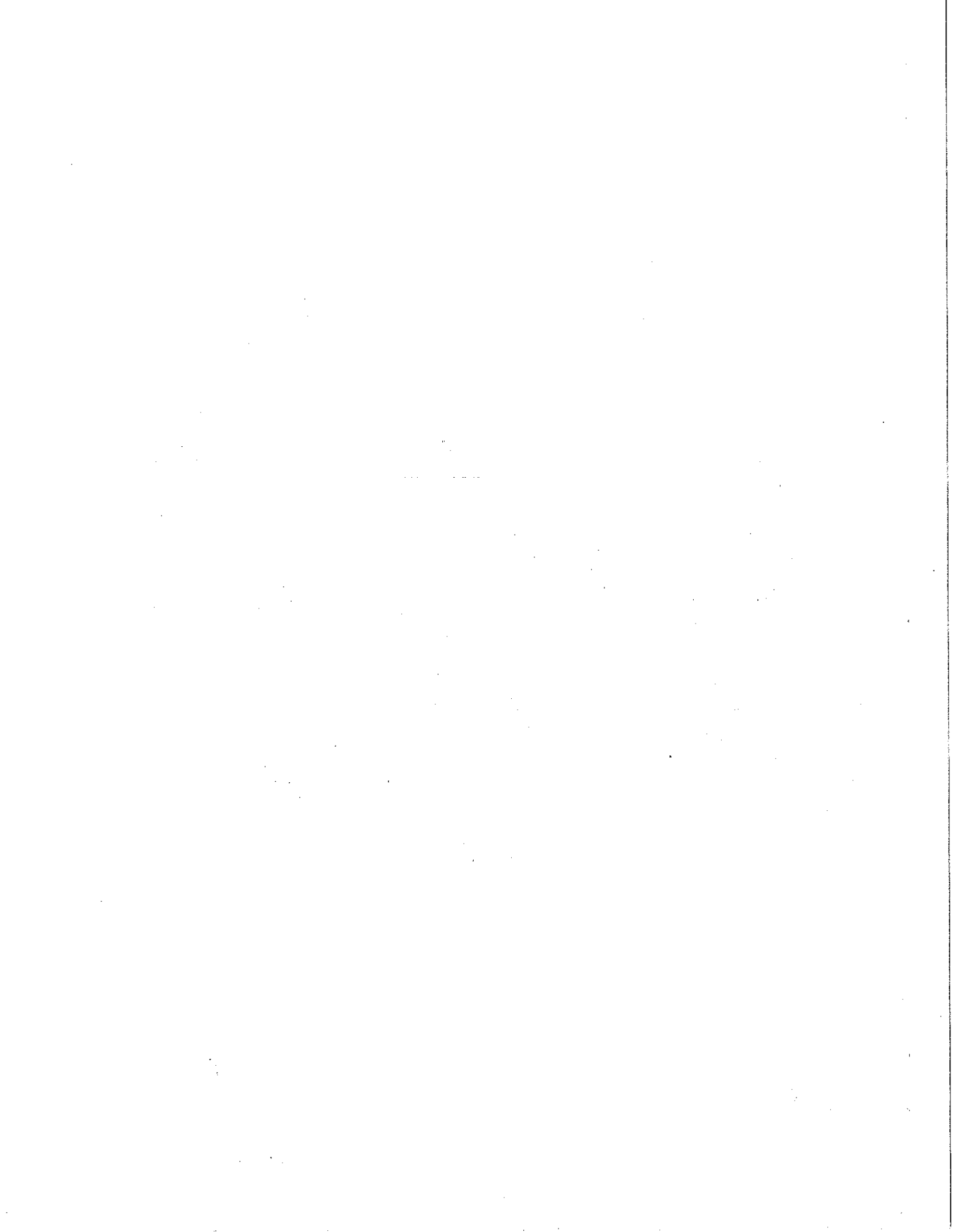




**CORNWELL PROPERTY ACQUISITION
BROOKFIELD, CONNECTICUT**

**KING'S MARK
RESOURCE CONSERVATION AND DEVELOPMENT PROJECT**



KING'S MARK
ENVIRONMENTAL REVIEW TEAM REPORT
on the
CORNWELL PROPERTY ACQUISITION
BROOKFIELD, CONNECTICUT
MAY 1976

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King's Mark Resource Conservation
and Development Project (RC&D)
Environmental Review Team
P. O. Box 30
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ENVIRONMENTAL REVIEW TEAM REPORT
ON THE
CORNWELL PROPERTY ACQUISITION
BROOKFIELD, CONNECTICUT

This report is an outgrowth of a request from the Brookfield Conservation Commission to the Fairfield 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 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 of the property 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: David Thompson, District Conservationist, SCS; Barrie Wolf, Soil Scientist, SCS; Timothy Dodge, Biologist, SCS; Elliott Bronson, Geologist, Connecticut Department of Environmental Protection (DEP); Howard Gates, Forester, DEP; Edward Rizzotto, Recreation Resource Specialist, DEP; Robert Orciari, Fishery Biologist, DEP; Carol Youell, Environmental Review Team Coordinator, King's Mark RC&D Project.

The Team met and field reviewed the site on Wednesday, March 10, 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. The report is designed to:

1. aid in the preparation of an Environmental Assessment for land acquisition proceedings. (Environmental Assessments are required in project applications for Federal assistance from the Land and Water Conservation Fund of the Bureau of Outdoor Recreation.)
2. identify the existing resource base and evaluate its significance to the proposed use.
3. suggest considerations that should be of concern to the Town of Brookfield in implementing the proposed project.

It must be noted that this report is not, in itself, a complete Environmental Assessment. Certain information critical to a complete assessment is lacking. For the most part, topics covered in the report relate mainly to the natural environment. The actual assessment also requires one to take into account the social and economic environment in which the project takes place.

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 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 Youell (868-7342), Environmental Review Team Coordinator, King's Mark RC&D Project, P. O. Box 30, Warren, Connecticut, 06754.

* * * * *

INTRODUCTION

The Town of Brookfield is interested in obtaining additional open space within its boundaries to meet the long range needs of its people for land suitable for recreation, parks and outdoor living. The Cornwell property is under active consideration for acquisition.

The proposed uses of this 91 acre parcel of land would include the scenic preservation of natural areas, forests and wildlife habitats. Also proposed are the following recreational uses: picnicking, camping, hiking, nature study, fishing, and boating.

The Team assessed the site for its open space value and also for its recreation potential. Limitations, concerns and opportunities for the use of the site were highlighted in the report. The report format will be somewhat similar to that required in an actual Environmental Assessment. Recommendations or comments made within this report are presented for consideration by the town in the preparation and review of plans, and should not be viewed as mandatory or regulatory in nature.

SITE DESCRIPTION

Setting, Topography, Present Land Use

The property fronts on the southern shore of Lake Lillinonah, a 1900 acre impoundment of the Housatonic River. The property is partially bounded on the east and southeast by Connecticut Route 133. The site consists of the steep river valley side, with much of the parcel having slopes of 15 percent and over. In one area close to the eastern boundary of the site, the slopes become much less severe, forming a gently rolling terrace. This comprises the only open portion of the property. Of the existing 91 acres, approximately 14 acres are in open fields established to grasses. The bulk of the acreage, approximately 70 acres, is forested in mixed hardwood growth, including tulip poplar, white ash, red oak and red maple. There are also two small conifer plantations totalling approximately 5 acres, one flanking a grassy road in the center of the property, and the other on the south-eastern boundary. The remaining 2 acres, or so, exist as idle overgrown fields containing brushy hardwoods, red cedar, and little bluestem grasses.

Past Land Use

Land use changes have been observed and measured from file aerial photographs of the subject site dating back to 1941. In 1941, the land was mostly open (47 acres) and the remainder was in woodlands (44 acres). The open land was probably in crops or pasture. The next 24 years showed a dramatic decrease in the acres of open land, to 16 acres, and an increase in the acres of woodland, to 71 acres. Probably much of the steeply sloping open land portions were abandoned from prior farming activity. From 1965 to the present, this trend has continued but at a much slower rate.

Adjacent land ownerships followed the same pattern of reversion until the early fifties when residential development began to appear. Presently, the lands westerly and southwesterly of the property are developed as two-acre lot subdivisions.

Geology

Although the surficial geology for the Newtown quadrangle has not been mapped, existing topographic maps and field investigation indicate that the overburden in the area is glacial till. The geologic term "till" refers to the unconsolidated materials under the soil zone commonly referred to as hardpan. Till was deposited directly to the land surface of Connecticut some 9,000 to 10,000 years ago when the final melting of the glacial ice released the materials which were suspended within it. The thickness of till at this site undoubtedly varies from place to place depending on the original deposition and the extent to which erosional forces have affected the deposit since its placement.

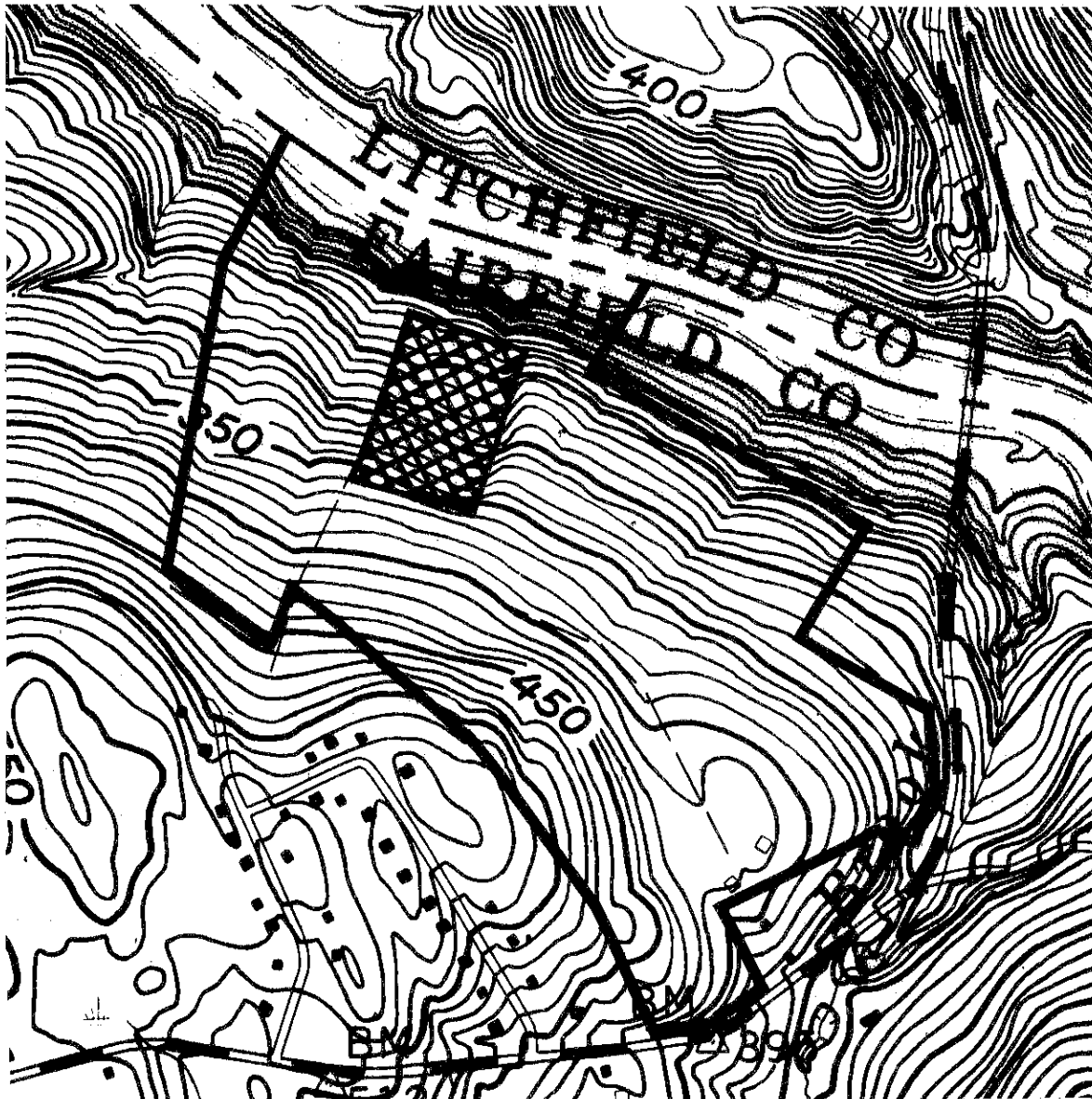
Of particular interest and concern is the landslide area indicated on the Topographic Map. The slide area begins to the west and north of the open land at the extreme west of the terrace which was mentioned earlier. The face of the slide is approximately 500 feet in width and there is indication that erosion is continuing at least to the extent that the slide face is kept clear of vegetation. The eroded section is rectangular in shape and approximately 6.5 acres in area. Although the major slide occurrence at this location would appear to be well over 50 years old, judging from the tree growth within the slide site; it is important that recreation use planning for the total area be conditioned on the fact that this type of phenomenon could take place again.

TOPOGRAPHIC MAP

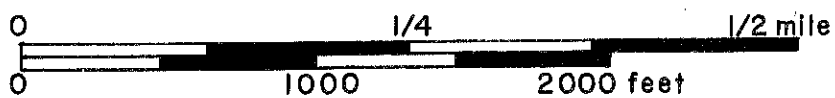
CORNWELL PROPERTY
BROOKFIELD, CONN.



 Approximate Landslide Area



Scale 1" = 660'



Soils

A detailed soils map of the property is given in the appendix to this report. As the map is an enlargement from the original 1320'/inch scale to 660'/inch, the soil boundary lines shown on the 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, also found in the appendix, gives the proportional extent of each of the soils and indicates their probable limitations for certain uses. (See Soil Interpretations for Urban Uses in the appendix for an explanation of the limitation ratings.)

Six soil types have been identified on the property and they can be found within two natural soil groups, B, upland soils over friable to firm glacial till (soil type 43M), and C, upland soils over compact glacial till (hardpan) (soil types: 35D, 35MD, 31B, 31C, 31XC). (Refer to the second and third column of the Soils Limitations Chart.)

Natural soil group B-3b (43M) comprises very stony soils which are poorly and very poorly drained. These soils have a high water table at or near the surface from fall to spring and after heavy rains during the summer. Slopes are less than 3 percent. These soils have severe to very severe limitations for most urban uses. They also have severe limitations for picnic uses, camp sites, and play areas but have potential for conservation uses and environmental enhancement.

The soils in groups C-1d (35D) and C-1e (35MD) are well drained compact till soils with slopes 15 percent and greater. These soils have a slowly to very slowly permeable fragipan (hardpan) at about 24 to 30 inches below the soil surface. The surface soil and subsoil texture above the fragipan is very friable and friable fine sandy loam. The compact fragipan restricts internal drainage. A perched water table may occur above the fragipan in wet seasons and after periods of heavy rains. Excess water in the soil frequently moves downslope over the fragipan in wet seasons. The major difference between soil types 35D and 35MD is that in 35D surface stones and boulders have been removed, while 35MD has more than 3 percent of the surface covered with stones and boulders. Both of these soil types have severe limitations for urban and recreation uses due to such factors mentioned, as steep slopes, stoniness, and the existence of a fragipan.

Soils in group C-2a (31B, 31C, 31XC) are nonstony and stony, moderately well drained compact till soils with slopes not exceeding 15 percent. They share similar characteristics with other group C soils in having a slowly to very slowly permeable fragipan at about 24 inches in depth which restricts internal drainage. Surface soil and subsoil texture above the fragipan is friable or very friable fine sandy loam. The soils are moderately permeable above the very firm fragipan. They are characterized by having a moderately high water table during wet seasons. During the period of highest saturation, usually in early spring, the water table remains within 15 to 20 inches of the soil surface. This condition seldom persists beyond late spring. Water may move downslope over the fragipan in wet seasons and cause seeps on lower slopes. The soils in this group present problems for urban uses, however, they do have some potential for recreation usage. The limitations for recreational use increase on the steeper and more stony soils.

Soil Fertility, Productivity, Susceptibility to Erosion.

The soils identified on the property have low natural fertility and are quite acid. The present fertility level of the soils in the remaining open areas is very low.

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 credited 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. The soils on the site fall into the following capability class due to the noted limitations:

<u>Soil Type</u>	<u>Capability Class</u>	<u>Limitations</u>
43M	VII	Stoniness and high water table
35D	VII	Stoniness and slope
35MD	VII	Stoniness and slope
31B	II	Wetness and erosion hazard
31C	III	Wetness and erosion hazard
31XC	IV	Stoniness, wetness and erosion hazard

Forestry

The vegetation on the site is outlined on the Vegetation Sketch Map. The majority of the area is wooded with two distinct plantations of White Pine and Norway Spruce intermixed. The plantation situated in the middle of the property needs an intermediate thinning to release the better growing trees. The plantation located near Route 133 is of better growth and greater age and a release cut* (liberation) of the Norway Spruce is recommended in five years hence.

The wooded area on the west border and adjacent to the residential area needs very little work at the present time. It has good growth characteristics and composition diversity. The northwest area has acceptable growing stock with a very desirable stand of hemlock growing along the shoreline area. The northeast section of the property is of younger growth with many trees in sapling and pole sizes (3" - 9" in diameter at breast height - dbh).

Center most, the Cedar area needs a releasing from the hardwood vegetation encroaching and suppressing the cedar growth. Finally, the open areas should remain open so that they provide contrast to the wooded areas. Also, by remaining open, their usefulness for wildlife and recreation purposes can be appreciated.

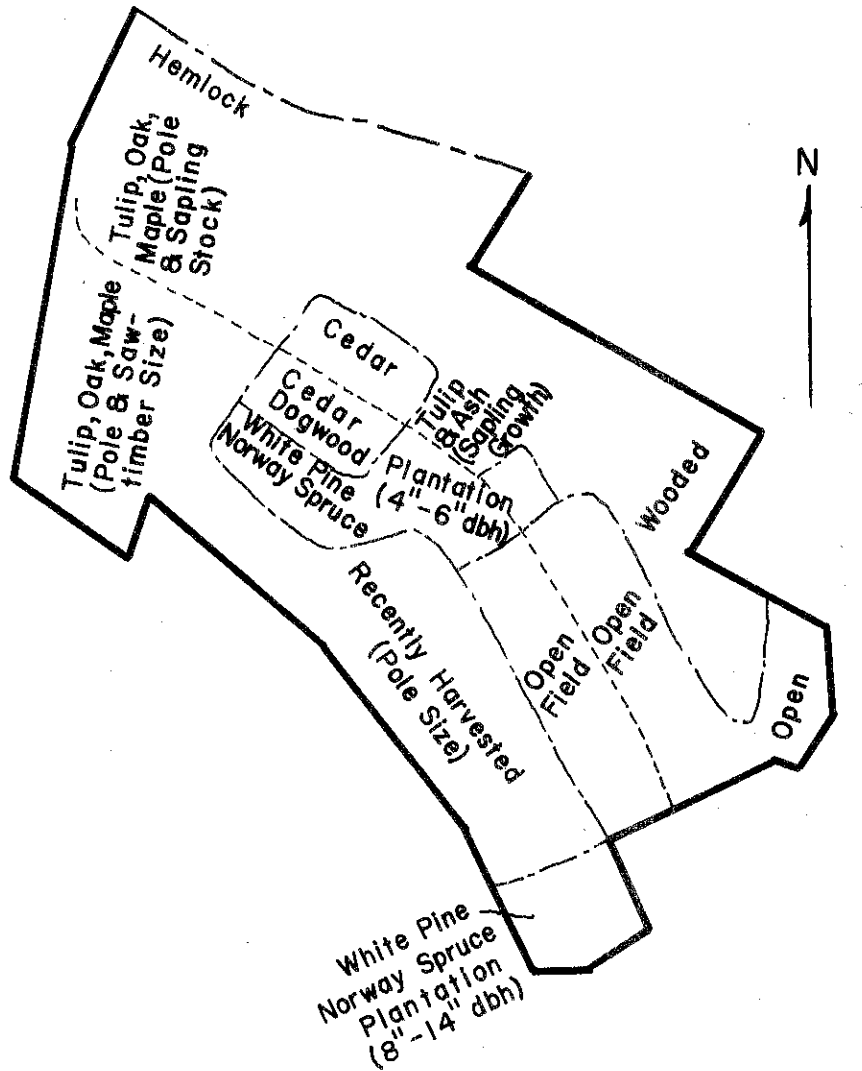
The aesthetic qualities of the northerly and easterly portions of the site is low due to blow downs, eroded areas, etc. The conifer stands, open field areas, and westerly portions of the woodland have quite high aesthetic qualities. Over the majority of the site, red maple and spicebush dominate the understory.

The site offers a wide variety of forest composition types which would lend themselves very well to outdoor environmental education studies for all age groups.

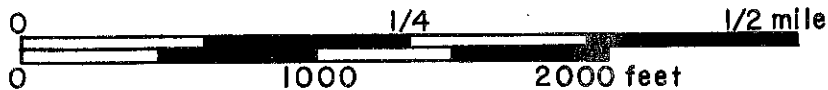
* Release cutting - A cutting of larger individual trees that are over-topping young trees, for the purpose of freeing the young trees to permit them to make good growth.

VEGETATION SKETCH MAP

CORNWELL PROPERTY
BROOKFIELD, CONN.



Scale 1" = 660'



Wildlife

Excellent wildlife cover is provided by the conifer stands. Deer signs are present in the area of conifers. Other areas of major value to wildlife include the fields and field borders. The woodland value to wildlife of the site is generally low, and wildlife populations are low. The sparse understory growth in woodland areas provides little food or cover of quality for wildlife. Birdlife including birds of prey utilize the area as do small mammals. Management to enhance the vegetative elements necessary for quality wildlife habitat would be expensive and quite difficult due to steep slopes and wetness.

It is doubtful that any threatened or endangered animal species are found and/or depend wholly on the area of concern for their habitat requirements.

Water Resources

The primary water resource associated with the property is Lake Lillinonah which borders the northerly portion of the site. Several small intermittent or semi-intermittent streams drain from the property into the Lake. The site is not subject to flooding. No significant ground water supply potential is available.

Lake Lillinonah is a man-made lake formed in a narrow valley by damming the Housatonic River. Water quality is marginal and classified by the Connecticut Department of Environmental Protection as Class C water, unsuitable for bathing activities. However, it is suitable for boating, fish and wildlife.

The property's Lake frontage would be valuable to shore fishermen, since there are relatively few accessible shore areas to fish from on the Lake. Lake Lillinonah is considered to be one of the best lakes in Connecticut for Smallmouth and Largemouth bass fishing. White perch and Black crappies also provide good fishing. Northern pike are now present in the Lake and are sought by fishermen.

Although some trout may be found in Lake Lillinonah during late fall to early spring, the Lake should not be considered as being suitable for supporting trout because its entire water column is warmed beyond the tolerance limit of trout during the summer. Any trout found in the Lake must enter from its stocked tributaries. There is some chance that Northern pike can be managed in the Lake. If managed, their abundance would increase with a subsequent increase in fishing pressure for that species.

The setting of the Cornwell property on Lake Lillinonah is obviously aesthetic. There are, however, a few characteristics which lower the aesthetic value of the Lake. Lake Lillinonah is highly enriched with plant nutrients, and heavy blooms of blue green algae are common during the summer. The Lake Lillinonah Lake Authority has for the past few summers treated the algae with some success. Planned improvement of sewage treatment facilities in the watershed of the Lake should reduce the algae problem to some extent in the future. The Lake also undergoes extreme fluctuations in water level due to electrical power generating operations at its dam (Shepaug Dam). Floating logs and other debris are also common on the Lake, especially after the water level has been raised. This debris should not accumulate on the Cornwell property shore to the extent that it does in cove areas. Finally, the Lake bottom drops quite steeply to a depth of 60 feet in the vicinity of the Cornwell property. This steepness of the bottom would virtually preclude use of the section as a beach by the addition of sand.

SITE ACCESSIBILITY

Access to the site (vehicular) is available only along Connecticut Route 133 which borders the eastern and southeastern property boundary. (Access is also available via boat.) The site itself presently has no formal means of internal access except via an abutting property owner's driveway. Providing another source of access into the site interior will be difficult. A lack of an alternate route may create traffic and parking problems in the area. Route 133 is winding and hilly, and provides little opportunity for roadside parking.

Team members were asked to comment on two proposals for site access: one from the east and a second from the southeast corner of Route 133. It appears that because of the possible instability of the slope, the alternative downhill on the eastern boundary is not advisable. This access would require an extensive cut into the slope to establish the entrance grade at the same level as Route 133. This would measurably increase the possibility of erosion occurring during construction and quite possibly after completion of the project. The second alternative access route which enters along the ridge at the southeastern corner of the site will also be difficult to build as some bedrock excavation could be involved. It may present fewer problems of the two proposals both during construction and after; however, it will be a major and costly undertaking. In addition, this area of access along Route 133 is on a steep hill with a blind curve. If vehicular access is established into the site, on-site parking will also be a problem due to the severe soils limitations.

RECREATION

The property has much aesthetic appeal; however, it has many limitations for recreational use. Factors previously mentioned include topographical, soils and access limitations. A variety of extensive uses, as opposed to intensive uses, seem more appropriate at present. Hiking, simple picnicking, fishing, and environmental education would appear to be the earliest practical uses.

The property has significant attractiveness for short walks (hiking), solitude, and nature study, especially given the variety of environmental situations found on the property. Ski touring and snow shoeing would seem to have a similar potential and would provide similar benefits during a different season.

Picnicking as an use associated with walking, or by groups in the upper fields, has potential. One obstacle to consider with any potential concentrated use is the need for and difficulty of establishing sanitary facilities. The soils on the property are severely limited for on lot sewage disposal. If justified, a closed system such as "Environvac" or "Monogram" might be the answer. However, this will require power and service access which again is a problem.

Limited and informal small group camping is a possible use for the property. The site may be of value to small backpack units or local youth groups seeking a short overnight experience perhaps in preparation for some other trip or more challenging level of activity in the future.

Fishing will presumably increase, as will other water-oriented activities, as the water quality of Lake Lillinonah improves. This, of course, will not be a dramatic or immediate process.

Boating has always experienced some popularity on the Lake. There are two state launch areas as well as other semi-public access points to the waters adjacent to the property. Establishing a boat launching ramp would present problems primarily linked to the necessity of preparing a road through much of the property. Boats could, however, be launched at other areas on the Lake and tied up on the property's shore frontage.

The area does not seem to be particularly suited for swimming. A sunning area (80 percent of "swimmer" activity) is non-existent. Establishing a beach by bringing in sand would be most difficult because of the problem of slope stability. Two other obstacles to swimming are the drawdown which the Lake experiences and the fact that the underwater slope is very steep, presenting a dangerous situation for the non-swimmer.

ENVIRONMENTAL IMPACT OF THE PROPOSED ACTION

Development of this area in general for recreation purposes could have severe impacts to the existing resources. Excessive slope (8-35 percent) on greater than half the acreage, coupled with seasonal high water tables and high surface water runoff create a danger of erosion on most areas if the existing vegetation is significantly altered. The existing vegetative cover is important in maintaining soil stability and the prevention of landslides such as the one already experienced on the site.

Construction of specific facilities for recreation would pose threats to existing vegetative cover, increasing chances of erosion. The vegetation cannot withstand significant foot traffic without adverse effects. Water quality could be further degraded if sediment were transported from the area into Lake Lillinonah thereby increasing the suspended sediment and turbidity levels.

MANAGEMENT PRACTICES SUGGESTED FOR THE AREA

The number one concern in managing this area is maintaining good, erosion resistant ground cover. The utilization of this area must be planned with this in mind; vigilant maintenance will be essential. Approximately 65 percent of the area is presently in an extremely fragile condition; acceleration of natural geologic processes will result in an uncontrollable and devastating situation.

It is suggested that no formal development be considered for camping or picnicking, and that no vehicular access be provided. Emergency access is available if required.

The remaining open areas should be maintained and reinforced through a recommended agronomic and fertility improvement program.

Hiking trails must be carefully laid out to avoid initiating erosion, and to extend their use potential as much as possible throughout the year. Erosion control devices will be required on all trails. Because of the apparent instability of the slope, it is suggested that the more intense

recreation activities (camping, picnicking, outdoor sports) be restricted to the areas which are now open and the slopes be used only for more passive activities such as hiking and nature study.

SERVICES TO SUPPORT THE PROJECT

Serving the needs of this proposal will be no burden to the town. It is not anticipated that any utilities will be required. Services are available to insure the maintenance of the project and to safeguard the safety of visitors. Proper management of the site will prevent any significant adverse impact by visitor use. There are no adverse environmental effects which cannot be avoided through thoughtful planning. Supervision and maintenance should be handled by the Conservation Commission.

PROBABLE FUTURE ENVIRONMENT IF THE PROJECT IS NOT INITIATED

Comments on this topic are based on the following excerpts from The Brookfield Master Plan Programs and Reports, 1970, Lucas and Edwards, Inc., and resource capability interpretations.

The major concerns of the study in Brookfield were the identified natural barriers to future development: topography, soil capability and the existence of several water courses. The topographical elements of concern were low, marshy lands subject to flooding and steep areas whose slopes are greater than fifteen percent... Parallel ridges running north to south are a natural barrier to development. One major ridge is in the western portion of the town and the other is along the Housatonic River. The slopes in these areas are greater than fifteen percent and are considered steep and uneconomical to develop... Stony and rocky soils in many instances are not suitable for development because of poor drainage. This soil type is predominant along the steep parallel ridges and the areas where the slopes exceed fifteen percent.

In summary,

the areas of least prime desirability (for development) are those sites where new road construction will be needed, areas where the slope exceeds fifteen percent and areas of poor subsoil drainage. It can be anticipated that construction in these areas will occur as development pressures are exerted. Therefore, as a further guide to future development, land use planning programs using the suitability information as a base should be initiated. The purpose of this study would be to recommend the feasible land uses for these vacant and undeveloped parcels.

Note: The map in the study entitled, "Areas Suitable for Development", shows most of this property (present open meadows excluded) to be "steep slopes of 15 percent or more".

Resource capability interpretations (soils suitability) indicate that much of the property is not well suited to residential development, and that in general, it is somewhat less limiting for recreation purposes. (Refer to the Soils Limitations Chart for a summary of urban and recreation use limitations.)

IMMEDIATE AND LONG-RANGE IMPACTS ON THE AREA WITH THE PROJECT VS. IMMEDIATE AND LONG-RANGE IMPACTS WITHOUT THE PROJECT

The immediate possible impacts to the property are not judged to be of great importance. The long range impact will be from residential development. Without the project, this impact could be regulated by existing regulations; however, all aspects of anticipated impacts could not be controlled to the extent deemed necessary without additional authorities. The project will eliminate the inevitable, long range impact.

IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES

It is not anticipated that there will be any irreversible or irretrievable commitment of resources from the approval and implementation of this project.

ALTERNATIVES TO THE PROPOSED ACTION

There are several alternative actions which could be investigated. Some could extend protection equal to the subject proposal (acquisition); others less. The possible combination of two or more could exceed the benefits of the project.

Specifically these are:

1. Granting tax relief to the present owner to avoid the need to dispose of the land.
2. Effect a lease or easement arrangement with the owner in lieu of taxes.
3. Extending planning and zoning regulations to include a cluster concept to be utilized at the discretion of the commission.
4. Extending planning and zoning authority to require erosion and sediment control consideration as a requirement for approval of subdivision applications.

GENERAL COMMENTS

The property is probably not going to be developed in the near future. Approximately one-half of the area has 15 percent or greater slopes. Access from Route 133 is severely limited; the cost of overcoming the natural limitations of the site resources, coupled with the inevitable reduction in the number of building sites, would not make a subdivision on a two acre lot basis economically feasible. If at some point development were considered, present planning and zoning regulations could restrict building activities to about 15 percent of the property.

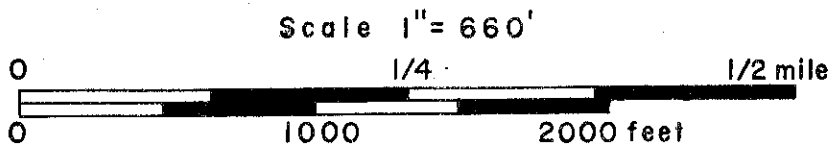
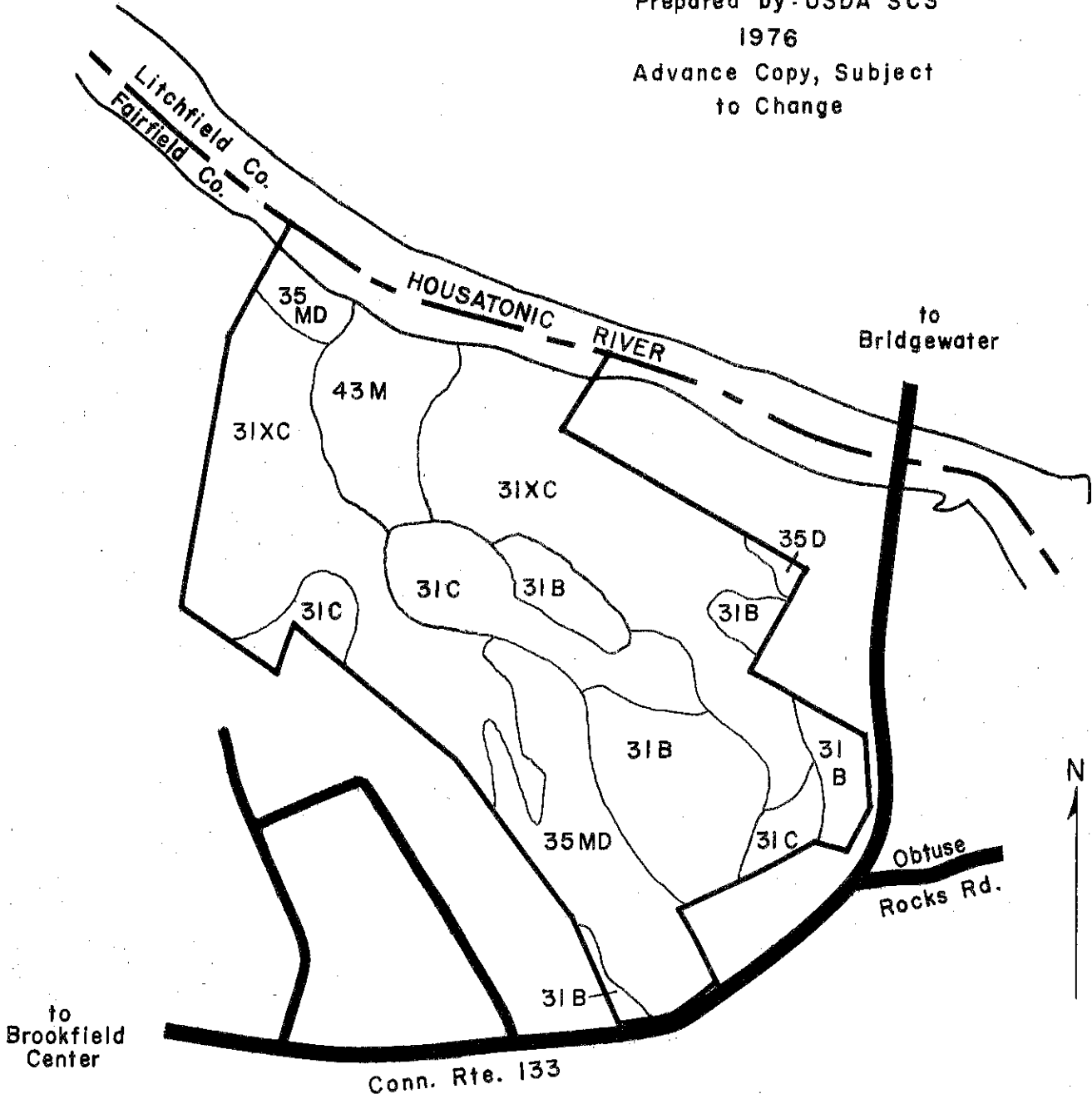
These same resource limitations will substantially curtail the proposed uses listed as the objectives of this acquisition. Soil limitations will severely restrict all activities from November through May; dictate a less than expected amount of overall activity throughout the year, and demand an exceedingly high degree of resource management. This land is suited to limited amounts of extensively deployed, non-motorized, mid-summer and mid-winter, passive forms of recreation.

APPENDIX

SOIL MAP

CORNWELL PROPERTY
BROOKFIELD, CONN.

Prepared by: USDA SCS
1976
Advance Copy, Subject
to Change



SOILS LIMITATIONS CHART
 CORNWELL PROPERTY
 BROOKFIELD, CONNECTICUT

Limitations Ratings* and Principal Limiting Factors For:

Soil Series Name	Natural Soil Group	Mapping Symbol	Slope %	Approx. Acres	% of Total Acres	On-site Sewage Disposal	Buildings with Basements	Streets and Parking	Camp Areas	Picnic Areas	Play-grounds	Paths and Trails
Leicester, Ridgebury and Whitman	B-3b	43M	0-3	7.5	8.2	3 wet, percs slowly	3 wet	3 wet, frost action	3 wet	3 wet	3 wet	3 wet
Paxton	C-1d	35D	15-25	0.5	0.6	3 slope	3 slope	3 slope	3 slope	3 slope	3 slope	2 slope
	C-1e	35MD	15-35	12.5	13.7	3 slope	3 slope	3 slope	3 slope	3 slope	3 slope	3 slope
Woodbridge	C-2a	31B	3-8	16.5	18.1	3 percs slowly	2 wet	2 frost action	2 percs slowly	1	2 percs slowly	1
		31C	8-15	12.0	13.2	3 percs slowly	2 wet	3 frost action	2 percs slowly	2 slope	3 slope	1
		31XC	8-15	42.0	46.2	3 percs slowly	2 wet	3 frost action	2 percs slowly	2 slope	3 slope	2 large stones

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

SOIL INTERPRETATIONS FOR URBAN USES

The ratings of the soils for elements of urban uses consist of three degrees of "limitations"; slight or no limitations, moderate limitations, and severe limitations. The severe limitation is subdivided into two classes - severe limitations and very severe limitations. In the interpretive scheme various physical properties are weighed before judging their relative severity of limitations.

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.
 - a. 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.
 - b. 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.