Environmental Review Team Report

Quarry Brook Open Space

South Windsor Connecticut

R C & D

EASTERN CONNECTICUT RESOURCE CONSERVATION AND DEVELOPMENT AREA, INC.

Environmental Review Team Report

Quarry Brook Open Space

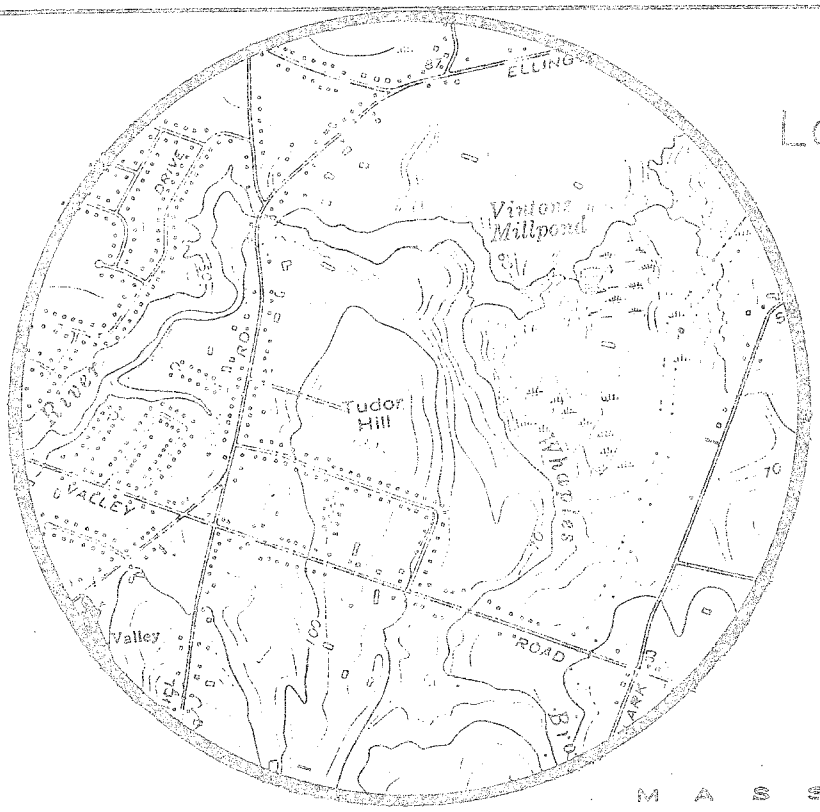
South Windsor Connecticut

May, 1983

Eastern Connecticut Resource Conservation & Development Area

Environmental Review Team
PO Box 198
Brooklyn, Connecticut 06234

Location of Study Site



QUARRY BROOK OPEN SPACE
SOUTH WINDSOR, CONNECTICUT

EASTERN CONNECTICUT
RESOURCE CONSERVATION AND DEVELOPMENT PROJECT

ENVIRONMENTAL REVIEW TEAM REPORT
ON
QUARRY BROOK DRIVE OPEN SPACE
SOUTH WINDSOR, CONNECTICUT

This report is an outgrowth of a request from the South Windsor Planning and Zoning Commission, to the Hartford County Soil and Water Conservation District (S&WCD). The S&WCD referred this request to the Eastern Connecticut Resource Conservation and Development (RC&D) Area Executive Committee for their consideration and approval as a project measure. The request was approved and the measure reviewed by the Eastern Connecticut Environmental Review Team (ERT).

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 map as well as a topographic map of the site were distributed to all ERT participants prior to their field review of the site.

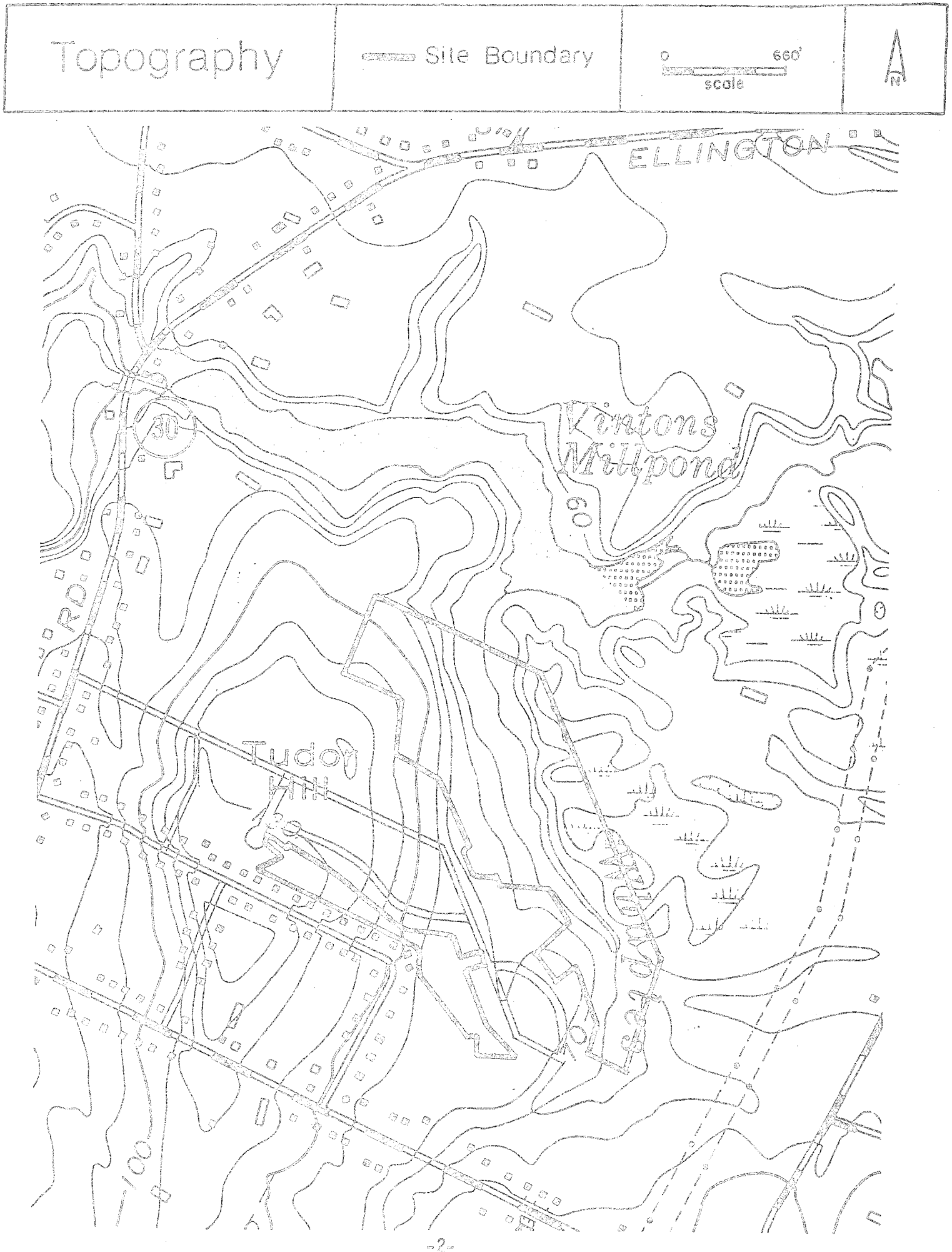
The ERT that field-checked the site consisted of the following personnel: Bill Warzecha, Geologist, State Department of Environmental Protection (DEP); Jim Parda, Forester, DEP; Vern Anderson, District Conservationist, SCS; Wil Maxwell, Land Use Planner, Capitol Region Council of Governments; Andy Petracco, Recreation Specialist, DEP; Steve Lavigueur, Landscape Designer, UConn; and Jeanne Shelburn, ERT Coordinator, Eastern Connecticut RC&D Area.

The Team met and field-checked the site on Thursday, April 7, 1983. Reports from each Team member were sent to the ERT Coordinator for review and summarization for the final report.

This report is not meant to compete with private consultants by supplying site designs or detailed solutions to development problems. This report identifies the existing resource base and evaluates its significance to the proposed development and also suggests considerations that should be of concern to the developer and the Town of South Windsor. 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 Project Committee 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: Ms. Jeanne Shelburn, Environmental Review Team Coordinator, Eastern Connecticut RC&D Area, PO Box 198, Brooklyn, Connecticut, 06234, 774-1253.


Topography
Site Boundary
660'
scale
N
ELLINGTON
30
Kintons
Millpond
RD.
Tudor
PATH

INTRODUCTION

The Eastern Connecticut Environmental Review Team was asked to prepare a natural resource inventory and recreation evaluation for several town-owned parcels in South Windsor. The parcels, 41A, 41B and 50ABC, are collectively known as the Quarry Brook Drive Open Space area. For purposes of clarity in this report, they have been divided into Site 1 and Site 2. Site 1 is approximately 3.5 acres in size and is located behind houses on Sycamore Road and Northview Drive. Access is provided from Quarry Brook Drive and Beechnut Lane. Site 2 is approximately 20 acres in size and is located northwest of Quarry Brook Road. Access to this parcel is provided from Quarry Brook Drive and Evergreen Lane.

Site 1 is a narrow strip of land, sparsely vegetated on the north and heavily vegetated on the southern portion of the parcel. Soils on the north appear to be well drained, while soils in the southern section are part of a natural drainageway and wetland area. The area appears to be used as a dumping ground or "backyard extension" area.

Site 2 is a much larger parcel and is primarily wetland. The tract is heavily vegetated at this time. Quarry Brook flows through the major portion of this parcel.

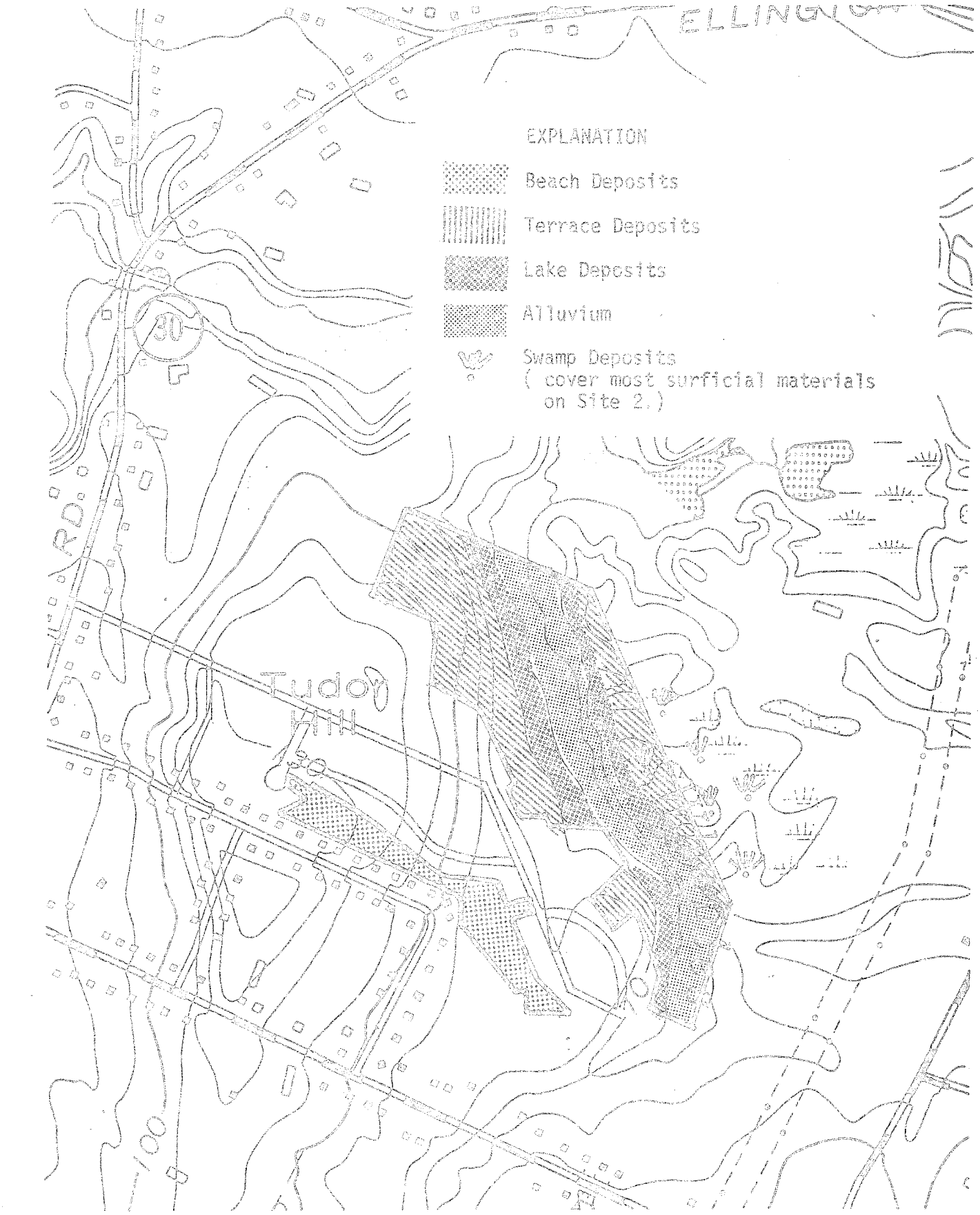
The Team is concerned with the natural resource base of these sites and the effect of any potential development of this resource base. It was the general opinion of all Team members that Site 1 should be returned to adjacent landowners. This would facilitate maintenance of the area and deter future vandalism. The parcel is really too narrow to be of any use other than a single trail system. Site 2, however, does have some potential for passive recreation and/or more significantly a wildlife habitat area. These suggestions are discussed in greater detail in the following sections of this report.

ENVIRONMENTAL ASSESSMENT

TOPOGRAPHY

Site 1 consists of a ± 3.5 acre strip of land that is located on the east side of Tudor Mountain in South Windsor. It is situated between Sycamore Road and Northview Drive. Access to the site is provided by right-of-ways off of Beechnut Lane and Quarry Brook Drive. Land on the site slopes gently (approximately 5%) to the southeast. Elevations on the site range between a low of 115 feet above mean sea level in the eastern section, to a high of 135 feet above mean sea level to the west. Although no watercourses were observed within the site, wet areas were observed in the southeast portion indicating the groundwater table

Surficial Geology



was at or near the surface of the ground.

Site 2 consists of a ± 20 acre parcel of land located northwest of Quarry Brook Road. This site is accessible by right-of-ways provided off Quarry Brook Drive and Evergreen Lane. The parcel is composed primarily of a low-lying wetland area through which Quarry Brook flows. Elevation throughout this relatively flat parcel is ± 70 feet above mean sea level.

Elevations for both sites were taken from the Manchester topographic quadrangle map, published by the United States Geological Survey (USGS).

GEOLOGY

A geologic map of the quadrangle was prepared by Roger B. Colton and has been published by the U.S. Geological Survey (Map GC-433).

No bedrock outcrops were observed within either site during the review. However, bedrock underlying both parcels (Site 1) is a sedimentary rock referred to as the Portland Arkose Formation. Portland Arkose is a reddish, brown and gray arkosic (rich in feldspar minerals) siltstone, sandstone and conglomerate. These rocks were formed during the early Jurassic Period, about 180 million years ago. Depth to bedrock throughout Site 1 probably ranges between 10-50 feet below ground surface compared to 50-100 feet below ground surface throughout Site 2 (Source: Depth to Bedrock Map, Manchester Quadrangle, by E.H. Handman and Roger B. Colton, 1973).

Bedrock throughout Site 1 is overlain entirely by a surficial geologic material referred to as beach deposits. "Beach deposits" consist of well sorted, reddish-brown sand, silt and gravel. These materials were probably deposited along the edges of a lake created by the damming of the present Connecticut River Valley by glacial ice. Thickness of these deposits area as much as 20 feet throughout the mapped area.

There are essentially four types of surficial geologic materials that overlie bedrock throughout Site 2; (1)glacial lake sediments, (2)stream terrace deposits, (3)recent alluvium, and (4) swamp deposits.

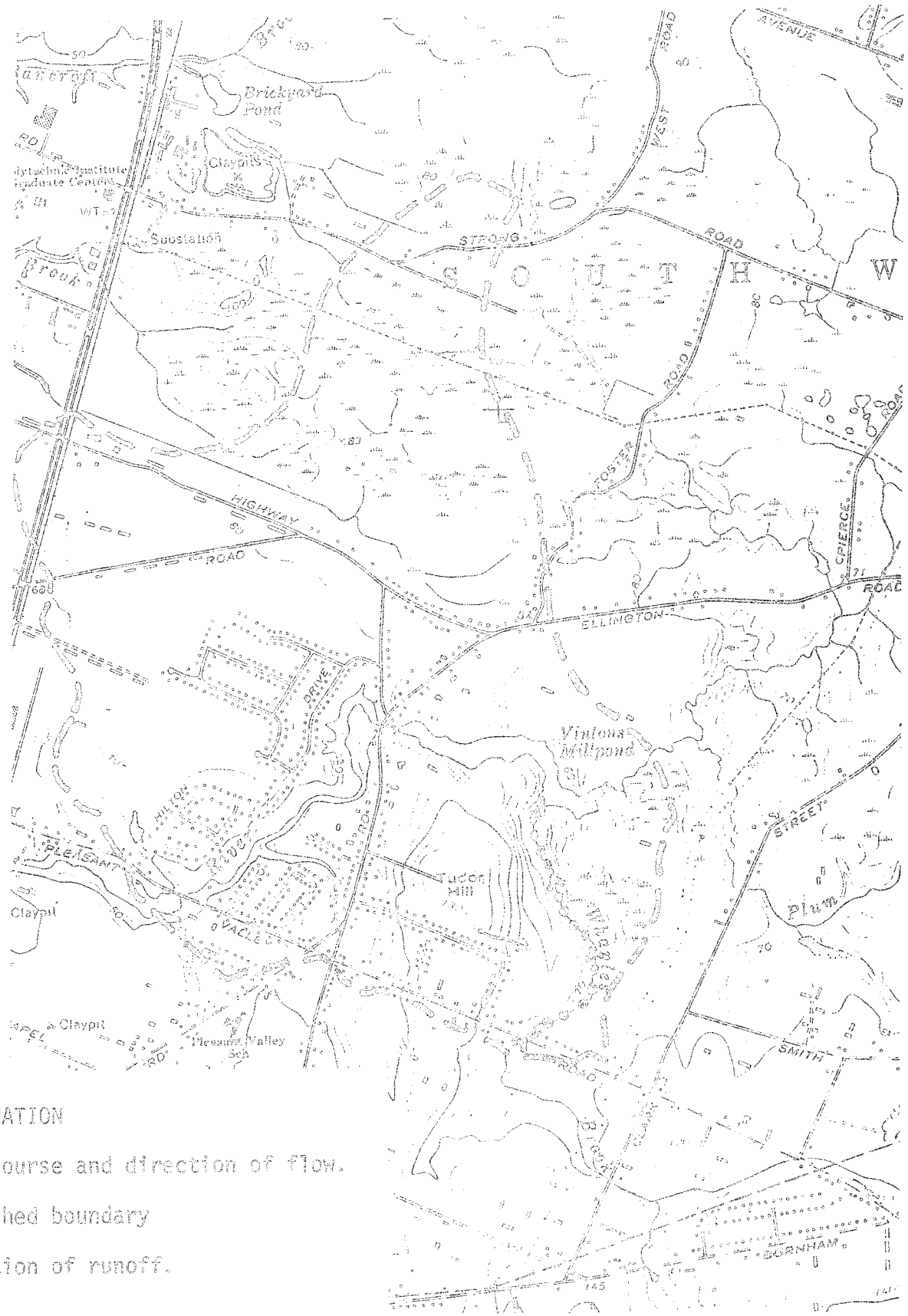
Swamp deposits, which cover most of the site, consist of a grayish-brown peat muck, silt, sand and clay that settled to the bottom of a sluggish or stagnant body of water. These deposits are generally 5 to 10 feet thick but, may be as much as 25 feet thick and are probably underlain by glacial lake sediments.

Glacial lake sediments consist of laminated clayey silt and clay grading down into clay and silt. They wer deposited in a lake created by the damming of the present Connecticut River Valley by glacial ice. The stream terrace deposits consist of well-laminated sand, silt and clay, which may be as much as 20 feet thick. These materials were deposited on top of the lake sediments following the disappearance of glacial ice from the area. Recent alluvium consists of

Drainage Areas

SCALE 0 — 500'

N



EXPLANATION

Watercourse and direction of flow.

Watershed boundary

Direction of runoff.

silt and sand deposited by the modern Quarry Brook. A thin blanket of windblown silt and fine sand caps the deposits in the eastern section of the property.

HYDROLOGY

Site 1 lies within the watershed of Quarry Brook. There were no water courses observed within the site. However, wet areas were observed in the southeast section of the site indicating that the groundwater table was at or near the surface of the ground.

Development of the site would lead to increases in runoff from the site. The increases will depend upon the extent of development and the particular part of the site developed. For example, the establishment of paved surfaces such as basketball courts and tennis courts will increase the ratio of runoff to precipitation on the site for a given storm. This increase will occur mainly because less area will be available for water to soak into the ground, particularly as the natural soils within the site are quite permeable.

If development does occur, it is recommended that an appropriate sediment and erosion control plan incorporating runoff control be prepared and followed.

Site 2 also lies within the watershed of Quarry Brook. Quarry Brook flows in a northerly direction through the site. It ultimately discharges into Vinton's Mill Pond which is approximately 300' from the site. As mentioned in the geology section of this report, this site consists almost entirely of wetland. A 30" concrete pipe, which carries stormwater from the subdivision discharges into the wetland in the middle section of the site. The wetland serves many valuable hydrological purposes. It acts as a natural runoff retention basin, reducing downstream flood flows during rainstorms. It also traps sediments from upstream areas and changes water quality through biochemical processes. This process often results in cleaner water. Since there is a predominance of wetlands throughout the site, it appears that the area would not be conducive to any type of development. Therefore, it is recommended that it be left in its natural state.

Neither site 1 or 2 lies within a particularly significant stratified sand and gravel aquifer area as a source of groundwater, the geologic materials that predominate constitute only a moderate to fair aquifer in terms of potential yield. Therefore, if the Town wishes to utilize an on-site well within the sites, bedrock based wells would appear to be the only suitable source. Based on information in Water Resource Bulletin #24, wells tapping sedimentary rock can supply water to individual wells in quantities adequate for most domestic levels. A study of wells in the vicinity and west of sites 1 and 2 suggests that 9 gallons per minute (gpm) would be an average yield for wells tapping the bedrock in this area. The natural quality of the groundwater on both sites should probably be moderate to good.

SOILS

Quarry Brook and its floodplain passes through the central portion of the north parcel (site 2). A smaller drainage course passes through the south parcel (site 1). The drainage ways definitely limit the land usage of these two parcels.

The wetland soils of Quarry Brook are SbA - Saco silt loam, a very poorly drained soil that is frequently flooded, and ScA - Scantic silt loam, a poorly drained soil that has a very slow permeability. The wetland soil of the small parcel to the south is SzA - Swanton very fine sandy loam, a poorly drained soil.

The upland soils of the north parcel are sloping soils on the banks of Quarry Brook. They are Te - Terrace Escarpments of sand and clay, AfB - Agawam fine sandy loam, WvB - Windsor loamy fine sand and MrB - Merrimac fine sandy loam. These are all well drained soils. Some moderately well drained soils, EoB - Elmwood very fine sandy loam and RaB - Rainbow silt loam with a fragipan exists in the area.

The upland soils of the south parcel all have drainage problems such as being moderately well drained, or with a fragipan. These soils are BxB - Buxton silt loam, BrC - Broadbrook silt loam, EoB - Elmwood very fine sandy loam and RaB - Rainbow silt loam.

Land uses are limited on these two open space parcels because of the wetland and problem soils along the slopes. Areas which are not wetlands are generally the steeper banks of the watercourses. These banks are all wooded with a growth of young evergreens.

There is no vehicle access to the east bank of Quarry Brook on the longer of the two parcels. There are two right of ways to each of the two parcels. Three of the four right of ways have watercourses extending down from the road exits. These watercourses may limit the use of the right of ways for vehicle entrance to the properties.

Alternative uses of this open area may be:

- set up a nature trail that would extend into toth parcels, or as part of a larger network of nature trails.

- set up a parcour course for the more strenuous exercise users

- leave the wooded area for the casual strollers and for observation and study of the natural area

- leave the area as is with no disturbance of the woodland or brook area

- construct a dam type multi-use pond across Quarry Brook at 55 elevation. The dam would end up at approximately 15 feet in height. This would provide about a 9 foot water depth behind the dam if the pond water level was at 65 elevation. The water would back up beyond the southern property boundary as is shown on the attached map. The surface water area would be about 9 acres.

- construct one, two or three pit type ponds in the floodplain area. Build dikes around the ponds that will keep flood waters out for up to a 100-year storm. Offset the ponds from Quarry Brook. There will then be better assurance of decreasing the chance of any potential pollution problems. Construct the pond/ponds at 80 feet in width and 160 feet long and with a 7 to 8 foot depth. Use a sideslope of 2:1 to 3:1.

- the purpose of the ponds can be for waterfowl, fish, recreation, wildlife uses, scenic, detention or a sedimentation basin

The surface water course entering the open space area from Evergreen Lane will need a controlled flow to Quarry Brook if this is going to be an entrance way for users of the area. Presently it fans out for a distance before entering Quarry Brook. A designed channel to Quarry Brook would help to solve the problem.

The open watercourse at the lower end of the parcel off Beechnut Lane is gullying for a short distance. Excessive streambank erosion is occurring. One of two designed drop inlet structures properly placed in the watercourse would help to permanently solve this gullying problem.

The rock riprapped surface waterway at the outlet of the storm drain empties into the above mentioned watercourse. This waterway is riprapped for only a short distance and riprapping needs to be continued to the brook.

VEGETATION

The Quarry Brook Drive area is divided into two parcels, Site 1 (3.5 acres) and Site 2 (19.1 acres) separated by Quarry Brook Drive and Evergreen Lane. Vegetation ranges from open field, primarily of grasses, to a hardwood/open swamp. Houses border each parcel and vegetation types are generally small in size.

Vegetation Type Descriptions

Type 1: (Open Field - 1 acre) This area is composed of grasses, meadowsweet, and multiflora rose. Also present are scattered red maple, aspen, white pine, oaks, black birch, and white ash between ½ inch and 4 inches in diameter at 4½' above the ground.

Type 2: (Mixed Hardwoods - 2.5 acres) This stand is composed of red maple, red oak, white pine, black birch, white ash with spicebush in the understory. In this stand trees are of various sizes but in generally poor condition and of low quality.

Type 3: (Open Swamp/Hardwood Swamp - 17 acres) This stand is primarily hardwood swamp composed of red maple and spicebush with areas of open swamp composed of cattail, ferns and spicebush.

Type 4: (Mixed Hardwoods - 4.6 acres) This is a fully stocked, medium quality hardwood stand composed of red oak, black oak, American beech, white oak, black birch, red maple and occasional white pine. The trees in this stand are sawtimber sized and crowded as evidenced by the interlocking crowns. The understory is open with very little vegetation. The stand is located on a terrace escarpment with good water holding capability resulting in good growth.

Limiting Conditions and Potential Hazards

Many limiting conditions occur on Quarry Brook due to lack of vehicular access to the area, year round wetness, and lack of commercial forest areas suitable for harvest. The residential subdivisions on Quarry Brook Drive,

Vegetation

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scale

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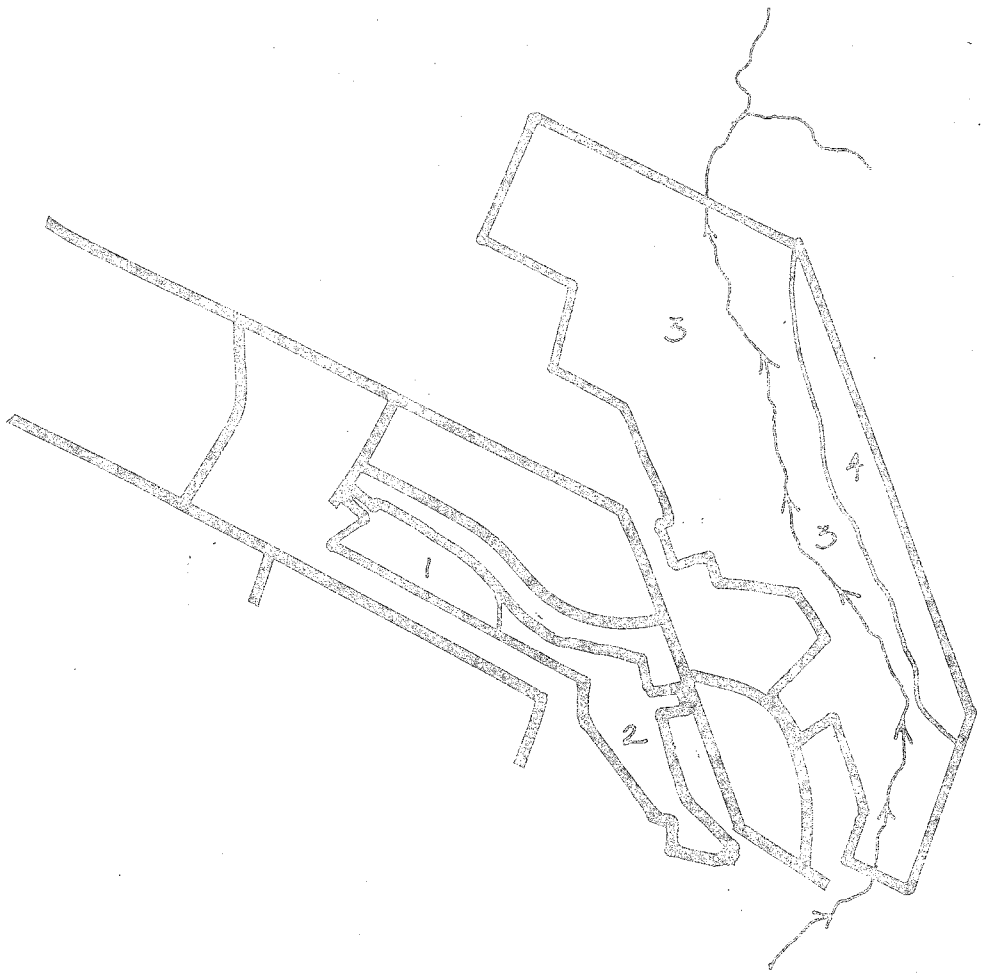

VEGETATION TYPE DESCRIPTION

TYPE 1 - Open Field, 1.0 acres.

TYPE 2 - Mixed Hardwoods, fully stocked, pole timber size, 2.5 acres.

TYPE 3 - Open Swamp/Hardwood Swamp, understocked, 17 acres.

TYPE 4 - Mixed Hardwoods, fully stocked, sawtimber size, 4.6 acres.

Evergreen Lane and Sycamore Road create limited access to the area for recreational purposes and no access for commercial forestry operations. Approximately 75% of the Quarry Brook parcel is either open swamp or hardwood swamp with a stream running northward. No management is possible in the swamp due to lack of harvestable wood biomass and inoperability. Wetland strips such as Type 3 are best left to natural areas for wildlife breeding, cover and water supply. Finally, there is a lack of adequate acreage to warrant a commercial harvest for forest products such as fuelwood or timber. Due to either steep terrain, open water or extreme muddiness, trails for recreation and wildlife viewing are impractical and would only invite vandalism of the trees, trailbikes, and unwanted intrusion.

Potential hazards include trees subject to windthrow when soils are saturated with water and dangerous culls with large dead branches, lean, cracks and rotten butts.

Management Considerations

Vegetation Type 1: (Old Field) This area can be left to revert to hardwood forest naturally which will occur over the 20-30 years. Grasses and scattered hardwood trees will appear first, then low brushy shrubs such as multiflora rose will take over the grasses as the trees grow above. Over time a dense growth of red maple and black birch will dominate and 20 years hence change the shrubby-brushy appearance to that of a young dense forest composed of trees 2" - 4" diameter. To speed this natural process and introduce a green strip of forest trees more rapidly, this area could be planted to white pine and larch at 10'x10' spacing (436 trees/acre) at a ratio of 2:1 (2 pine:1 larch).

Vegetation Type 2: (Mixed Hardwood Poletimber) Leave as is due to small acreage. It is not economically efficient or cost effective to be used as a commercial area. Its use would be limited to the driest seasons of the year.

Vegetation Type 3: (Wetlands) Leave as is for wildlife shelter, food and water.

Vegetation Type 4: (Mixed Hardwood Sawtimber) Leave as is due to small size of area and lack of access.

A public service forester should be contacted for further details on the recommendation for planting pine and larch. This activity can be carried out by a private forester at a cost to the town.

The best long term use of land may be to deed it over in parcels to adjacent landowners to improve maintenance, reduce unauthorized use, and prevent unwanted intrusion.

PLANNING CONCERNS

South Windsor's Comprehensive Plan of Development was prepared in 1967 and updated in 1977.

The Update noted that in the decade from 1967 to 1977 South Windsor added over 200 acres of land to its public open space. The Town also had developed many new recreational facilities and had embarked on an aggressive open space and

conservation program. Some of the open space land reviewed by the Environmental Review Team on Norma Road and Northview Drive appears to have been acquired during this decade.

The Update noted that the Town, at that time, had a total of 500 acres in open space holdings; 29 acres of land per 1000 population. This holding is substantially in excess of national and local standards which call for 15 acres per 1000 population. Even with an expanding population undoubtedly the ratio still exceeds the national standards as South Windsor continues to acquire open space land.

The 1977 document pointed out that for the foreseeable future there was sufficient land available to take care of recreational needs "particularly because falling school enrollments reduce the necessity of holding town owned open space for school purposes." It was further noted that the requirement for apartment recreation facilities are a plus factor to apartment residents and therefore tend to reduce the impact on town recreation facilities.

Even with such a good record, the 1977 report recommended continuation of the program for open space acquisition. Apparently, South Windsor has followed through on this recommendation. The two factors cited previously, however, are indeed important considerations when the Town Planning Department develops a long-range open space/recreation plan which will be an important element of the Comprehensive Town Plan of Development for South Windsor.

In the development and implementation of such a plan, policies should be adopted which will insure that many open space areas may be left as low maintenance natural resources protection or buffer areas. Such areas can be an esthetic asset to the abutting development and do not always require development for active recreation pursuits. Certainly the protection of our natural open space resources is every bit as valuable and desirable as constructing recreation facilities such as ball fields, tennis and handball courts, football fields, and the like.

Site 1 is presently owned by the Town of South Windsor, and was apparently set aside and acquired through the subdivision process.

This piece of land is a long and narrow "sliver" which runs east and west between Quarry Brook Drive and Beechnut Lane. It separates the properties located on Sycamore Road and Northview Drive. The property map provided by the Planning Department shows its widest point to be some 150' and its narrowest point is only some 50' wide. The ingress and egress points to residential streets are a narrow area at the cul de sac. The boundary or property lines are ill-defined and the entire tract is somewhat ambiguous.

Existing Land Use

The land use surrounding the subject property is well-maintained single-family owner occupied homes, which appear to house young families.

Zoning

The property is located within an A-20 Zone - a single-family residential zone requiring a minimum lot area of 20,000 square feet. With a special exception, parks, playgrounds, recreational areas operated by the Town and forest and wildlife reservations or a park/playground not operated for profit may be permitted.

Suggestions

It is suggested that the Town turn this land back to the individual abutting owners of property by executing the appropriate deeds. Such an action would provide an opportunity for the homeowners to expand their own individual outdoor living areas for such things as picnicing, the installation of play equipment or summer gardening projects. Deed restrictions could prevent the construction of permanent structures such as storage sheds and garages. It is difficult to envision that this tract would ever serve any town-wide open space or recreation use.

Another alternative is to turn the land back to a homeowner's association composed of abutting property owners for use and maintenance. Such an association through careful planning could construct a swimming pool, create picnic areas, and provide garden space for their specific use.

Should the Town retain this property, the boundary lines should be established. This can be accomplished thorugh placement of permanent monuments at property angles, plantings, fencing, etc. Particular attention should focus on the entrances through the installation of design columns, gates, etc. It should also be cleaned and field checked periodically to prevent abuses (such as dumping) by abutting property owners.

If retained by the Town, the property should not be developed but remain in its natural state. If a pool or other recreational facilities were constructed, their use would be open to all town residents, thus creating excessive noise and parking problems.

Site 2 is town owned and has been acquired through the subdivision process.

This tract contains a rather substantial acreage and lies northerly of Quarry Brook Drive and Evergreen Lane. Quarry Brook traverses the property in a northwesterly direction. Its most northerly boundary line appears to be not too distant from Mill Pond. Clark Road lies to the east perhaps some 1000 feet. Access to the property is from a 100' x 200' piece of land on Quarry Brook Drive and also a 78 x 145 plot on which a not too attractive pumping station is located on Evergreen Road. The two entrances are not side by side, but relatively close together.

Existing Land Use

Single-family houses, well-maintained and relatively new, are apparently homes for young families, occupy the land to the south of the parcel. Other lands to the west, north and east of the tract are open.

The property is located in an A-20 residential zone where single-family homes are permitted on lots with a minimum area of 20,000 square feet. Since the Town is owner of the land and it has been acquired for specific open space/recreation purposes, residential development will not occur. Through the special exceptions process, parks, playgrounds and recreational areas operated by the Town are permitted. Additionally, forest and wildlife reservations or a park/playground not operated for profit purposes may be permitted.

Wetlands

According to information made available by the Town Planning Department, Tracts 50 A, B, C are classified as regulated wetlands. It also appears that Tract 41B to the west for the most part may not be so classified. Uses permitted within the designated wetland, provided they do not disturb the natural and indigenous character of the land, are outdoor recreation, including play and sporting areas, golf courses, field trails, nature study, horseback riding, swimming, skin-diving, camping, boating, waterskiing, trapping, hunting, fishing, and shell fishing.

Suggestions

It is suggested that because of certain physical limitations and wetland problems this tract remain for the most part a natural town-wide park. With careful planning, walking trails, a jogging trail, ice skating area and picnic areas might be accommodated for community-wide use. It may eventually, as a major nature preserve area, be expanded to the Mill Pond and easterly when development occurs along Clark Street to the east, or Long Hill Road to the west. At this time, other active recreation uses may be added, hopefully after detailed study.

As with the other properties, there is a need to better define the boundary lines through plantings, fencing or monuments at property angles. In particular, entrances should be clearly defined with aesthetically pleasing fencing, gates, brick or stone columns, etc.

RECREATION POTENTIAL

The parcel of land entitled Quarry Brook Drive Area (a total area of 22.58 acres) has limited landscaping potential. Site 1 (Parcel 41A - 3.52 acres) has almost no potential as an open space recreation area for a number of reasons:

1. The narrowness of the property limits any active or even passive types of recreation. A passive nature walk may be considered but there will be a problem of intrusion on the adjacent residences privacy. The creation of a conifer barrier is impractical in that it will result in an impenetrable tunnel of vegetation which is not desirable.
2. Access to the property is limited. To get to the parcel one must cross between the backyards of two adjoining neighbors on a twenty foot wide path. Although this is allowable due to the easement right-of-way, it would seem undesirable and a further intrusion on the residences privacy.
3. Limited parking facilities. The only available parking is directly on the street and the turn-around area on Beechnut Lane. If any sort of recreational development were accomplished, parking would prove to be a problem.

Site 2 also has limited recreation potential. The area in which the team reviewed was extremely wet. Parcel 41B and 50A had no truly defined water course, no outstanding wildlife features or vegetation features. To develop this area would require extensive amounts of land fill and dredging. This would seem unreasonable since the area has no real great aesthetic quality.

Perhaps the portion of this property with the most potential are parcels 50B and 50C. This area has a more defined water course and slightly greater aesthetic quality, but the area is small and could not be developed extensively.

It is my suggestion that the Town of South Windsor keep these properties as town owned open space and let them remain in their present state. Some forest management may be wise, however, in order to create a more healthy wooded area. The parcel 41A may be subdivided to become extensions of the adjoining neighbors' properties.

Appendix

Soils

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scale

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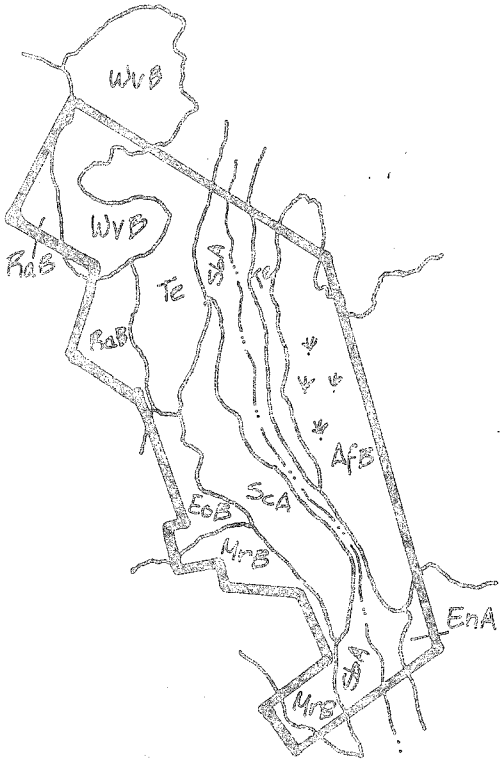

SOILS LIMITATION CHART - PART A

	LAWNS	CAMP AREAS	PICNIC AREAS
AfB - Agawam fine sandy loam, 0-3% slopes	slight	slight	slight
EoB - Elmwood very fine sandy loam, 3-8% slopes	moderate - wetness	moderate - wetness percs slowly	moderate - wetness, percs slowly
EsA - Enfield silt loam, 0-3% slopes	slight	slight	slight
EsB2 - Enfield silt loam, 3-8% slopes, eroded	slight	slight	slight
HfB - Hartford sandy loam, 3-8% slopes	moderate - droughty	slight	slight
MgC - Manchester gravelly sandy loam, 3-15% slopes	severe - droughty	0-8% moderate - small stones; 8-15% moderate - slope, small stones	0-8% moderate - small stones 8-15% moderate - slope, small stones
MrB - Merrimac fine sandy loam, 3-8% slopes	slight	slight	slight
NaB - Narragansett silt loam, 3-8% slopes	slight	slight	slight
NaC - Narragansett silt loam, 8-15% slopes	moderate - slope	moderate - slope	moderate - slope
RaB - Rainbow silt loam, 3-8% slopes	moderate - wetness	moderate - wetness, percs slowly	moderate - wetness, percs slowly
SbA - Saco silt loam, 0-3% slopes	severe - floods, wetness	severe - floods, wetness	severe - wetness, excess humus
ScA - Scantic silt loam, 0-3% slopes	severe - wetness	severe - wetness, percs slowly	severe - wetness, percs slowly
Te - Terrace escarpment, sand and clay, ≥ 15% slopes	severe - slope	severe - slope, percs slowly	severe - slope, percs slowly
Tg - Terrace escarpment, sand and gravel, ≥15% slopes	severe - small stones, droughty, slope	severe - slope, small stones	severe - slope, small stones
WdA - Walpole sandy loam, 0-3% slopes	severe - wetness	severe - wetness	severe - wetness
WvB - Windsor loamy fine sand, 3-8% slopes	moderate - droughty	slight	slight

SOILS LIMITATION CHART - PART B

TYPE	PLAYGROUNDS	PATHS AND TRAILS	LOCAL ROADS AND STREETS
AfB	slight	slight	slight
EoB	2-6% moderate - wetness 6+% moderate - slope, wetness	moderate - wetness	severe - low strength, frost action
EsA	0-2% slight 2-6% moderate - slope	severe - erodes easily	moderate - frost action
EsB2	2-6% moderate - small stones 6+% severe - slope	moderate - erodes easily	moderate - frost action
HfB	2-6% moderate - slope, small stones 6+% severe - slope	slight	slight
MgC	0-6% severe - small stones 6+% severe - slope, small stones	slight	0-8% slight 8-15% moderate - slope
MrB	2-6% moderate - small stones 6+% moderate - slope, small stones	slight	slight
NaB	2-6% moderate - slope 6+% severe - slope	slight	moderate - frost action
NaC	severe - slope	slight	moderate - slope, frost action
RaB	2-6% moderate - slope, stones, wetness 6+% severe - slope, small stones	moderate wetness	severe - frost action
SbA	severe - floods, wetness, excess humus	severe - wetness, excess humus	severe - floods, wetness, frost action
ScA	severe - wetness, percs slowly	severe - wetness	severe - low strength, wetness, frost action
Te	severe - slope, percs slowly	15-25% moderate - slope 25+% severe - slope	severe - slope, low strength
Tg	severe - slope, small stones	15-25% moderate - slope 25+% severe - slope	severe - slope
WdA	severe - wetness	severe - wetness	severe - wetness, frost action
WvB	2-6% moderate - slope 6+% severe - slope	slight	slight

Slight limitation indicates that any property of the soil affecting use of the soil is relatively unimportant and can be overcome at little expense.

Moderate limitation indicates that any property of the soil affecting use can be overcome at somewhat higher expense.

Severe limitation indicates that the use of the soil is seriously limited by hazards or restrictions that require extensive and costly measures to overcome.

1) Most map units include small areas of soils other than those for which the map unit is named. Some of these included soils have properties that differ substantially from those of the major soil or soils of the map unit and thus may interpret differently.

2) The above table is a guide for interpretive uses of these map units. This information is not a substitute for an on-site investigation.

SOIL INTERPRETATIONS FOR URBAN USES

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

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

Slight Limitations

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

Moderate Limitations

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

Severe Limitations

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

About the Team

The Eastern Connecticut Environmental Review Team (ERT) is a group of professionals in environmental fields drawn together from a variety of federal, state, and regional agencies. Specialists on the Team include geologists, biologists, foresters, climatologists, soil scientists, landscape architects, archeologists, recreation specialists, engineers and planners. The ERT operates with state funding under the supervision of the Eastern Connecticut Resource Conservation and Development (RC&D) Area.

The Team is available as a public service at no cost to Connecticut towns.

PURPOSE OF THE TEAM

The Environmental Review Team is available to help towns and developers in the review of sites proposed for major land use activitis. To date, the ERT has been involved in reviewing a wide range of projects including subdivisions, sanitary landfills, commercial and industrial developments, sand and gravel operations, elderly housing, recreation/open space projects, watershed studies and resource inventories.

Reviews are conducted in the interest of providing information and analysis that will assist towns and developers in environmentally sound decision-making. This is done through identifying the natural resource base of the project site and highlighting opportunities and limitations for the proposed land use.

REQUESTING A REVIEW

Environmental reviews may be requested by the chief elected officials of a municipality or the chairman of town commissions such as planning and zoning, conservation, inland wetlands, parks and recreation or economic development. Requests should be directed to the Chairman of your local Soil and Water Conservation District. This request letter should include a summary of the proposed project, a location map of the project site, written permission from the landowner allowing the Team to enter the property for purposes of review, and a statement identifying the specific areas of concern the Team should address. When this request is approved by the local Soil and Water Conservation District and the Eastern Connecticut RC&D Executive Council, the Team will undertake the review on a priority basis.

For additional information regarding the Environmental Review Team, please contact Jeanne Shelburn (774-1253), Environmental Review Team Coordinator, Eastern Connecticut RC&D Area, P.O. Box 198, Brooklyn, Connecticut 06234.