environmental review team report

STRICKLAND FARM

Middlefield, Connecticut

RC&D

EASTERN CONNECTICUT
RESOURCE CONSERVATION AND DEVELOPMENT PROJECT

ASSISTED BY: U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE AND COOPERATING AGENCIES

ENVIRONMENTAL REVIEW TEAM REPORT
ON THE
STRICKLAND FARM
MIDDLEFIELD, CONNECTICUT

OCTOBER, 1974

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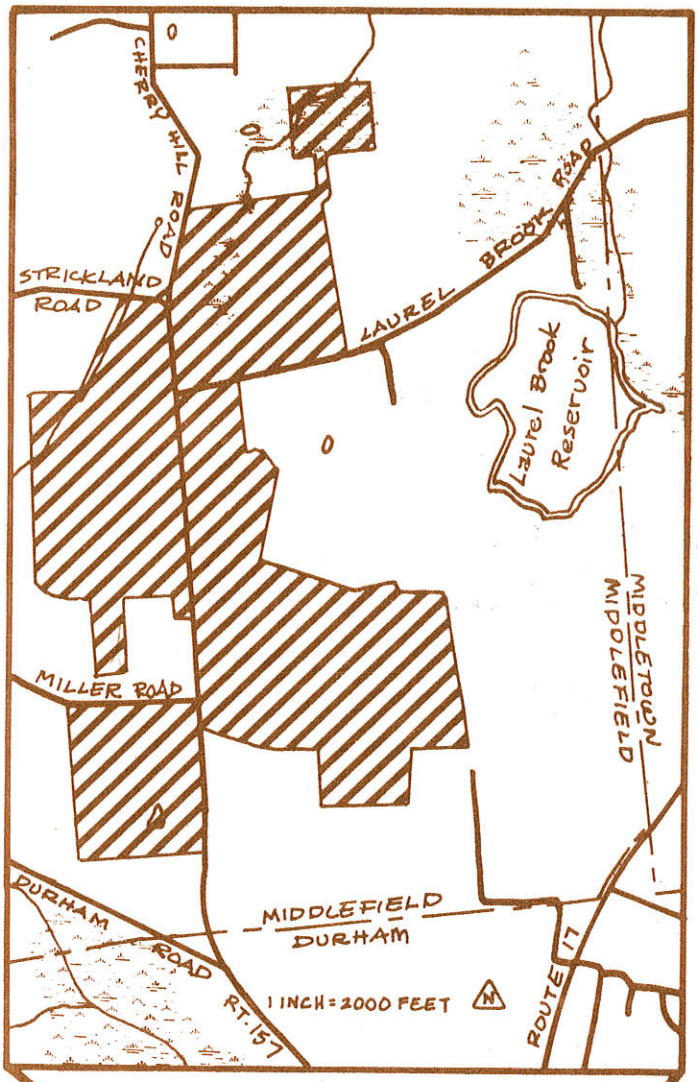
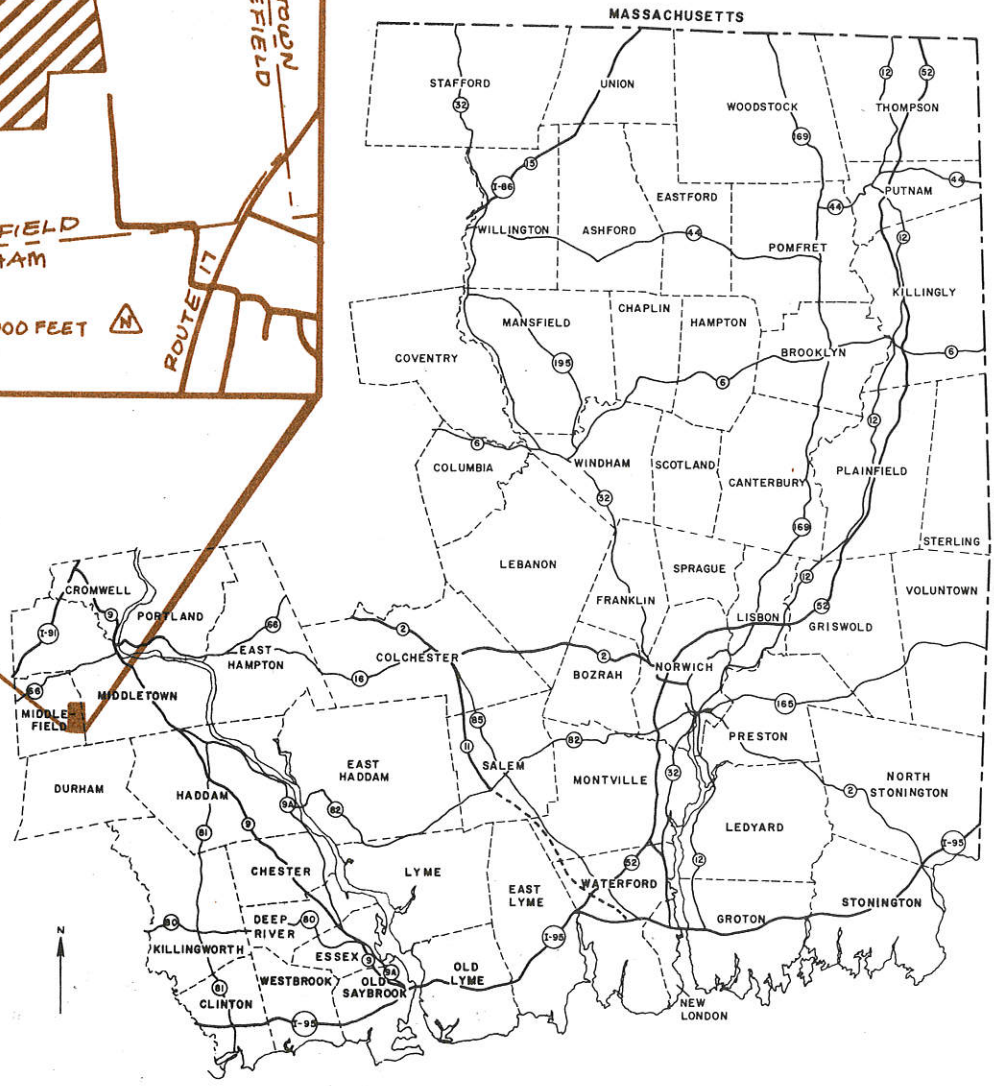
EASTERN CONNECTICUT RESOURCE CONSERVATION
AND DEVELOPMENT PROJECT
Environmental Review Team
139 Boswell Avenue
Norwich, Connecticut 06360

LOCATION OF STUDY SITE

STRICKLAND FARM
MIDDLEFIELD, CONNECTICUT





EASTERN CONNECTICUT
RESOURCE CONSERVATION AND DEVELOPMENT PROJECT

ENVIRONMENTAL REVIEW TEAM REPORT
ON THE
STRICKLAND FARM
MIDDLEFIELD, CONNECTICUT

This report is an outgrowth of a request from the Town of Middlefield, with the approval of the landowner, 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) Executive Council for their consideration and approval as a project measure. The request has been approved and the measure reviewed by the Environmental Review Team.

The soils of the site were mapped by a soil scientist of the USDA Soil Conservation Service. Reproductions of the soil survey and a table of limitations for urban development were forwarded to all members of the Team prior to their review of the site.

The Team that reviewed the proposed development consisted of the following personnel: Barry Cavanna, District Conservationist, Soil Conservation Service (SCS); Marc H. Crouch, Soil Scientist, SCS; Edwin Minnick, Engineer, SCS; Timothy Dodge, Biologist, SCS; Paul Marin, Geologist, State of Connecticut Department of Environmental Protection (DEP); Stanley House, Donald Huff, Foresters, DEP; Geoffrey Colegrove, Steve Holmes, Sam Rodriguez, Planners, Midstate Regional Planning Agency; Barbara Hermann, Team Coordinator, Eastern Connecticut RC&D Project.

The Team met and reviewed the site on August 1, 1974. Reports from each Team member were sent to the Team Coordinator for review and summarization.

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 Middlefield. The results of this Team action are oriented toward the development of a better environmental quality and the long-term economics of the land use.

The Eastern Connecticut RC&D Council hopes you will find this report of value and assistance in making your decisions on this particular site.

If you require any additional information, please contact: Miss Barbara A. Hermann (889-2324), Environmental Review Team Coordinator, Eastern Connecticut RC&D Project, 139 Boswell Avenue, Norwich, Connecticut 06360.

INTRODUCTION

Mr. Linus Strickland has offered his 385 acre farm on Cherry Hill Road to the Town of Middlefield as an open space acquisition. Because of federal and state open space grant-in-aid requirements relating to the use of property after acquisition, the Town needs to first develop a tentative plan for the use of the farm. With the probable future use of the farm determined, it will then be possible for the Town to prepare financing alternatives.

Foremost, the Town requested the Team to evaluate the recreation, conservation, and farming potential of the land, in order to determine which areas have high open space value. Secondly, identification of areas which might be suitable for community facilities and/or expansion of a nearly industrial park was also requested.

The following report will describe the natural resources on the site, evaluate various aspects of development common to most land uses, and then discuss the many alternatives available to the Town. Because the land has generally high potential for almost any land use, it is not possible to identify any "best" use for each portion of the site. However, by exploring the numerous alternatives available, Middlefield will hopefully be in a better position to develop a tentative land use plan for the farm, that meets the present and future needs of the Town.

EVALUATION

EXISTING RESOURCES

Topography. The majority of this site lies atop a hill in the southeastern section of Middlefield. The elevation generally ranges from 200 to 300 feet, with the steeper slopes occurring along the western and southern portions of the property. As can be seen on the topography map, there are several small streams on the site, but none with watersheds of significant size.

Geology. The Strickland Farm is situated in the geologic region of Connecticut known as the Central Lowland. Portland Arkose, commonly called brownstone because of its brownish-red cast, is the only bedrock found on the farm. It lies from 5 to 50 feet below the ground with the greater depths in valleys and shallower depths along hilltops. Rock outcrops are not common with only one or two found on the property.

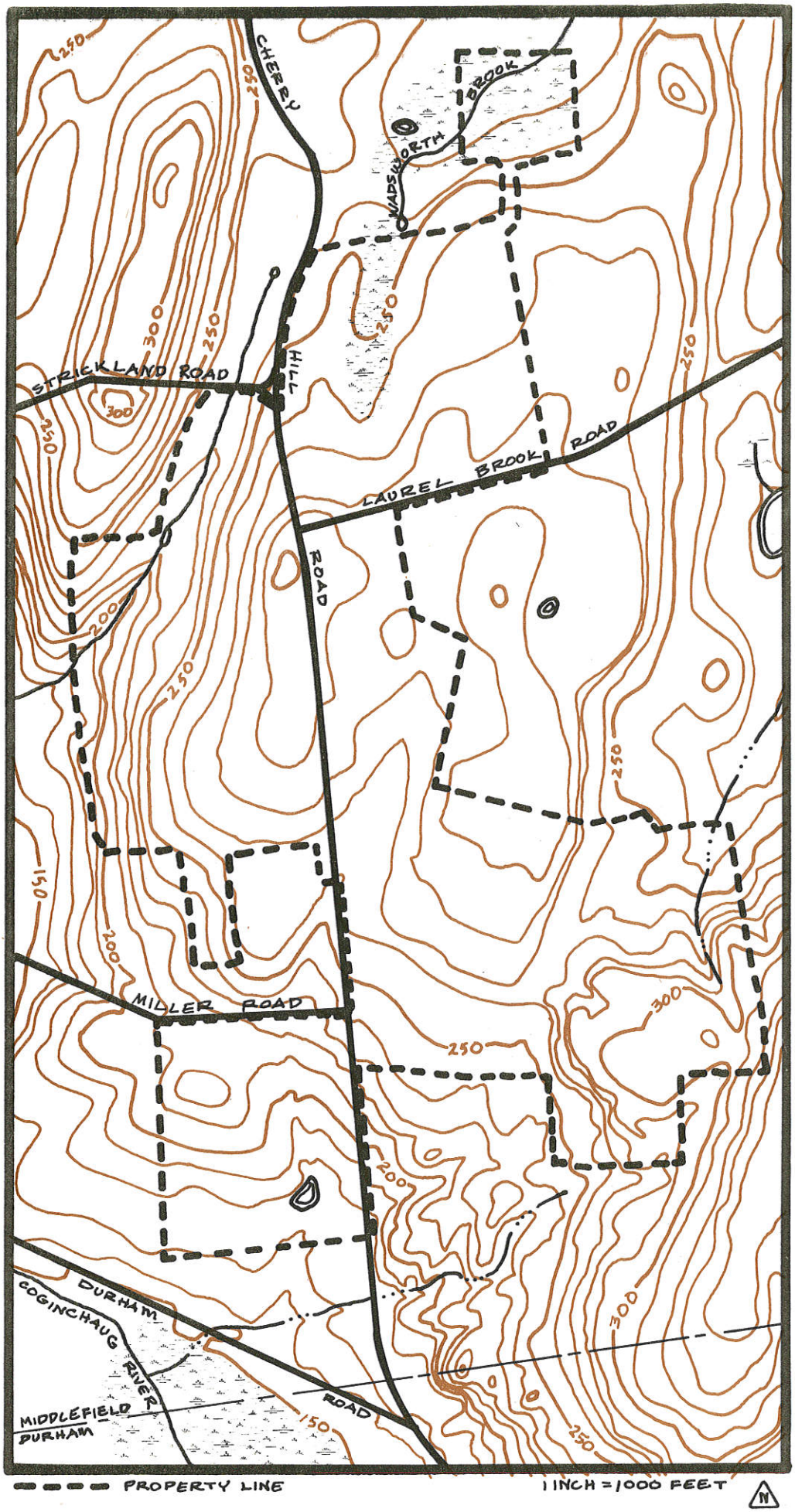
The surficial geology of this property is characterized by till on the ridges, stratified drift (sand and gravel) covered with a silty mantle on the side slopes, and thick deposits of silt and clay in the wetlands (along valley bottoms and in depressions). Although the till occurs on and near the hill crests, it has a seasonally high water table due to the existence of a hardpan at about 2 feet below the soil surface. The till is a random mixture of rock debris ranging from clay-size particles to boulders with small layers of sand and gravel interbedded within it.

The only potentially useful sand and gravel deposit exists in the stratified drift deposit defined by the SCS Soil Survey as 74B, a Hartford sandy loam (see soil map in Appendix). The State of Connecticut Department of Transportation Aggregate Survey indicates that this deposit of sand has less than 25% gravel in it, is 400 acre-feet in size, and averages 10 feet in depth. However, these figures should be used with caution in assessing the potential value of this resource since, in this area, sand and gravel deposits are characterized by great variation in vertical and horizontal extent.

The groundwater potential of this property is dependent upon the hydrogeologic properties of the underlying bedrock , Portland Arkose. Based on well records in the area, wells on the Strickland Farm should yield, on the average, about 10 gpm. The well depth necessary to produce this return should average 100 to 200 feet.

Soils. A detailed soils map of this property is given in the Appendix to this report along with a soils limitations chart. Due to the original scale at which the soils are mapped (1"=1,320'), the lines shown on the soils map 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 on-site sewage, basements, landscaping, and streets and parking. This chart is useful for evaluating the general suitability of an area for development, whether it be residential, commercial, or industrial. However, limitations, even though very severe, do not always preclude the

TOPOGRAPHY


CHERRY
BROOK
WADSWORTH
STRICKLAND ROAD
HILL
ROAD
LAUREL BROOK ROAD
MILLER ROAD
DURHAM
COGINCHAUG RIVER
MIDDLEFIELD
DURHAM
ROAD
250
300
200
150
PROPERTY LINE
1 INCH = 1000 FEET
N

use of the land for development. If economics permit greater expenditures for land development and the intended objective is consistent with the objectives of local and regional development, many soils and sites with difficult problems can be used.

The soils on this site can be grouped into three general categories: terrace soils over sands and gravels, upland soils over compact glacial till (hardpan), and inland wetlands. As can be seen, these groupings relate to the nature of the surficial materials underlying the soils. The largest group is the terrace soils (Natural Soil Group A) and includes 233 acres, or 63.6% of the site. About 15 to 40 inches of friable, loamy soil material overlie the beds of sand and gravel. Their permeability is moderate to rapid and they have fair to good water-holding capacity. A few of the soils within this group (76A, 440A, 440B) are also characterized by a moderately high seasonal water table, which may come within 15 to 20 inches of the soil surface during periods of high saturation.

The next largest group are the upland soils over compact glacial till (Natural Soil Group C). The soils are underlain by compact glacial till and have a hardpan 16 to 36 inches below the soil surface. Permeability above the hardpan is moderate, but the pan drastically reduces percolation. During wet seasons, excess water in the soil moves downslope above the hardpan. The till commonly contains stones and boulders which add difficulty when excavating or earth moving operations are needed. These soils have good moisture-holding capacity for plant growth. One soil type within this group, 56A, is also characterized by a moderately high seasonal water table.

The last major soil group on this site is the inland wetlands, which consist of poorly and very poorly drained soils. In this case, they are also classified as lake terrace soils, over strata high in silt and clay (Natural Soil Group G). Soils of this group occur in areas where glacial lake sediments accumulated. These sediments have a higher content of clay and fine silt than is common for soil materials in this area. In most places, the finer-textured lake sediments are covered by coarser loamy or sandy material from several inches to a few feet thick. The permeability rate through the lake sediments is low. The poorly drained soils, 640 and 643, have a high water table that is less than 6 inches below the soil surface during the wettest part of the year and which may reappear after prolonged or heavy summer rains. The very poorly drained soil, 483, has water ponded on the surface for significant periods during winter and early spring. The water table usually remains within 3 feet of the soil surface throughout the year.

Vegetation and Wildlife. The landscape of the Strickland Farm is truly beautiful. Nearly all 385 acres at this site exist as openland, presently utilized for agricultural purposes; as grassland for pasture and hayland and cropland primarily for growing corn.

The pattern of land use breaks the land into numerous fields bounded by barbed wire fences and occasional stonewalls and hedgerows. Scattered shade trees are found throughout the area, primarily near road boundaries and on grasslands, usually in the wetter areas. These trees include, but are not limited to, maple, ash, and hickory. Grassland areas are in some instances seeded with native or locally adapted grasses while in other fields specialty grasses including brome, Timothy, orchard grass, etc., have been established.

Three areas, comprising less than 10% of the site, exist as woodland. The small parcel (about 10 acres) at the northern end of the site consists primarily of a red maple swamp. Another small area of woods lies along the steep portion of the western boundary of the farm. The third area is on the south end of the site, next to the Town dump, and consists of a 7 acre pole stand with some saw log timber on one side. This is a good farm woodlot and is generally free of underbrush as a result of pasturing. Mixed hardwoods are present in all of these areas, including oak, hickory, cherry, American beech, maple, and ash.

Two ponds are present on the property; one approximately 1/4 acre in size, the second about 3/4 of an acre. Both provide habitat for warm water fish and other aquatic life, though neither has been actually stocked. Local people using the ponds have put in occasional fish which have survived and grown well. The larger pond contains brown bullhead. The smaller pond is possibly suited to cold water fish being spring fed through sands and gravels. Both ponds provide some habitat to waterfowl. One black duck was observed on the smaller pond.

Four distinct wetland areas exist which have soil characteristics that categorize them as inland wetlands under P.A. 155. In addition, two intermittent streams flow through the property. It is doubtful they contain any significant fishery, though other aquatic life such as frogs, insects, etc. undoubtedly make use of this resource. This type of land use pattern and diversity of topography is both aesthetically pleasing and provides habitat for wildlife. With the present land use pattern, habitat is provided primarily for openland wildlife. These are birds and mammals of croplands, pastures, meadows, lawns, and overgrown areas. Examples include bobwhite quail, ringnecked pheasant, cottontail rabbit, red fox, woodchuck, mourning dove, meadowlark, field sparrow, killdeer, and other birdlife.

If the land use were to remain the same, that is for agricultural purposes, utilizing a pattern of small croplands, grasslands, wetlands, and pasturelands, then wildlife composition and population could be expected to remain diverse and stable.

Zoning and Land Use. Current zoning in the vicinity of the Strickland Farm consists primarily of an Agricultural 1 zone, with a minimum lot size of five acres. To the southeast of the site,

and including the parcel south of Miller Road, is an Agricultural 2 zone, with a minimum lot size of 2 acres. To the north and east of the site, including the northern most parcel of the property, is a low-density industrial park zone in which two small plants are presently located.

The existing land uses in the area are dominated by agricultural activities. Scattered homes are located along the roads. The Town's landfill and the Middlesex Livestock Auction are located south of the site.

WATER SUPPLY

Municipal. Approximately 2,600 feet to the east of the property along Laurel Brook Road there is a 16 inch transmission main from the Laurel Brook Reservoir, owned by the City of Middletown. This main currently serves the southern portion of Middletown. In addition to Middletown proper, the Middletown Water Department provides service to the two Middlefield industries just adjacent to the reservoir itself.

The Regional Sewer and Water Plan projects service to the Strickland property via this 16 inch main along Laurel Brook Road and Cherry Hill Road by 1980 to 1985. The source for this water service is the Laurel Brook Reservoir. At this point in time no regional arrangements or contracts have been executed to implement this proposal.

On-Site. The water supply for dwellings on the Strickland property is currently provided by on-site wells. As mentioned earlier, the average yield of bedrock wells in this area is about 10 gallons per minute. This would be adequate for farming, recreational, residential, and probably low water use industries.

WASTE DISPOSAL

Municipal. Within 4,000 feet of the easterly boundary of the Strickland property along Laurel Brook Road there is sanitary sewer service being installed in Middletown. This portion of Middletown is being serviced via a 12 inch main, located on Route 17 (South Main Street Extension), which is at or near capacity. The Regional Sewer and Water Plan recommends that this area of Middletown and Middlefield be serviced by a new 21 inch sanitary trunk line located in the Laurel Brook valley in a time period of 1980 to 1985. When this new trunk is constructed it will be feasible to provide sewer service to the Strickland property. The estimate of 1980 to 1985 for services to the Strickland property is probably optimistic.

On-Site. Analysis of the soils information in the Appendix indicates that about 52.4% of the property has slight limitations for on-site sewage disposal. This consists of the gently sloping

soils underlain by sands and gravels, found mainly on the hillsides. The hilltop, which is characterized by hardpan soils, and the wetland areas have severe to very severe limitations for on-site sewage disposal, due to unfavorable drainage characteristics, and in some cases, slopes up to 15%. These soils represent about 42.1% of the site. The remaining 5.5% of the site has moderate limitations, due primarily to the slope and/or a moderately high seasonal water table.

FOUNDATIONS AND GRADED CONDITIONS

The majority of the site, 73.5%, is well-suited for construction of basements. Another 7.4% has moderate limitations, due to a slope of 8-15% and/or being only moderately well-drained. The remaining 19.1% of the farm has severe or very severe limitations for basements, due to the drainage characteristics of the soils.

With the exception of 13.1% of the site (the inland wetlands), the soils have slight or moderate limitations for landscaping. The limiting factors, droughtiness, slope, and seasonally high water tables, can all be minimized without excessive costs.

With any development requiring clearing and land disturbance, one of the prime considerations should be erosion and sedimentation controls. The silty mantle associated with most soils on the site is particularly susceptible to erosion. Construction methods relating to the amount of land cleared, the time lapse before vegetation is re-established, use of temporary seeding, etc., can do much to minimize the erosion potential. In addition, there are many vegetative and mechanical measures for controlling erosion. Erosion and sedimentation control should be included in the plans for any significant development.

ROADS AND UTILITIES

Cherry Hill Road provides a major north-south collector function for this area of Middlefield. The geometrics of the road design and the quality of road surface are sufficiently high to accommodate fairly intensive traffic generators along its route. The fact that it ties into two existing state highways (147 and 157) only enhances its relationship as a collector road. The major problem with this facility as a collector road is in the Rockfall area where the geometrics of the road deteriorate compared to the remainder of the road.

The east-west movement through the property is not continuous and involves a series of right and left hand turns beginning from Laurel Brook Road north on Cherry Hill Road and then west on Strickland Road. The alternative would be to proceed from Laurel Brook Road south along Cherry Hill Road and then west along Miller Road. Currently under the urban systems work being carried out by the Mid-

state Regional Planning Agency there have been discussions of developing a continuous east-west road by modifying Brush Hill Road in Middletown and Laurel Brook Road and Strickland Road in Middlefield. If this proposal were accomplished it would provide the same quality of east-west access as Cherry Hill Road provides north-south access.

It should be noted that the Strickland property has over 7,000 feet frontage along Cherry Hill Road with additional frontage along Miller Road, Laurel Brook Road, and a small portion on Strickland Road.

With respect to construction of new roads and/or parking lots on the site, the majority of the soils, 73.5%, have moderate limitations. The principal limiting factors are slope and seasonal high water tables. Careful engineering design and construction can minimize these problems. The remaining soils exhibit severe to very severe limitations due to seasonal or year-round high water tables, poor drainage, and/or 8-15% slopes.

POTENTIAL HAZARDS

The wetland soils are flood prone during late winter and spring and during excessively wet periods at any time of the year. With the small percentage of the site falling within this category, this should not present any particular problems.

Loss of wetlands are currently a prime consideration in development. Less than 10% of the Strickland property has been classified as inland wetlands in accordance with Public Act 155. Wetlands on the site are not part of major wetland areas in Middlefield. However, they do relate to water courses that eventually flow into the Coginchaug River and its associated wetlands. The low percentage of wetlands on the parcel does not create a significant obstacle to urban development. However, these areas do provide wetland wildlife habitat and should be given a thorough evaluation prior to any form of urban development.

ALTERNATIVE LAND USES FOR THE AREA

This is presently the most urgent consideration within the Town of Middlefield. The probable future use of the various portions of the Strickland Farm will determine what alternatives exist for financing the initial purchase of the site. Since open space and recreation, including agriculture, are of prime consideration, they will be dealt with in the greatest detail. Also of consideration, however, will be the possibilities for industrial, residential, and municipal uses.

Open Space. The primary use of the Strickland Farm at present is agriculture. The soils on the site are well-suited for both crops and pasture, as has been shown by past experience. There is a trend

within Connecticut for agricultural land to submit to the pressures of development. If the farm is purchased by the Town, leasing portions of it to other farms might be considered. This would preserve the open nature of the land without costly maintenance, help maintain agricultural activities within the Town, and provide some revenue.

The Town might also consider planting a portion of the site to Christmas trees which could be sold by the Town or a local civic organization. Christmas trees are not permanent, if harvested, and would not destroy the open character of the farm.

SOIL LIMITATION CHART
FOR THE ESTABLISHMENT AND MAINTENANCE OF
WILDLIFE HABITATS

Natural Soil Group	Map Symbol	Limitations for wildlife habitats:* Openland	Woodland	Wetland
A-1b	62-BC	1	1	4
A-1d	74-B	1	2	4
	138-B	1	1	4
	138-C	1	1	4
A-2	76-A	1	1	3
	440-A	1	1	3
	440-B	1	1	3
C-1a	38-B	1	1	4
C-1b	38-C	1	1	4
C-2a	56-A	1	1	3
G-3a	640	2	1	1
	643	2	1	1
G-3b	483	3	1	1

* Limitations: 1-Slight; 2-Moderate; 3-Severe; 4-Very Severe.

The chart on suitability of soils for wildlife habitat indicates the majority of the site is well-suited for the establishment of openland and woodland wildlife. Wetland wildlife habitat is only suitable on the wetland soils. The major vegetative elements of openland habitat include small grain crops, grasses and legumes, wild herbaceous plants, and shrubs and vines. For woodland wildlife the dominant habitat element is hardwood trees, along with shrubs, vines, conifers, and to a lesser degree, wild herbaceous plants.

Presently, habitat is provided primarily for openland wildlife and would require a minimum of effort to maintain it with continuation of agricultural activities. Woodland habitat would require the introduction of substantial numbers of hardwoods and conifers.

It is not recommended that large portions be put into trees since it would eliminate the openness of the site which at present is so aesthetic. Wetland habitat is limited by the small portion of wetland soils, but can be maintained in these areas.

In conjunction with wildlife management, hunting of native game would be possible. Organized hunting is also a possibility. For example, a pheasant release field could be developed for "put and take" shooting.

Fishing is another potential wildlife/recreational opportunity. Two ponds presently exist on the farm; one in the parcel south of Miller Road and one east of Cherry Hill Road in the southeastern section of the farm. Potential pond sites exist in the wetland soils at the north end of the farm, along the brook on the western boundary, and near the existing pond east of Cherry Hill Road. Both existing and potential ponds would probably be well suited for warm water fish and possibly for cold water fish, provide habitat for waterfowl, and serve other wildlife.

Recreation. The possibilities for recreational uses of this land are excellent and appear limited only by the imagination. The soil limitations chart for recreational activities on the following page lists a variety of uses, all of which appear to be suitable on the majority of the site. A town park incorporating picnic areas, trails, and nature study could be developed in conjunction with wildlife management. Outdoor classroom areas, observation blinds, photography blinds, exhibits, etc. are all facilities which could be developed.

Some of the more active uses could include athletic fields and intensive play areas. These could be developed along with picnic sites and/or future school sites. A municipal campground and/or golf course are additional possibilities. The diverse topography east of Cherry Hill Road would provide a particularly nice setting for camp sites, as well as a challenging site for a golf course.

The existing and potential ponds could be incorporated with almost any of the above activities. They could provide opportunities for fishing, nature study, skating, and possibly swimming, in addition to their value for wildlife.

Industrial. The question of industrial use of portions of the site has arisen due to its close proximity to an existing industrial park zone to the north and the possibility of establishing a new industrial zone south of the site. With utilities projected for 1980 to 1985 and Cherry Hill Road serving as a collector, the northern portion of the Strickland Farm will be highly suitable for industrial development. Provided on-site sewage disposal is not contemplated, there should be no severe limitations for development in the area, except for the wetland soils.

The southern portion of the Strickland property also has potential as an industrial area. It abuts a 24 acre parcel owned by the

SOIL LIMITATIONS CHART FOR RECREATIONAL ACTIVITIES

Natural Soil Group	Map Symbol	% of Total Site	Limitations for:*						
			Athletic Fields	Camp Areas, Intensive Use	Buildings in Recreation Areas	Picnic Areas	Intensive Play Areas	Paths & Trails	Golf Fairways
A-1b	62BC	0.3	3	2	2	2	3	1	2
A-1d	74B)	52.4	2	1	1	1	2	1	2
	138B)		2	1	1	1	1	1	1
A-1e	138C	5.2	3	2	2	2	3	1	2
A-2	76A)	5.7	2	2	3	1	2	1	2
	440A)		2	2	2	1	2	1	1
	440B)		2	2	2	1	2	1	1
C-1a	38B	15.6	2	2	2	1	2	2	1
C-1b	38C	2.2	3	2	2	2	3	2	2
C-2	56A	5.2	2	2	2	2	2	2	1
E-2	71V	0.3	2	2	3	1	2	1	2
G-3a	640)	10.6	3	3	3	3	3	3	3
	643)								
G-3b	483	2.5	4	4	4	4	4	4	4

* Limitations: 1-Slight; 2-Moderate; 3-Severe; 4-Very Severe.

Town of Middlefield and a 22 acre landfill area owned by the Towns of Durham and Middlefield. Both parcels are contiguous with the Strickland property and surround the Middlesex Livestock Auction, which has industrial characteristics. The Plan of Development for Middlefield, prepared in 1960, shows much of this area as industrial. This concept is reinforced by the fact that Middletown has property to the east of this area from Route 17 to the Middlefield-Middletown boundary zoned for light industrial use. Durham's Plan of Development indicates that land to the south of the subject property in Durham between Route 147 and Route 17 is suitable for commercial or light industrial use.

Also of an industrial nature are the sand and gravel resources on the southern portion of the site (soil 74B). If desired, these resources could be used by the Town or incorporated into an industrial park and leased or sold to a private concern.

Residential. Well to moderately well drained soils, rolling topography, and scenic vistas make this land well suited and desirable land for residential development. If not purchased by the town, this will be the probable future for the farm. One possibility which could be considered by the town is use of a portion of the site for municipally sponsored elderly housing.

Community Facilities. As with residential or industrial uses, the land is generally well-suited for development. The main consideration for reserving an area for community facilities would be the present or future need for them and whether the location would be suitable. If a school site is anticipated in this part of town, adjoining recreational or nature study areas could serve both educational and community needs.

ADDITIONAL COMMENTS AND SUMMARY

As can be seen, this land has high potential for any use. Use of the property will be limited only by the imagination and resources of the owner, whether it is purchased by the Town or a private individual. It should be noted that Connecticut is presently trying to find ways to preserve agricultural land. From this viewpoint, maintaining agricultural activity on the farm is highly desirable. Plans for the property might include retaining a major portion in agricultural production indefinitely. Once an area is developed for urban use, its agricultural value is gone.

With respect to possible municipal uses of the farm, all types of open space and recreation activities are suitable. They can be developed immediately or at some point in the future, depending on the needs and resources of the Town. Sites for specific future needs, such as schools, industry, and elderly housing, can be reserved now. Location will probably be the determining factor since most of the site is generally suitable for development. Whatever the eventual use of an area, agriculture could and should be continued in the interim period.

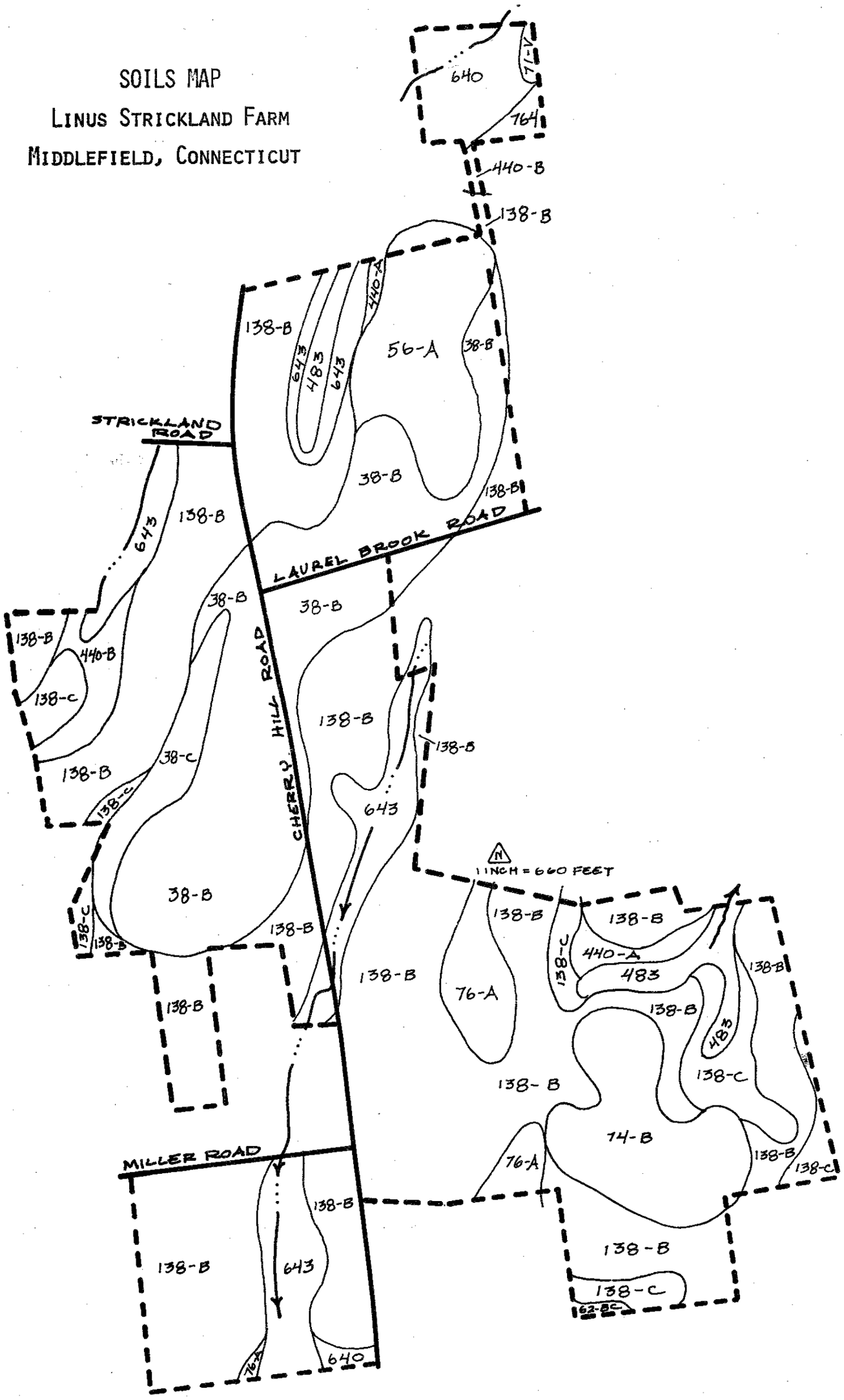
The alternative to municipal purchase of this site would most likely be private residential development. The cost of the land would be out of the range for most farmers. Therefore, whether large areas are sold to developers or lots are sold to individuals, residential use is the most probable outcome. This should be kept in mind when deciding if the Town should purchase the farm.

APPENDIX

SOILS MAP

LINUS STRICKLAND FARM

MIDDLEFIELD, CONNECTICUT



Prepared by: UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service

ADVANCE COPY, SUBJECT TO CHANGE *OCTOBER, 1971*

SOILS LIMITATIONS CHART

Natural Soil Group*	Mapping Symbols	Acres	Percent of Total Acres	Limitations For:** On-Site Sewage	Base-ments	Land-scaping	Streets and Parking	Principal Limiting Factor(s)
A-1b	62BC	1	0.3	2	1	2	2	Droughtiness, Slopes 3-15%
A-1d	74B) - 138B)	192	52.4	1 1	1 1	2 1	2 2	)- Slopes 3-8%
A-1e	138C	19	5.2	2	1	2	3	Slopes 8-15%
A-2	76A) 440A) - 440B)	21	5.7	3 2 2	3 2 2	2 2 2	3 2 2	) Moderately high)- seasonal water table.) Slopes 0-8%
C-1a	38B	57	15.6	3	1	1	2	Hardpan, slopes 3-8%
C-1b	38C	8	2.2	3	2	2	3	Hardpan, slopes 8-15%
C-2	56A	19	5.2	3	2	2	2	Hardpan, moderately high seasonal water table.
E-2	71V	1	0.3	3	3	2	3	Flood hazard, moderately high seasonal water table.
G-3a	640,643	39	10.6	3	3	3	3	High seasonal water table.
G-3b	483	9	2.5	4	4	4	4	High year-round water table.

* 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.

** Limitations: 1-slight; 2-moderate; 3-severe; 4-very severe.