rate map--those located outside of the special flood hazard areas, remain eligible for the first half of available coverage (known as "first layer" coverage) at either subsidized rates or actuarial rates, whichever are cheaper. All other buildings can only be insured at actuarial rates on both layers of coverage.

(e) Regardless of date of construction, actuarial rates are always required for the second layer of coverage.

(f) Present limits of coverage under the Emergency Program are \$35,000 on single family dwellings and \$100,000 on all other types of buildings, with \$10,000 per unit available for residential contents, and \$10,000 per building available for nonresidential contents.

(g) Present limits of coverage under the Regular Program are double those indicated in paragraph (f) for the Emergency Program.

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