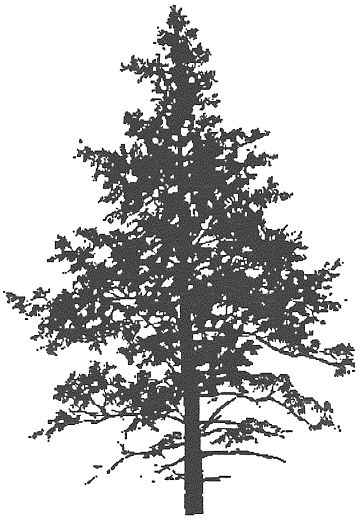
Birmingham Utilities Land Acquisition

Oxford, Connecticut



King's Mark Environmental Review Team Report

King's Mark Resource Conservation & Development Area, Inc.

Birmingham Utilities Land Acquisition

Oxford, Connecticut

Environmental Review Team Report

Prepared by the
King's Mark Environmental Review Team
of the
King's Mark
Resource Conservation and Development Area, Inc.

for the
Conservation/Inland Wetlands Commission
Oxford, Connecticut

April 1998

CT Environmental Review Teams
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Acknowledgments

This report is an outgrowth of a request from the Oxford Conservation/Inland Wetlands Commission to the New Haven County Soil and Water Conservation District (SWCD). The SWCD referred this request to the King's Mark Resource Conservation and Development Area (RC&D) Executive Council for their consideration and approval. The request was approved and the measure reviewed by the King's Mark Environmental Review Team (ERT).

The King's Mark Environmental Review Team Coordinator, Elaine Sych, would like to thank and gratefully acknowledge the following Team members whose professionalism and expertise were invaluable to the completion of this report.

The field review took place on Tuesday, February 24, 1997.

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I would also like to thank Skip Hobson, Birmingham Utilities Inc., Jim Leach, Kate Cosgove, George Oleyer, acquisition committee members, Andrew Ferrrillo, inland wetland enforcement officer, and David Schreiber, chairman of the conservation/Inland wetlands commission, for their cooperation and assistance during this environmental review.

Prior to the review day, each Team member received a summary of the proposed project with location and soils maps. During the field review Team members were given additional maps and information. Following the review, reports from each Team member were submitted to the ERT coordinator for compilation and editing into this final report.

This report represents the Team's findings. It is not meant to compete with private consultants by providing site plans or detailed solutions to development problems. The Team does not recommend what final action should be taken on a proposed project - all final decisions rest with the Town and landowner. This report identifies the existing resource base and evaluates its significance to the proposed development, and also suggests considerations that should be of concern to the Town and applicant. The results of this Team action are oriented toward the development of better environmental quality and the long term economics of land use.

The King's Mark RC&D Executive Council hopes you will find this report of value and assistance in reviewing and making your decision on this proposed town acquisition.

If you require additional information please contact:

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Figures, Illustrations and Tables

1. Introduction

Introduction

The Oxford Conservation/Inland Wetlands Commission has requested assistance from the King's Mark Environmental Review Team in conducting an environmental review for the proposed town acquisition of Birmingham Utilities Inc. Parcels C, D2, E and F.

The four (4) parcels are located in the southwest corner of Oxford adjacent to the Town of Seymour on Route 188, Holbrook Road, Rockhouse Hill Road and Moosehill Road. The property is owned by Birmingham Utilities Inc., a water company, and is known as the Great Hill Tract. The total acreage is 517 acres, divided as follows:

- Parcel C - 252 acres
- Parcel D2 - 114 acres
- Parcel E - 99 acres
- Parcel F - 52 acres.

The land has been undeveloped watershed for the inactive Great Hill Reservoir and contains Fourmile Brook.

Some of the parcels of the Great Hill Tract that are in the Town of Seymour have been purchased by the town and others have the potential for some type of development.

Objectives of the ERT Study

The King's Mark ERT conducted a review of the Great Hill Tract in 1984 when it was owned by the Ansonia-Derby Water Company. That report was completed for the Valley Regional Water Study Committee to provide a natural resource inventory and to discuss in general the opportunities and limitations of the properties for alternate land uses. (See Appendix A)

The Town of Oxford is now considering the purchase of the property located in their town and has asked for an update of the 1984 information and recommendations and guidelines for future use. The future uses identified by the town include preservation of open space, a high school facility and passive recreation. The town appointed Acquisition Committee asked that the ERT concentrate on a review of parcels C and D2 since these are the more likely parcels to be developed for a school. A major concern voiced is the extent of wetlands and the discrepany between various maps delineating wetlands.

The ERT Process

Through the efforts of the Conservation/Inland Wetlands Commission this environmental review and report was prepared for the Town of Oxford.

This report provides an information base and a series of recommendations and guidelines which cover the topics requested by the Town. Team members were able to review maps, plans and supporting documentation provided by the applicant.

The review process consisted of four phases:

1. Inventory of the site's natural resources;
2. Assessment of these resources;
3. Identification of resource areas and review of plans; and
4. Presentation of education, management and land use guidelines.

The data collection phase involved both literature and field research. The field review was conducted on February 24 and 27, 1998, and various Team members also made separate and/or additional field visits. The emphasis of the field review was on the exchange of ideas, concerns and recommendations. Being on site allowed Team members to verify information and to identify other resources.

Once Team members had assimilated an adequate data base, they were able to analyze and interpret their findings. Individual Team members then prepared and submitted their reports to the ERT coordinator for compilation into this final ERT report.

Figure 1

N

Location Map

Scale 1" = 2000'

—— Approximate Site

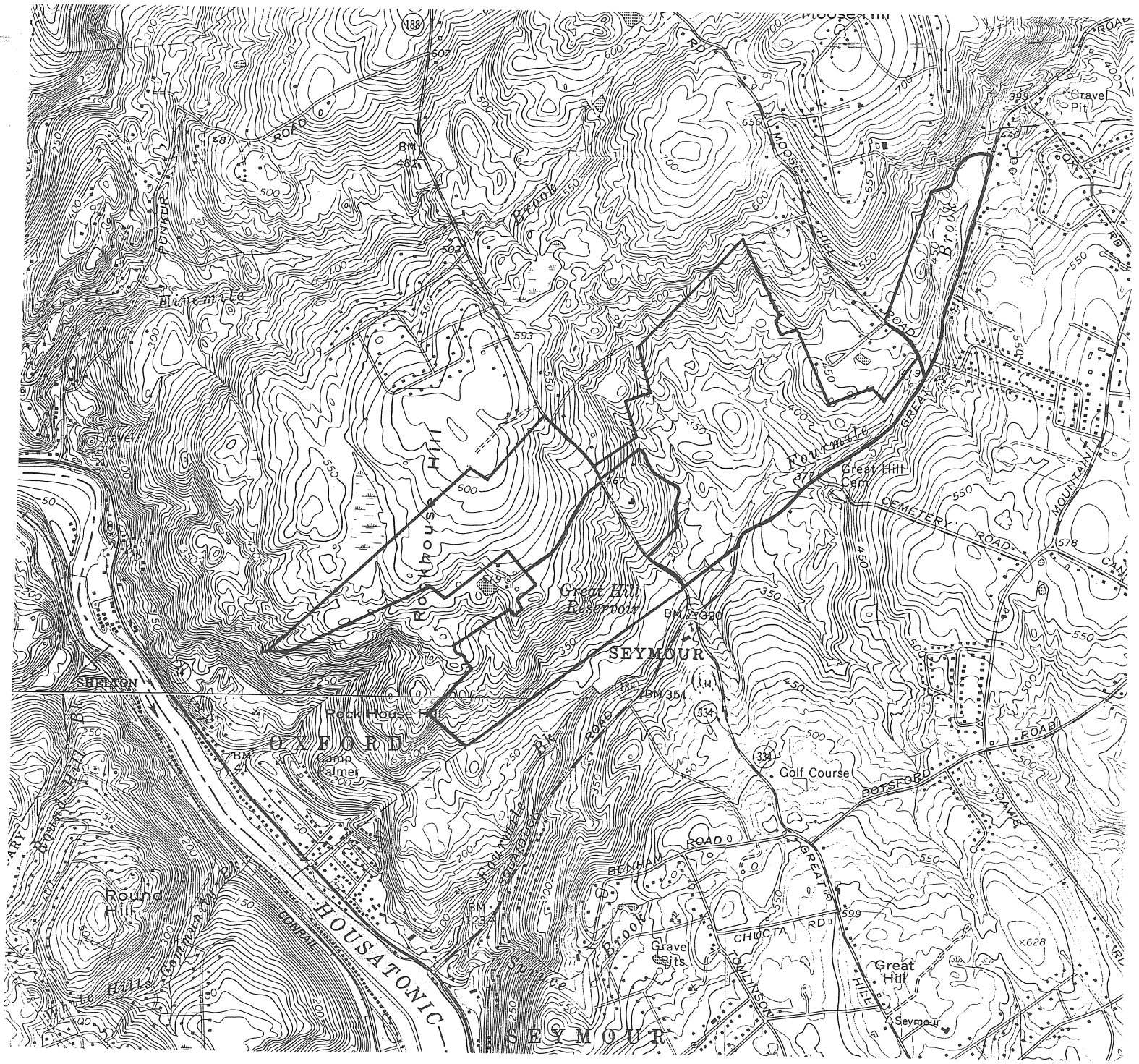


Figure 2

Topographic Map

Scale 1" = 1000'

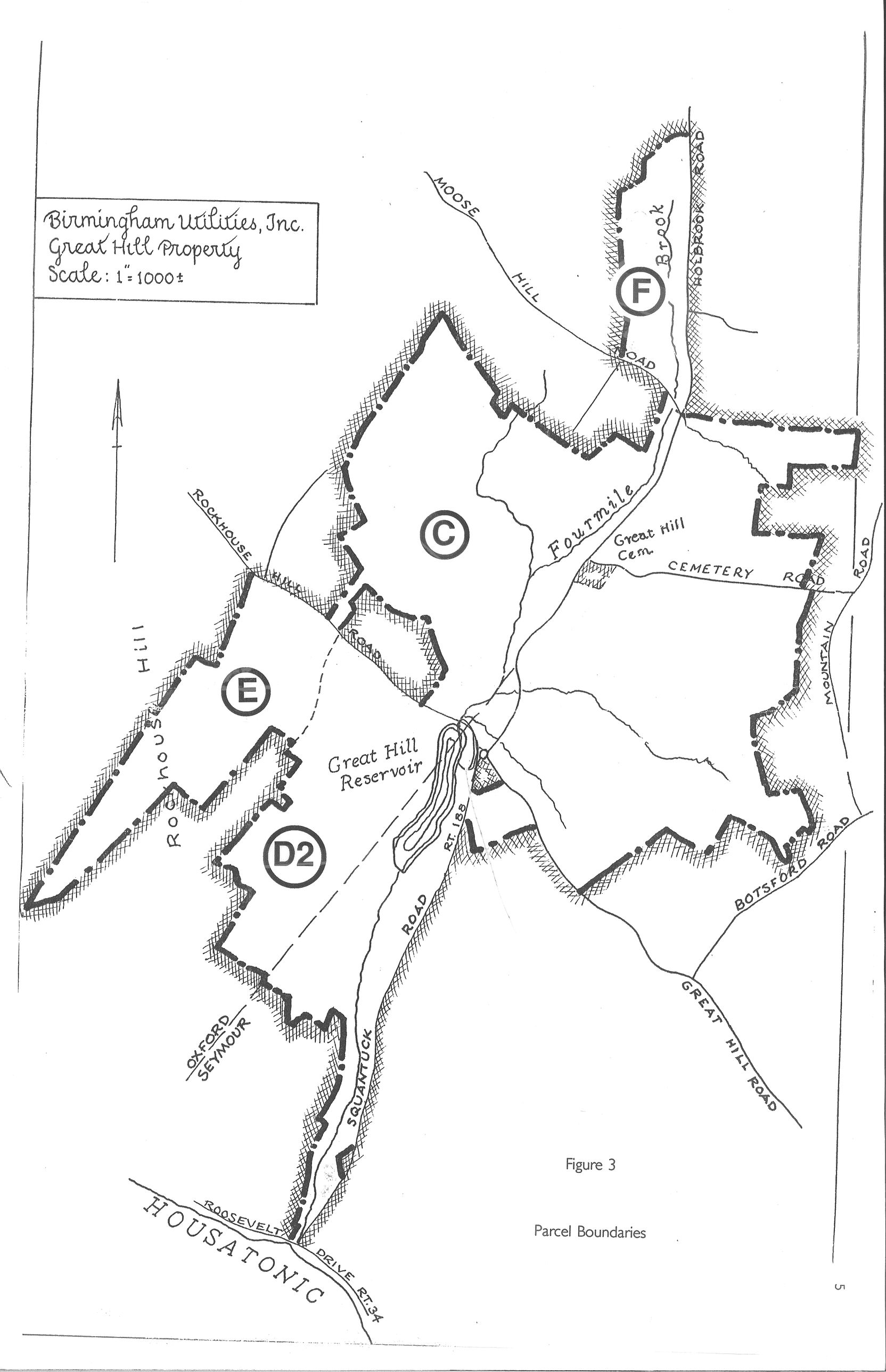


Figure 3

Parcel Boundaries

2. Soils Resources

This soils report applies to a 517 acre tract known as the Great Hill Property on the Oxford and Seymour line and is owned by Birmingham Properties Inc. The information in this report is based on the soil series descriptions and mapping units (map #41 descriptions as presented in the 1979 USDA Soil Survey for New Haven County), and on field observations conducted on February 24th, 1998.

Mapping Units

CfD - Charlton fine sandy loam, 8 - 15% slopes.
CrC - Charlton - Hollis fine sandy loams, 3 - 15% slopes.
HpE - Hollis - Charlton fine sandy loams, 15 - 35% slopes.
HrC - Hollis - Rock outcrop complex, 3 - 15% slopes.
HSE - Hollis - Rock Outcrop complex, 15 - 35% slopes.
Nn - Ninegret fine sandy loam.
PdB - Paxton very stony fine sandy loam, 3 - 8% slopes.
PdC - Paxton very stony fine sandy loam, 8 - 15% slopes.
PbB - Paxton fine sandy loam, 3 - 8% slopes.
PbC - Paxton fine sandy loam, 8 - 15% slopes.
PbD - Paxton fine sandy loam, 15 - 25% slopes.
RN - Ridgebury, Leicester and Whitman extremely stony fine sandy loams.
RP - Rock Outcrop - Hollis complex.
WxB - Woodbridge fine sandy loam, 3 - 8% slopes.
WyB - Woodbridge very stony fine sandy loam, 3 - 8% slopes.
WzC - Woodbridge extremely stony fine sandy loam, 3 - 15% slopes.

The location of these soils is shown in Figure 5 and the parcel boundaries are shown on Figure 4.

This tract of land is sloping to very steep and consists of excessively to poorly drained loamy soils on glacial till uplands where relief is often affected by the underlying bedrock.

Charlton soils are deep, well drained and range from nonstony to extremely stony. Stones and boulders are common on the surface of the land. They are dominantly gently sloping or sloping and occupy hilltops and convex side slopes of the till plain. Slope ranges from 3 to 35%, but is dominantly 3 to 15%.

Hollis soils are somewhat excessively drained, loamy and underlain by bedrock at a depth of 10 to 20 inches. Hollis soils are gently sloping to steep and occupy hilltops, small ridges and side slopes in bedrock controlled areas. Slopes are mainly complex. Stones and boulders are on the surface and bedrock outcrops are common in most places.

Ridgebury, Leicester and Whitman extremely stony fine sandy loams occupy depressions and drainageways. They are poorly and very poorly drained soils, are dominantly nearly level or gently sloping Stone and boulders are common on the surface in most places.

Minor soils make up the remaining portions of this tract. These are mainly Paxton and Woodbridge. Paxton and Woodbridge have a slowly permeable fragipan and occupy small drumnoidal positions on the till plain. Paxton soils are well drained. Woodbridge soils are moderately well drained.

Parcel Soil Suitability's for Urban Development and Acreage Approximations
(Figure 5)

Each of the soil types mapped for the property are discussed below with regard to their suitability for community development (i,e, schools, passive and active recreational development. * Denotes soils with potential for development rated fair or above (see soil descriptions).

Parcel C: 252 acres

* CrC ~ 130ac. or 52%
* WzC ~ 2ac. or < 1%
RN ~ 87ac. or 35%
Nn ~ 3ac. or 1%
* PdB ~ 18ac. or 7%
* WyB ~ 12ac. or 5%
HpE ~ 12ac. or 5%

Parcel D2: 114 acres

* CrC ~ 28ac. or25%
HpE ~ 65ac. or 57%
RP ~ 3ac. or 3%
* WxB ~ 11ac. or 9%
RN ~ 5ac. or 4%
HSE ~ 2ac. or 2%

Parcel E: 99 acres

*CrC ~ 29ac. or 29%
*PbC ~ 6ac. or 6%
*PdC ~3ac.or3%
RP ~ 2 ac. or 2%
RN ~ 4ac. or 4%
*WzC ~ 16ac. or 9%
*PbB ~ 26ac. or 26%
*WxB ~ 1ac. or 1%
HrC ~ 13 ac. or 13%

Parcel F: 52 acres

*CrC ~ 9ac. or 17%
*WzC ~ 2ac. or 2%
HpE ~ 3ac. or 6%
*WxB ~ 2ac. or 4%
RN ~ 34ac. or 65%
CFD ~ 2ac. or 4%

Figure 4

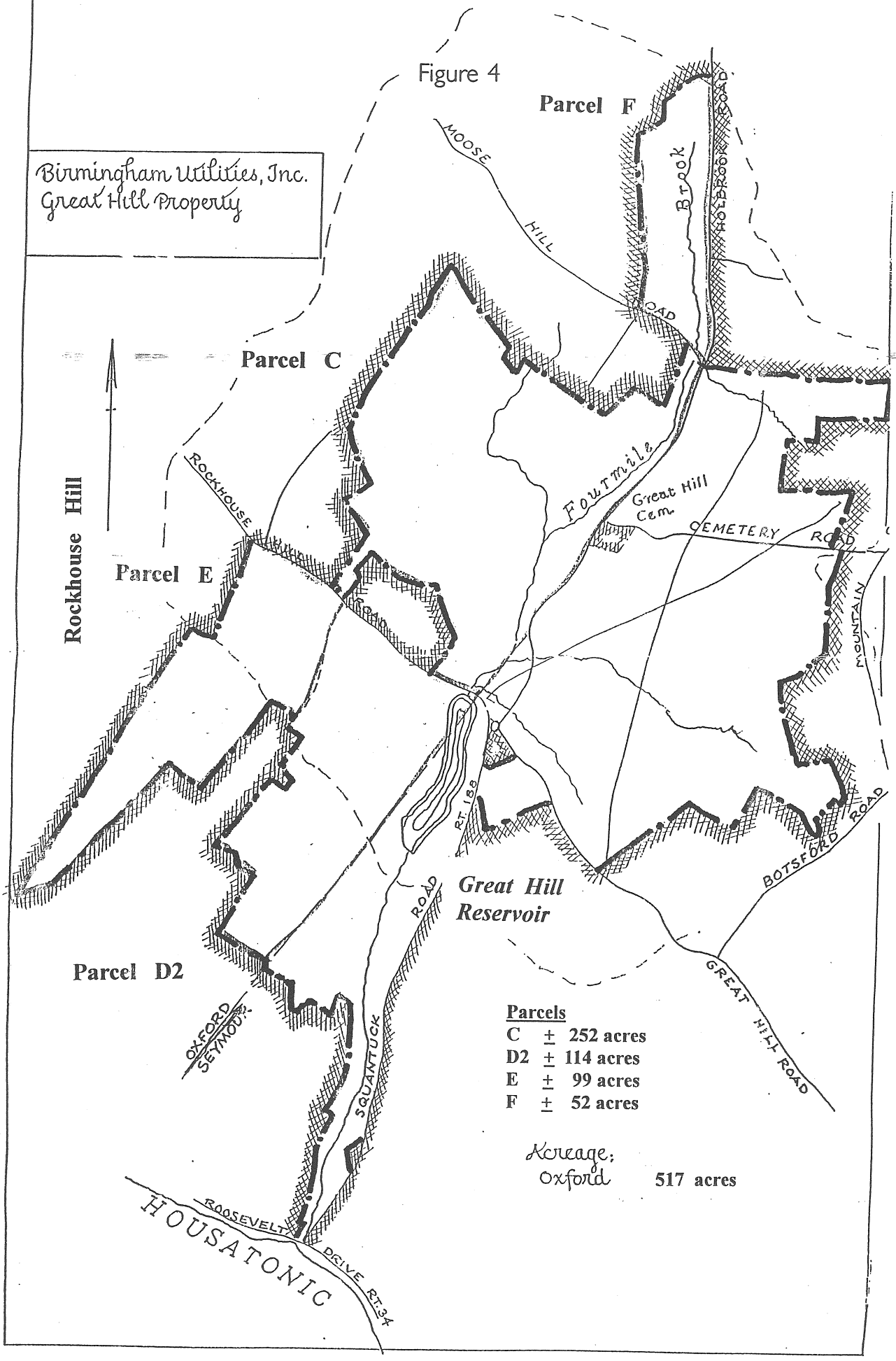
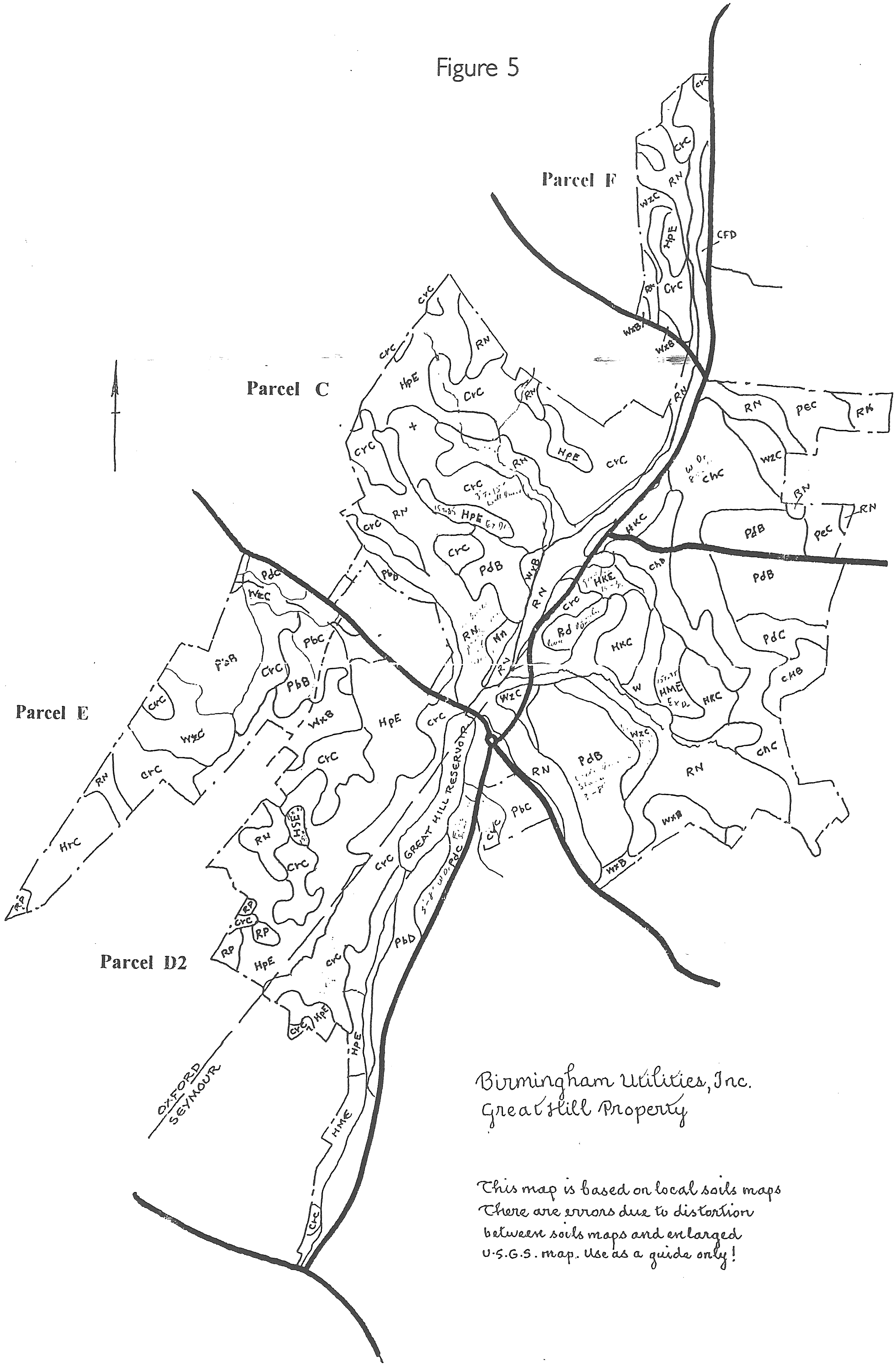

Birmingham Utilities, Inc.
Great Hill Property
Parcel F
Parcel C
Parcel E
Parcel D2
Rockhouse Hill
MOOSE HILL ROAD
HOLLBROOK ROAD
Brook
ROCKHOUSE ROAD
FOUR Mile
Great Hill Cem.
CEMETERY ROAD
MOUNTAIN
RT 133
BOTSFORD ROAD
Great Hill Reservoir
SQUANTUCK ROAD
OXFORD SEYMOUR
GREAT HILL ROAD
ROOSEVELT DRIVE RT 34
HOUSATONIC
Parcels
C ± 252 acres
D2 ± 114 acres
E ± 99 acres
F ± 52 acres
Acreage:
Oxford 517 acres

Figure 5


Parcel F
Parcel C
Parcel E
Parcel D2
GREAT HILL RESERVOIR
OXFORD
SEYMOUR
Birmingham Utilities, Inc.
Great Hill Property
This map is based on local soils maps
There are errors due to distortion
between soils maps and enlarged
U.S.G.S. map. Use as a guide only!

Soils Descriptions

CfD - Charlton fine sandy loam, 8 - 15% slopes. Located on the side of hills and ridges and at the foot slopes of steep hills that have been highly influenced by underlying bedrock This soil has **poor potential** for community development. It is limited mainly by steepness of slopes. The steepness of slopes causes additional expense in building homes, roads and onsite septic systems and installation of water and sewer lines. This soil is fairly easy to excavate, but it commonly contains stones and boulders. Waste disposal systems require very careful design and installation to insure that effluent does not seep to the surface downslope from the system. Intensive conservation measures are needed to prevent excessive runoff, erosion and siltation during construction of the community developments.

*** CrC - Charlton - Hollis fine sandy loams, 3 - 15% slopes.** Consists of gently sloping and sloping, well drained soils on uplands where the relief is affected by the underlying bedrock. These areas have a rough surface with bedrock outcrops and a few intermittent drainageways and small wet depressions. In most areas, 3 to 25 % of the surface is covered with stones and boulders. This complex has **fair to poor potential** for community development. The **Charlton** soil is limited mainly by the steepness of slopes and stoniness. The **Hollis** soil has poor potential for community development. It is limited mainly by the bedrock depth of 10 to 20 inches. Excavations are often difficult on this soil complex because of the shallowness to bedrock in many places. Very careful planning, site location, design and installation are necessary to insure that onsite waste disposal systems function satisfactorily. During any construction activity, conservation measures such as temporary vegetation and siltation basins are frequently needed to prevent excessive runoff, erosion and siltation.

HpE - Hollis - Charlton fine sandy loams, 15 - 35% have **poor potential** for community development. The map unit is limited mainly by steep slopes, shallowness to bedrock, rock outcrops and stoniness. Excavation is difficult because of the shallowness to bedrock in many places. Waste disposal systems, such as onsite septic systems require very careful and often unusual design and installation to ensure that effluent does not seep to the surface downslope. Sites of more than two acres are often needed to locate a sufficiently deep soil for installation of a septic tank absorption field. In addition, there is a hazard of effluent seeping into cracks in the bedrock and polluting the groundwater. Intensive conservation measures such as the use of diversions, vegetative cover, mulching and siltation basins are frequently needed to prevent excessive runoff, erosion and siltation.

HrC - Hollis-Rock Outcrop complex, 3 - 15% slopes is somewhat excessively drained and Rock outcrop. Surface area is 3 to 25% stones and boulders. 50% of this map unit is Hollis fine sandy loam, 30% is Rock outcrop and the remainder other soils.

This map unit has **poor potential** for community development. It is mainly limited by the shallowness to bedrock and the rock outcrops. Excavation is difficult and requires blasting in many places. Waste disposal systems, such as septic tank absorption fields, will not function without very careful and often unusual design and installation.

HSE - Hollis - Rock outcrop complex, 15 - 25% slopes is moderately steep and steep, somewhat excessively drained soils on uplands and areas of Rock outcrop. This map unit has **poor potential** for development. It is limited by shallowness to bedrock, steep slopes and rock outcrops. Excavation is difficult and require blasting in places. This map unit has poor potential for waste disposal systems such as onsite septic systems. They generally require very unusual design and installation, and there is a hazard that they may fail or that effluent may seep into cracks in the bedrock and pollute groundwater. This groundwater can be a source of drinking water in many areas. Areas of this map unit provide sites for creative home design. If this map unit is disturbed for construction, intensive conservation measures such as mulching, temporary vegetative cover, and siltation basins are generally needed to control excessive runoff, erosion and siltation.

Nn - Ninegret fine sandy loam, 3 - 8% slopes is nearly level and moderately well drained This soil has a seasonal high water table at a depth of 20 inches from late fall until mid-spring. This soil has **poor potential** for community development. It is easy to excavate; however the steep slopes of excavations are unstable. It has poor potential for onsite septic systems, because of the seasonal high water table. Waste from the septic system may pollute the groundwater. Foundations and basements need to be properly designed and constructed to ensure a stable foundation and prevent wet basements. This soil is well suited to landscaping. During periods of construction conservation measures are needed to prevent excessive runoff, erosion and siltation.

* **PbB - Paxton fine sandy loam, 3 - 8% slopes** are well drained soils that have a substratum that is described as very firm gravelly fine sandy loam. This soil has a **fair potential** for community development. It is easy to excavate, but the substratum is very firm (hardpan) and commonly has stones and boulders. Waste disposal systems and onsite septic systems will generally not function satisfactorily because of the slowly permeable substratum. Very careful design and installation are required to ensure a satisfactory system. During periods of construction, conservation measures are needed to prevent excessive runoff, erosion and siltation.

* **PbC - Paxton fine sandy loam, 8 - 15% slopes** are well drained soils that have a very firm substratum, hardpan. This soil has **fair potential** for community development. It is limited mainly by the slowly permeable substratum and the steepness of slopes. The steeper slopes cause additional expense in building roads, installing sewer and waterlines, building homes, and in designing and installing septic systems. This soil is fairly easy to excavate, but the substratum is very firm and generally has stones and

boulders. Waste disposal systems generally do not function satisfactorily without very careful design and installation because the substratum is slowly permeable. Care is needed to ensure that the effluent does not seep to the surface in areas downslope from the disposal system. Fairly intensive conservation measures are needed to prevent excessive runoff, erosion and siltation during periods of construction.

PbD - Paxton fine sandy loam, 15 - 35% slopes, are moderately steep and well drained soils that have a very firm substratum, hardpan. This soil has **poor potential** for community development It is limited mainly by steepness of slope and the slowly permeable substratum. Building houses and roads, installing septic systems and installing water and sewer lines are more expensive on this soil than on less sloping soils. This soil is fairly easy to excavate, but the substratum is very firm and generally has stones and boulders. Due to the substratum the onsite septic systems generally do not function satisfactorily without careful design and installation. Intensive conservation measures are needed to prevent excessive runoff, erosion and siltation during periods of construction.

*** PdB - Paxton very stony fine sandy loam, 3 - 8% slopes** are gently sloping and well drained and also have a very firm substratum (hardpan) of gravelly fine sandy loam. This soil has **fair potential** for community development. The limitations are much like those PbB, listed above, with the addition of surface stones and boulders possibly interfering with the installation of the onsite septic systems.

*** PdC - Paxton very stony fine sandy loam, 8 - 15% slopes** are sloping, well drained and have a very firm substratum. This soil has **fair potential** for community development and is mainly limited by steepness of slopes and surface stones and boulders. Again, limitations are similar to those listed above with the addition that precautions need to be made to ensure that effluent does not seep to the surface in areas downslope of the system. Stones and boulders may interfere with installation of the system. Intensive conservation measures are needed to prevent excessive runoff, erosion and siltation during periods of construction.

RP - Rock Outcrop-Hollis complex consists of gently sloping to steep, somewhat excessively drained soils and Rock Outcrop on glacial uplands. The relief is affected by underlying bedrock. This complex has **poor potential** for community development. It is limited mainly by rock outcrops, shallowness to bedrock, steepness of slopes. Excavation is difficult and requires blasting in most places. This complex has poor potential for waste disposal systems and onsite septic systems. Septic systems generally require very unusual design and installation. Even then, systems may fail or effluent may seep into cracks of bedrock and reach groundwater, which is a source of drinking water in some places. Areas more than five acres are generally needed to locate the site where the soils are deep enough for a septic system. If this site is disturbed for construction, intensive conservation measures, such as mulching, temporary vegetative

cover and siltation basin, generally are needed to control excessive runoff, erosion and siltation.

* **WxB - Woodbridge fine sandy loam, 3 - 8% slopes** are gently sloping, moderately well drained soil. Woodbridge soils have a very firm substratum, hardpan. From late fall to mid-spring, this soil has a water table at a depth of about 20 inches. This soil has **fair potential** for community development. It is mainly limited by the seasonal high water table and by a slowly permeable substratum. It is fairly easy to excavate, however, the substratum is very firm in many places, there are stones and boulders. Because of the seasonal high water table, excavations are inundated. Steep slopes of excavations are unstable when soil is saturated and tend to slump. Onsite septic systems will not function satisfactorily with normal design and installation because of the seasonal high water table and slowly permeable substratum. Very careful and often costly design and installation are required to ensure that a system works satisfactorily During the construction of community developments, conservation measures are needed to prevent excessive runoff, erosion and siltation.

* **WyB - Woodbridge very stony fine sandy loam, 3 - 8% slopes** are moderately well drained and have a very firm substratum, hardpan. This soil has very much the **same limitations as the Woodbridge soil listed above**. This soil is limited due to the seasonally high water, surface stones and boulders.

* **WzC - Woodbridge extremely stony fine sandy loam, 3 - 15% slopes**. This gently sloping and sloping, moderately well drained soil is on the top and sides of ridges and hills on glacial uplands. This soil has **fair potential** for community development. It is limited by a seasonal high water table of about 20 inches. This soil is fairly easy to excavate, but in many areas it has stones and boulders below the surface as well as on the surface. Because of the seasonal high water table, excavations are frequently inundated. When the soil is saturated, steep slopes of excavations are unstable and tend to slump. Waste disposal systems, such as an onsite septic system, will generally not function with only normal design and installation because of the seasonal high water table and the slowly permeable substratum. During construction of community developments conservation measures are needed to control runoff, erosion and sedimentation.

3. Wetland Review

One of the primary concerns of town representatives at the ERT meeting was the discrepancy between two maps showing the location of wetlands, one being the **Index Map** dated 6/20/96 (last revised 5/7/97) and the other entitled **Property Map** dated 12/1/97. According to the land surveyor who generated both sets of maps, wetland boundaries found on the Index Map were simply derived from unscientific and admittedly incomplete observations by the survey crew who were generating detailed topographic information of the site. Wetland boundaries found on the Property Map were derived from an intensive soil survey conducted by a soil scientist. As such it would be expected for the latter to be a much more accurate depiction of the location and amount of wetland soils found on the property. Upon field inspection of the wetland flags found on the property during the ERT field review, this was found to be the case.

During the site visit the Team wetland specialist focused on what has been labeled as **Parcel C** for two reasons. First, this is where the largest variations were present between the two aforementioned maps and secondly because another focus of the town representatives was to assess the possibilities for limited development here, and of all the parcels, Parcel C appeared to be most suited for this development. That portion of flagged wetland boundaries inspected during the site visit appeared to accurately delineate the wetland boundary and also appeared to be accurately represented on the Property Map.

Development in or near wetlands should be considered with two primary factors. First is the function and value of the subject wetland and secondly the impacts that the proposed development may have on those wetlands. Not a lot of time will be devoted here to describing the high value of these wetlands regarding many of the regularly cited functions including Flood Control, Nutrient Retention, Sediment Trapping, Wildlife, Fisheries, Aesthetics, Forestry Potential, Ecological Integrity and Noteworthiness, since the potential purchase of these lands as open space will by nature preserve most of these wetlands, however, possible development of a small portion of this site as part of the open space purchase will require mention of some of the more relevant functions.

A majority of the wetlands on Parcel C are **riparian** wetlands, meaning wetlands that are hydrologically connected to a watercourse and serve as an extension of that watercourse, in this case Fourmile Brook and its tributaries. Riparian wetlands typically serve wildlife needs very well. Given that this large, continuous wetland system is part of a larger protected system that extends approximately 2.5 miles

southwest to the Housatonic River, it increases this wildlife function by providing an intact, natural wildlife corridor off of the Housatonic River.

Besides these riparian wetlands, there are three small, isolated wetlands separated from the main body of wetlands (refer to Figure 6). Two of these wetland areas may serve as **vernal pools**. Vernal pools are small, shallow, circular depressions in the landscape which fill with water during periods of high Spring meltwater and storm-water runoff, becoming drier during the warm summer months. True vernal pools support abundant and diverse wildlife populations for their size. Much of this wildlife is dependent on these areas for one or more periods of their life cycle. Because of the absence of permanent water, fish do not live in these ephemeral pools, making these areas very attractive to invertebrate and amphibian populations. The possibility that rare and endangered wildlife can be found in these pools is significant. Additionally, being an area of such high biological productivity, vernal pools provide an abundant source of food for upland wildlife species. Inspection during the upcoming spring breeding season will be needed to determine if these pools contain the obligate species which would qualify them as "true" vernal pools.

The specifics of utilizing this property for development is addressed in the Soils section of this report, however, some of the possible effects on wetlands as a result of this development will be addressed here. Given the high value and exceptional integrity of the wetlands on this and other parcels of this property, all efforts should be made to avoid direct impacts to wetlands as a result of filling and excavation. It appears that the largest, most accessible portion of Parcel C which would be favorable to development is essentially that portion found on sheet 4 of 4 of the Property Map, the southeast portion of the parcel.

Limited wetland crossings, which would be needed to access the site from Great Hill Road, should be carefully considered. Access to the parcel from the as of yet undeveloped Perkin's Road may be difficult due to road construction costs as well as the steep slopes found in the northwest quadrant of the parcel. Refer to Figure 7 for the location of possible wetland crossing sites involving minimal wetland impacts.

Excluding wetland crossings, it is recommended that any development of this site involve the observance of at least a 100 foot undeveloped buffer area up slope of all wetlands to preserve this additionally valuable transition area between upland and wetland habitats as well as buffer any temporary impacts that may occur as a result of site development. Should the small, isolated wetlands referred to earlier turn out to be true vernal pools, increased buffers may be warranted.

Figure 6

Possible Vernal Pool Locations

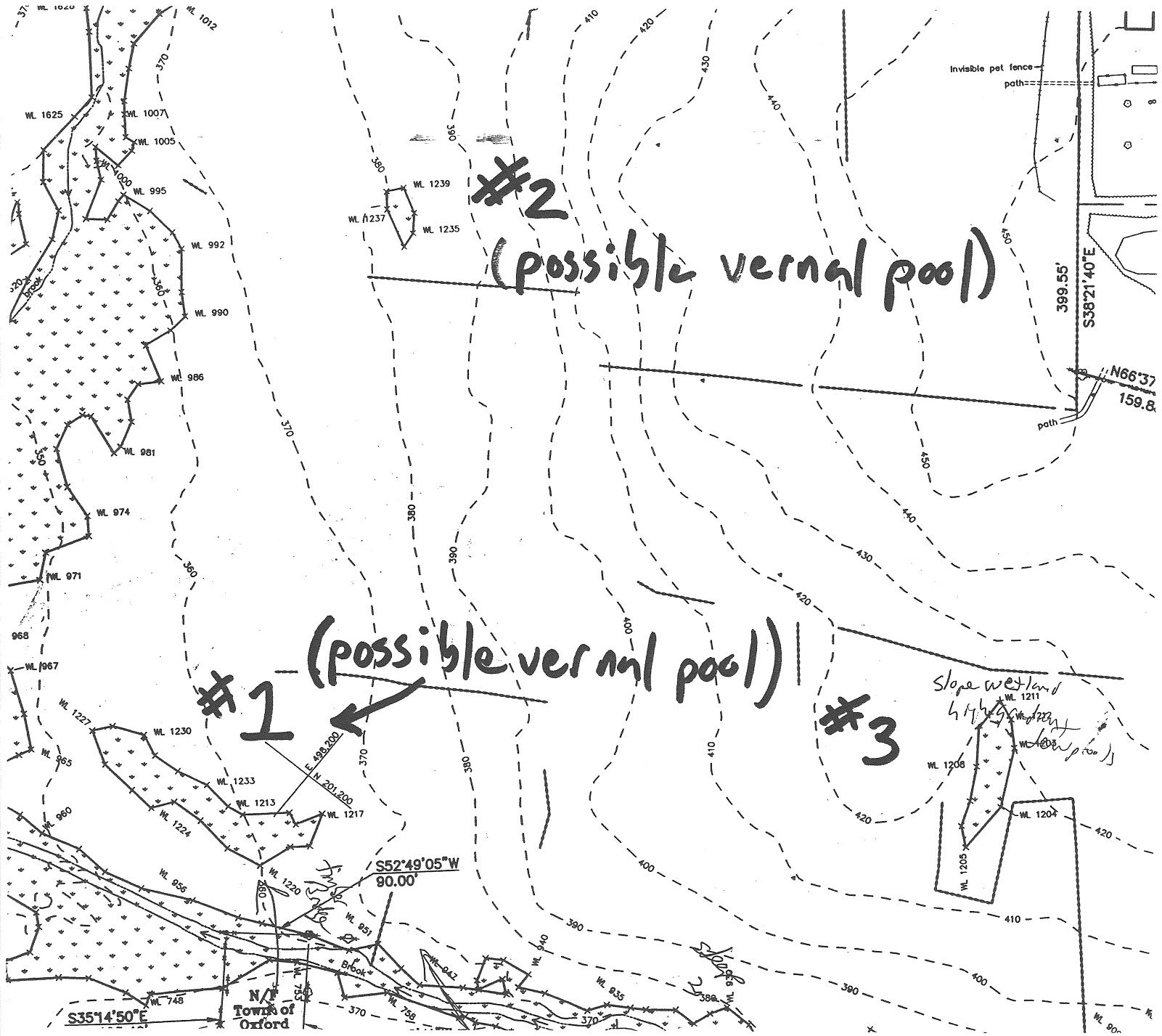
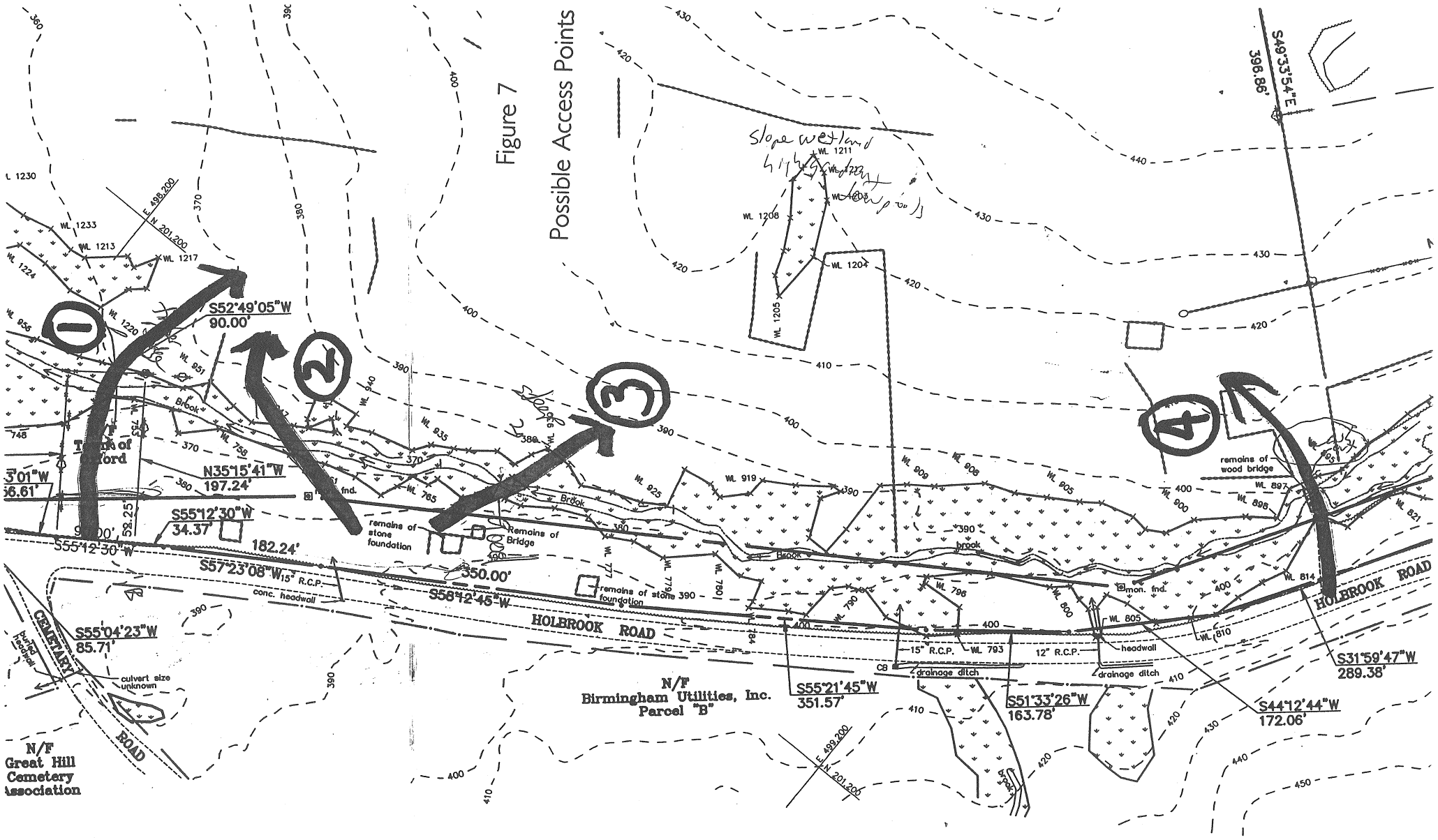


Figure 7

Possible Access Points



4. Aquatic Resources

Site Description

The four Birmingham Utilities parcels offered to the Town of Oxford for acquisition have a combined land volume of 517 acres and contain a section of Fourmile Brook, several unnamed perennial tributary streams, as well as a portion of Great Hill Reservoir - an impoundment of Fourmile Brook.

Fourmile Brook is contained within a channel approximately 15 feet in top of bank width and normal flow depths averaging 1 foot. The moderate gradient channel creates surface flow of a nearly equal distribution of pool and riffle. Stream substrate is composed of small boulder, cobble, gravel, and widely distributed deposits of coarse sand and sand-silt fines.

The several unnamed perennial tributary streams are contained in channels ranging from 4 to approximately 8 feet in top of bank width and normal flow depths averaging 9 inches or less. The low to moderate gradient channels create surface flow predominated by moving pool interspersed by shallow riffle. Stream substrate is composed of small boulder, cobble, gravel, coarse sand and sand-silt fines.

Remnants of two impoundments created on unnamed streams in **Parcel C** and **Parcel E** remain visible. The dams of both impoundments have breached and have allowed channels and wetlands to form within the former impoundment beds. In both instances, the stream channels are roughly 5 feet in top of bank width and have normal flow depths of less than 9 inches. Both channels are low in gradient which maintains surface flow as a moving pool. Stream substrate is composed of coarse sand, and sand-silt fines.

Dense growths of hardwoods and woody shrubs predominate as riparian vegetation along Fourmile Brook and the unnamed tributary streams. This vegetation provides the streams with a nearly complete canopy. Physical in-stream habitat is provided by the water depth in pools, small boulders, gravel deposits, undercut banks, and fallen or overhanging riparian vegetation.

Great Hill Reservoir is an 11 acre impoundment of Fourmile Brook and had originally been developed as a municipal water supply source. The impoundment reportedly has a maximum depth of 35 feet. Despite having an area of deep water, the reservoir contains fairly extensive shallow water areas as those observable near the Fourmile Brook inlet located in **Parcel D2**. The shallow water areas are likely to support abundant growths of emergent and submergent aquatic vegetation. Aquatic vegetation,

fallen or overhanging riparian vegetation, and boulders are the key physical habitat features within the impoundment.

Being within a municipal water supply watershed, wetlands have been protected and uplands maintained as forest on the four parcels owned by Birmingham Utilities. To date these measures have proven to be an effective means of preserving water quality. The Department of Environmental Protection classifies Fourmile Brook, the unnamed tributary streams, and Great Hill Reservoir as **Class AA** surface waters. Designated uses for surface water of this classification are existing or potential public drinking water supply, fish and wildlife habitat, recreational use, agricultural and industrial supply, and other purposes. Recreational uses may be restricted.

Aquatic Resources

Based upon channel grade, morphology, and substrate composition, Fourmile Brook and the unnamed tributary streams on the Birmingham Utilities parcels can be classified as coldwater resources. Although never subject to a formal fishery resource survey, the streams are anticipated to support a fishery population similar to that found in a formal survey of Fourmile Brook conducted by the Fisheries Division in 1991. That survey focused on a 150 foot stream reach downstream of Great Hill Reservoir, Seymour. Survey results (see Appendix B) revealed a fishery population composed of brook trout (Salvelinus fontinalis) and blacknose dace (Rhinichtys atratulus). Both of these species are commonly associated with coldwater streams in Connecticut which are of exceptional habitat and water quality. Several age-size classes of brook trout were collected in Fourmile which is indicative of naturally developed, self-sustaining, and well balanced population.

A formal fishery resource survey of Great Hill Reservoir has never been undertaken by the Division. Physical habitat conditions would classify the impoundment as mesotrophic and possibly supportive of both coldwater and warmwater fish species. The anticipated fishery population would include brook trout, bluegill sunfish (Lepomis macrochirus), pumpkinseed sunfish (Lepomis gibbosus), largemouth bass (Micropterus salmoides), golden shiner (Notemigonus crysoleucas), and brown bullhead (Ameiurus nebulosus).

Impacts

As previously mentioned, the protection of wetlands and maintenance of forested uplands on the Birmingham Utilities parcels have proven an effective means of preserving physical habitat and water quality at levels supportive of intolerant fish species such as brook trout. The management of these parcels in their present condition as open space will best assure the continued habitat and resource

preservation within Four Mile Brook, the unnamed tributary streams, and Great Hill Reservoir.

Should the parcels become subject to a significant land use change, the potential for adverse impacts to aquatic habitats and resources increases dramatically. Anticipated impacts include:

- Soil erosion and subsequent sediment transport through increased runoff from unvegetated areas. Excessive erosion, sediment transport, and sediment deposition can degrade both water quality and physical habitat, in turn affecting the resident fishery population. Specifically, excessive siltation has the potential to cause a depletion of oxygen within the water column; disrupt fish respiration and gill function; reduce water depth resulting in a reduction of habitats used by fish for feeding, cover, and spawning; reduce fish egg survival; reduce aquatic insect production; and promote aquatic plant growth.

- Development adjacent to streams often results in the alteration or removal of riparian vegetation. Changes to riparian vegetation can result in eliminating the natural "filtering" effect of vegetation which has the ability to prevent sediments, nutrients, fertilizers, and other non-point source pollutants from upland sources from entry into streams (such non-point source pollutants can degrade habitat and water quality); increase stream water temperature during the summer months (thermal loading) while decreasing winter water temperatures to levels causing a complete ice cover; decrease stream bank stability thereby increasing surface water siltation and habitat degradation; eliminate or drastically reduce the supply of large woody debris provided to streams (such material provides critical physical habitat features for numerous species of aquatic organisms; reduce a substantial proportion of food for aquatic insects which in turn constitutes a reduction in a significant proportion of food available for resident fish); stimulate excessive aquatic plant growth; and decrease the riparian corridor's ability to serve as a "reservoir" storing surplus runoff for gradual release back into the streams during summer and early fail low flow periods.

- An influx of stormwater drainage may cause aquatic habitat degradation due to the release of pollutants from developed areas. Such pollutants include gasoline, oil, heavy metals, road salt, fine silts, and coarse sediments.

- Nutrient enrichment from fertilizer runoff from manicured lawns will stimulate aquatic plant growth. Herbicide runoff from manicured areas may result in fish kills and water quality degradation.

Recommendations

The aquatic habitats and resources of the Birmingham Utilities parcels are best protected through the current land use management practices. Should there be future land use change, certain measures need be established in effort to mitigate for potential impacts to Fourmile Brook, the unnamed tributary streams, Great Hill Reservoir, and the associated wetlands. To this end, the Division recommends the following measures for incorporation in future development proposals within the Birmingham Utilities parcels:

1. Maintain, at a minimum, a 100 foot buffer zone of undisturbed habitat adjacent to the watercourses or reservoir. The buffer zone boundaries should be measured from either, (1) the edge of riparian inland wetland as determined by Connecticut inland wetland soil delineation methods or (2) in the absence of riparian wetlands, the edge of the stream or reservoir bank based upon bank-full conditions. Research has indicated that a buffer zone of this widths prevents damage to aquatic ecosystems that are supportive of diverse species assemblages. Buffers absorb surface runoff, and the pollutants they may carry, before they enter wetlands or surface waters. Please refer to the attached documentation in the Appendix presenting Fisheries Division policy and position regarding riparian buffers for additional information.
2. If required, stream crossing structures should be of span bridge or arch culvert design. These structures most adequately preserve physical in-stream habitat and do not create impediments to fish migration. Ideally, required stream crossings should be located at the site of previous crossings.
3. Institute "phased" site development. An approved and completely functional stormwater management system should be installed initially.
4. Establish comprehensive erosion and sediment control plans with mitigative measures (haybales, silt fence, etc.) to be installed prior to and maintained through all development phases. Land clearing and other disturbance should be kept to a minimum with all disturbed areas being protected from storm events and re-stabilized in a timely manner.
5. Limit liming, fertilizing, and the introduction of chemicals to developed land susceptible to runoff into streams or wetlands.
6. Regulated activities adjacent to riparian buffer zones should be conducted during historic low precipitation periods of the year. Reduced precipitation periods of summer to early fall provide the least hazardous conditions when working near sensitive aquatic environments.
7. Regulated activities within or directly adjacent to Fourmile Brook, the unnamed tributary streams, or Great Hill Reservoir should be conducted during the period of June 1 through September 30.

5. The Natural Diversity Data Base

The Natural Diversity Data Base maps and files have been reviewed regarding the project site. According to our information, the following state listed species (R. C. S. A. Section 26-306, updated 1998) have been historically reported from the vicinity of the site:

- Platanthera hookeri, State Special Concern - Historic
  - Hooker's Orchid
  - Habitat: rich dry woods
  - May - July

- Cypripedium parviflorum, State Special Concern
  - Yellow Lady-slipper
  - Habitat: mesic woods, moist or wet low places
  - May - June

- Coeloglossum viride, State Special Concern
  - Long-bracted green orchid
  - Habitat: moist woods
  - May - August

It is recommended that a botanist conduct a survey of the site to determine if these species are present. If any of the state listed species are located, these areas should be preserved. Specifically, the location of a proposed school facility and recreation areas should be placed to avoid impacts to populations of state listed species if they are present.

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

It is now possible for you to conduct an initial endangered species review using the "State and Federal Listed Species and Significant Natural Communities" maps available for viewing through each town's Town Hall. The Town Planner should have a copy of the map and instructions on how to use the maps. This map shows the generalized locations for listed species and communities as gray-shaded areas on a 1:24,000 scale map of the town.

6. Vegetation

The Birmingham Utilities Property which has been offered to the town of Oxford for municipal uses has excellent potential as open space for passive recreation. Site limitations make development of a more intensive nature such as school facilities and or recreation facilities more difficult.

This property has been divided into four parcels. Three of these parcels were reviewed in 1984 by the King's Mark Environmental Review Team. The forest vegetation map, vegetation descriptions and management considerations which were developed at that time are still valid with minor updates. Many of the accessible portions of these parcels were harvested of their sawtimber size trees prior to the 1984 environmental review. The trees which are present today are 14 years older and appear to be growing at a reasonable rate. However, few have become large enough to warrant another sawtimber harvest at this time. Many of the areas that were designated as old field at the time of the last review are now in transition to young mixed hardwood stands. Since the time of the 1984 environmental review the sawtimber size softwoods which were located in the central portion of parcel C were harvested leaving the smaller hardwoods. (For a detailed description of the vegetation found on parcels C, D2, and F please see the vegetation section of the 1984 Environmental Review Team Report found in Appendix A).

The vegetation which is present on the ±99 acre Parcel E falls into five broad categories. These include Mixed Hardwoods, Hardwood/Softwood, Old Field, Open Field and Hardwood Swamp. Below are brief descriptions of each of these vegetation categories. The location and acreage of these areas were obtained from 1995 aerial photographs and are only approximate. They are depicted on Figure 8 the Forest Vegetation Map. A more comprehensive inventory of the herbaceous vegetation which is present in each of these categories should be made at different times throughout the year by a botanist.

A. Mixed Hardwoods

The Mixed Hardwood type totals approximately 46 acres. Most of this area was harvested more than twenty years ago. Today this forest is made up of reasonably healthy small sawtimber size trees (11" in diameter at breast height (d.b.h.) and larger) and pole size trees (5" to 11" d.b.h.) which range from 50 to 100 years of age. Larger and older trees are present but they are few in number and widely scattered. The overstory is dominated by black birch, red maple, sugar maple, white ash, black cherry, sassafras, black gum and occasional tuliptree. Hemlock, shagbark hickory, black oak and yellow birch are present in the transition zone between this type and the hardwood/softwood type. Red oak, black oak, white oak, hickory, red maple, sassafras and black cherry occupy the narrow bands of hardwoods which jut out into the open

fields. The understory vegetation which is present throughout includes hardwood tree seedlings, flowering dogwood, barberry*, maple leaved viburnum, eastern hophornbeam, American hornbeam, azalea, beaked hazelnut, American chestnut sprouts, witch hazel, highbush blueberry, and occasional spice bush. Ground cover vegetation includes poison ivy, Virginia creeper, green briar, raspberry, Canada mayflower, wood aster, club moss, evergreen wood fern, hayscented fern, Christmas fern and many other species of grasses, sedges and wild flowers.

B. Hardwood/Softwood

Approximately 24 acres of the hardwood/softwood vegetation type are present within this parcel. Pole to small sawtimber size eastern hemlock, white oak, black oak, chestnut oak, red oak, black birch, red maple, yellow birch, sugar maple, American beech, shagbark hickory, mockernut hickory and pignut hickory make up the overstory. Understory vegetation includes hemlock seedlings, hardwood tree seedlings, mountain laurel, highbush blueberry, sweet pepperbush, moosewood, witch-hazel, maple leaved viburnum, eastern hophornbeam and American hornbeam. Poison ivy, club moss, Christmas fern, Canada mayflower and sedges were observed as ground cover.

C. Old Field

The old field vegetation type occupies about 13 acres of this site and may be found in several locations. The vegetation which is present in these areas is variable. This is primarily due to soil moisture differences and the timing of the establishment and spread of hardwood and softwood shrubs and trees. Eastern red cedar are dominant with old field juniper, white pine, flowering dogwood, gray-stemmed dogwood, red maple, black cherry, choke cherry, quaking aspen, speckled alder, highbush blueberry, multiflora rose*, autumn olive*, barberry*, maleberry, arrowwood, crab apple, bayberry, Tartarian honeysuckle*, Japanese honeysuckle*, and staghorn sumac which are scattered throughout. Ground cover vegetation is comprised of grasses, sedges, poison ivy, goldenrod, ragweed, raspberry, cinquefoil, Queen Anne's lace, milkweed, thistle, daisy fleabane, spirea, meadowsweet and other wildflower and weed species.

D. Open Fields

The open field vegetation type makes up about 9 acres of this parcel. The vegetation which is present in these areas is dominated by grasses, sedges, wild flower and weed species with multiflora rose*, maleberry and hardwood tree seedlings encroaching into some areas. Some of the wild flower and weed species which were observed include daisy fleabane, ox eye daisy, black-eyed Susan, milkweed, Queen Anne's lace, goldenrod spp. and ragweed spp.

E. Hardwood Swamp

There are approximately 7 acres of hardwood swamp present within parcel E. These wetland areas follow the drainages and are somewhat variable with all size classes and age classes of trees represented. Each wetland is dominated by red maple with

occasional sugar maple, black gum, white ash, American elm, yellow birch, black birch, tuliptree and hemlock intermixed. Many of the larger trees in these wetland areas have cavities which make excellent den sites for many species of wildlife. Understory vegetation includes spice bush, sweet pepperbush, highbush blueberry, swamp azalea, winterberry, witch-hazel, multiflora rose*, swamp rose and barberry*. Skunk cabbage, false hellebore, tussock sedge, club moss, sphagnum moss, poison ivy, Virginia creeper, green briar, cinnamon fern, Christmas fern, sensitive fern, evergreen wood fern, royal fern, steeplebush, meadowsweet, Canada mayflower, aster spp., sedges and other wild flower species are present as ground cover.

***Invasive exotic vegetation has become establishedon some of the review site. Of special concern are several invasive plant species which have the potential to become major components of the ecosystem by out-competing with native species. These include autumn olive, Japanese honeysuckle, Tartarian honeysuckle, barberry and multiflora rose. Although many of these species provide wildlife with food and cover, they are aggressive competitors with native plant species. Mechanical removal of these plants may be difficult, but it is effective. In some areas the presence of one or more of these species has precluded the establishment of other more desirable native species.**

Management Considerations

The maintenance of a healthy forest environment is feasible for this property in the long run. The removal of risk and hazard trees and the maintenance of healthy vigorous trees which are less likely to be adversely affected by insect and disease infestation should be of major concern in the management of this property. In the future, improvement focused on the removal of unhealthy and damaged trees which are competing with trees of high potential could be implemented within the mixed hardwood and hardwood/softwood vegetation types. Periodic harvests aimed at releasing crop trees, by removing poor quality competitors, will result in a healthier, more stable forest condition. To reach a healthy and productive state, individual forest stands should be periodically evaluated to determine present and future management needs.

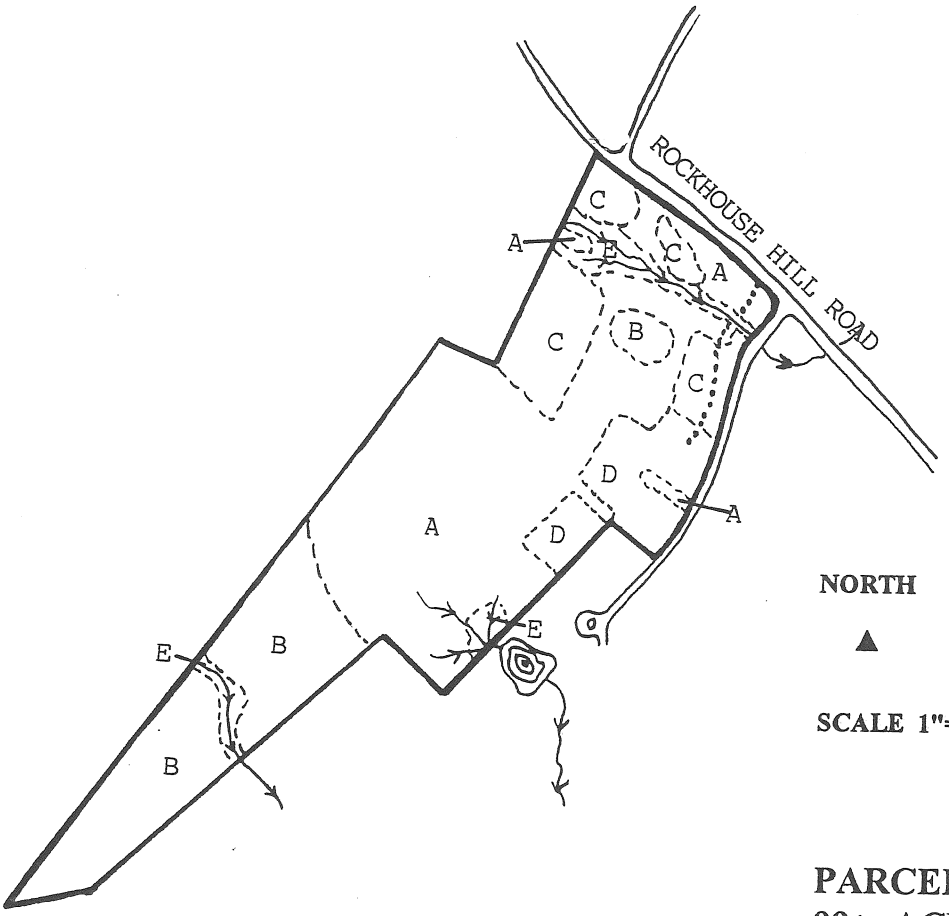
A Public Service Forester from the Department of Environmental Protection may be contacted at (860) 295-9523 to provide basic advice and technical assistance in woodland management. These services are provided free of charge. Services of a more intensive nature are available at a fee from Certified Professional Foresters. A directory of Certified Forest Practitioners is available from the State of Connecticut Division of Forestry (860) 424-3630.

Trees and forests have value in reducing climatic extremes, controlling runoff, filtering out pollutants from the air and water, reducing noise, providing aesthetic enjoyment, creating wildlife habitat, recharging aquifers, supplying wood fiber and functioning as a carbon sink. Healthy forests provide these long term amenities. Therefore a good relationship between development and the retention of forested open space is essential if generations to come are to enjoy a high quality of life.

Figure 8

FOREST VEGETATION MAP

Birmingham Utilities Property Town Acquisition Oxford, CT



LEGEND

PROPERTY BOUNDARY

STAND BOUNDARY

PAVED ROAD

WOODS ROAD/TRAIL

STREAM

POND

VEGETATION TYPES

A. Mixed Hardwoods.....46+- ACRES

B. Hardwood/Softwood...24+- ACRES

C. Old Field.....13+- ACRES

D. Open Field.....9+- ACRES

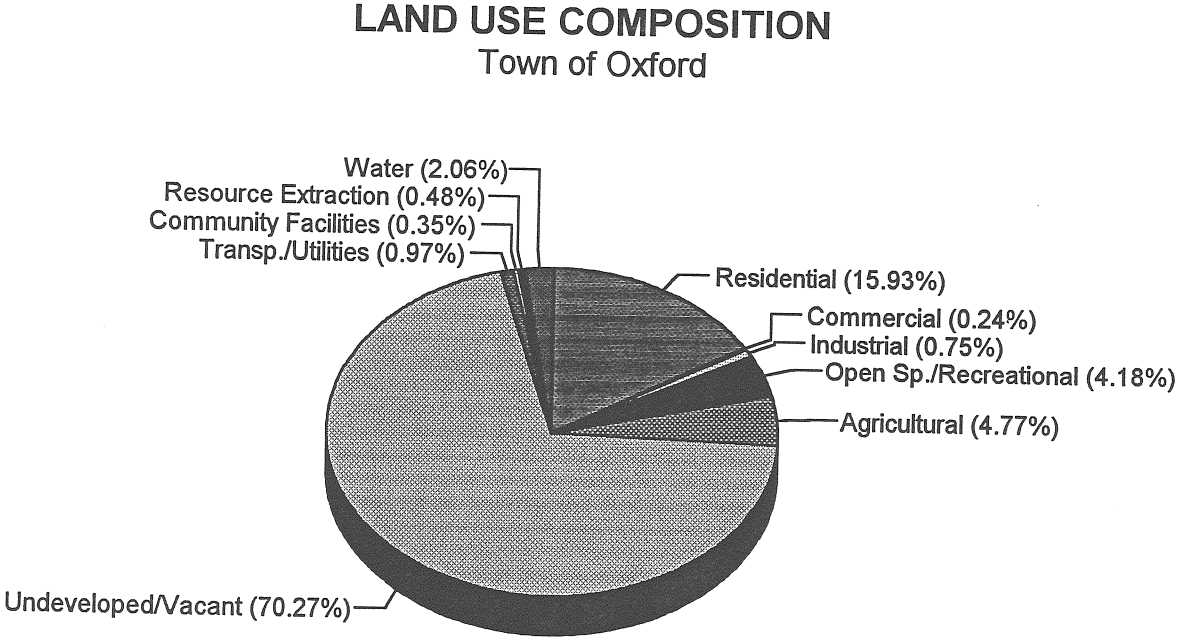
E. Hardwood Swamp.....7+- ACRES

7. Planning Considerations

The Town of Oxford is situated within the Central Naugatuck Valley Region, sharing municipal boundaries with Middlebury, Naugatuck, Beacon Falls, Seymour, Shelton, Monroe, Newtown, and Southbury. The Housatonic River forms Oxford's southwest boundary with Shelton, Monroe, and Newtown. The Birmingham Utilities property, located in the southern portion of Oxford, lies between the towns of Oxford and Seymour. On the Oxford side of the boundary, the property lies within the Town's Residence District A (1.5 acre) Zone. Adjacent property in Seymour, meanwhile, is zoned R40 (one lot/40,000 sf). There is currently no coordinated effort between the two towns to manage and promote the proper stewardship of the site. The property on the Oxford side is divided into four parcels: C, D2, E, and F. Current proposals for the two parcels in question relating to this study (parcels C and D2), include passive recreational and the possible construction of a high school, mostly likely somewhere on parcel C.

As the enclosed land use map (Figure 10) and pie chart (Figure 9) below indicate, Oxford is a predominantly rural town of 9,370 residents.

Figure 9



SOURCE: Council of Governments of the Central Naugatuck Valley

Based on a 1990 land use survey conducted by the Council of Governments of the Central Naugatuck Valley (COGCNV), over 70% of the town was classified as vacant or undeveloped. A distant second in land coverage was low-density residential, covering just under 16% of the total town area. Agricultural and Open Space/Recreational land uses together comprised less than 9% of Oxford's landmass. Although Oxford's housing stock is evenly distributed throughout the town, a majority of the town's recreational and open space uses appear to be concentrated mostly in the northern portion and far western corner of the town. Noticeably lacking, when studying the land use map, are any significant recreation and open space uses available in the southeast quadrant of Oxford. This suggests a need for passive or active recreational uses in the vicinity — a need that at least a portion of the Birmingham Utilities site could fulfill.

Existing Plans

Oxford Plan of Development: This plan, completed in 1991, advocates preserving, protecting, and enhancing the rural scenic character of Oxford. Among the stated goals of the plan are to establish an open space and recreation system for the pursuit of both active and passive recreational opportunities, and to establish an open space system which is linked to other open spaces and parks. In what could potentially be a prophetic warning for the future, the plan states the following:

> **The classic mistake that many communities make is the failure to plan for the necessary open space or recreational facilities until they are needed. By then, planning is difficult, and acquisition is impossible, or at best, extremely expensive.**

Seymour Plan of Development: Regarding open space, the plan recognizes that the most appropriate use for certain environmentally sensitive properties is for open space and conservation purposes. Areas along major streams and adjacent to major water bodies (including Great Hill Reservoir) are designated on the proposed land use map as open space.

Conservation and Development Policies Plan for Connecticut 1998-2003: The State Plan categorizes the Birmingham Utilities property as both a Preservation Area and Rural Land. Identified as a conservation priority 2, Preservation Areas are typified as Class I type water supply lands, floodways, and inland wetland soils. The strategy here is to foster the identification of significant resource, heritage, recreation, and hazardous areas of statewide significance, and minimize structural development. Rural lands, meanwhile, are classified as a conservation priority 4. The stated strategy with regards to rural lands is to avoid support of structural development forms and intensities which exceed on-site carrying capacity for water supply and sewage disposal, and therefore cannot function indefinitely on a permanent basis.

Summary of Previous ERT Study: Ansonia-Derby Water Company Lands, 1984

The 1984 report identified factors such as wet soils, steep slopes, and shallow-to-bedrock conditions that typify a majority of what is now parcel C, plus adjacent property on the Seymour side of the Town-line. The study stated that these characteristics severely limit urban development on the majority of the site (then referred to as the Great Hill Reservoir Tract). According to the study, a majority of the property best suited for development of a limited scope is situated on the Seymour side (215 acres), whereas only 46 acres of what is now parcel C was considered to be development-suitable land.

The ERT study further states, however, that a comprehensive erosion and sediment control plan should accompany any development plan. Furthermore, a minimum 100 foot vegetative buffer around Great Hill Reservoir should be considered. Finally, the report identified portions of the tracts as presenting good opportunities for active or passive recreational use.

Proposed Future Land Uses

The Town of Oxford is considering the purchase of four parcels (C, D2, E, and F), all located on the Oxford side of the Town-line. Possible uses being considered include a school facility and recreation facilities, either of a passive or active nature, or both. The Town of Seymour also has the opportunity to acquire utility-owned parcels located on their side of the Town-line, although no consideration has currently been given. Previous proposals here have included the construction of a golf course south of Cemetery Road. That has since fallen through and has been replaced with a proposal to construct a Senior Living Facility.

The scope of the this section of the ERT study, however, is limited to parcels C and D2, which are discussed as follows:

Parcel C: At approximately 252 acres, parcel C is the largest of the four Oxford parcels. A stream (Fourmile Brook) runs roughly parallel with Holbrook Road, which partially forms the boundary between parcel C and the Town of Seymour. Parcel C is among some of the sites under consideration by the Town for a high school facility anticipated to house approximately 750 students. Two primary concerns are raised with this proposal:

- Site Location: Wetlands coverage of parcel C is extensive. Should the construction of a school facility be constructed on the parcel, the best site location would be in the northeast corner where wetland disturbance would be minimized.

- Traffic Management: Using the average trip rate from the Institute of Transportation Engineers' (ITE) Trip Generation manual, average vehicle trip ends during the typical morning peak hour (between 7 AM and 9 AM) and afternoon peak hour (between 4 PM and 6 PM) are estimated to be 345 and 113 trips per hour respectively.

Currently, three primary access points lead into the interior of the parcel. One point of entry is via an easement leading off Rockhouse Hill Road (Route 188). The other two are off Holbrook Road north of Cemetery Road. The entrance off Rockhouse Hill Road is deemed undesirable, given the downward steepness of the accessway into the interior of the parcel. Extensive wetlands located at the base of this steep slope argues further against Rockhouse Hill Road as the main access point to the parcel. Therefore, the two points of entry off Holbrook Road are the more viable candidates for access to the property. However, widening of Holbrook Road may be necessary should the Town decide to construct a high school on the site. The narrow width of the current roadway could make it potentially difficult for school bus drivers to enter and exit the school property. Further complicating the matter is the fact that Holbrook Road is a town road maintained by the Town of Seymour.

Parcel D2: The central feature of this parcel is Great Hill Reservoir. Although largely lying within the Town of Seymour, a portion of the water body extends into the Town of Oxford. The land's recreational potential, coupled with the steepness of the surrounding terrain, argues for preservation of the property as a passive recreational area with possibly limited active recreation uses. This parcel (along with parcel D1 on the Seymour side) is perhaps the best opportunity for the two towns to enter into an agreement to preserve the site for this purpose. Given that Great Hill Reservoir (the site's main feature) is bisected by a municipal boundary, an inter-municipal agreement to jointly manage the site is strongly encouraged.

Multi-Municipal Land Management

The potential sale of this land provides an opportunity for the towns of Oxford and Seymour to unite in a coordinated effort to ensure that the parcels comprising the Birmingham Utilities land are properly managed and promoted for their highest and best use. Similar land holding agreements between two or more towns have been utilized throughout New England. One such local arrangement, the Metacomet Ridge Conservation Compact, is but one example of the pooling of resources from several municipalities in an effort to preserve a natural resource, in this case, the trap-rock ridges that run north-south through central Connecticut. Involving over a dozen Connecticut towns from Long Island Sound to the Massachusetts border, the agreement is of a much larger scale than anything that would be envisioned between Oxford and Seymour. The agreement (see Appendix C) was written by Meriden's Conservation Commission and is designed to affirm each town's commitment to

protecting the hilltops from development or activities that would mar the valuable resource.

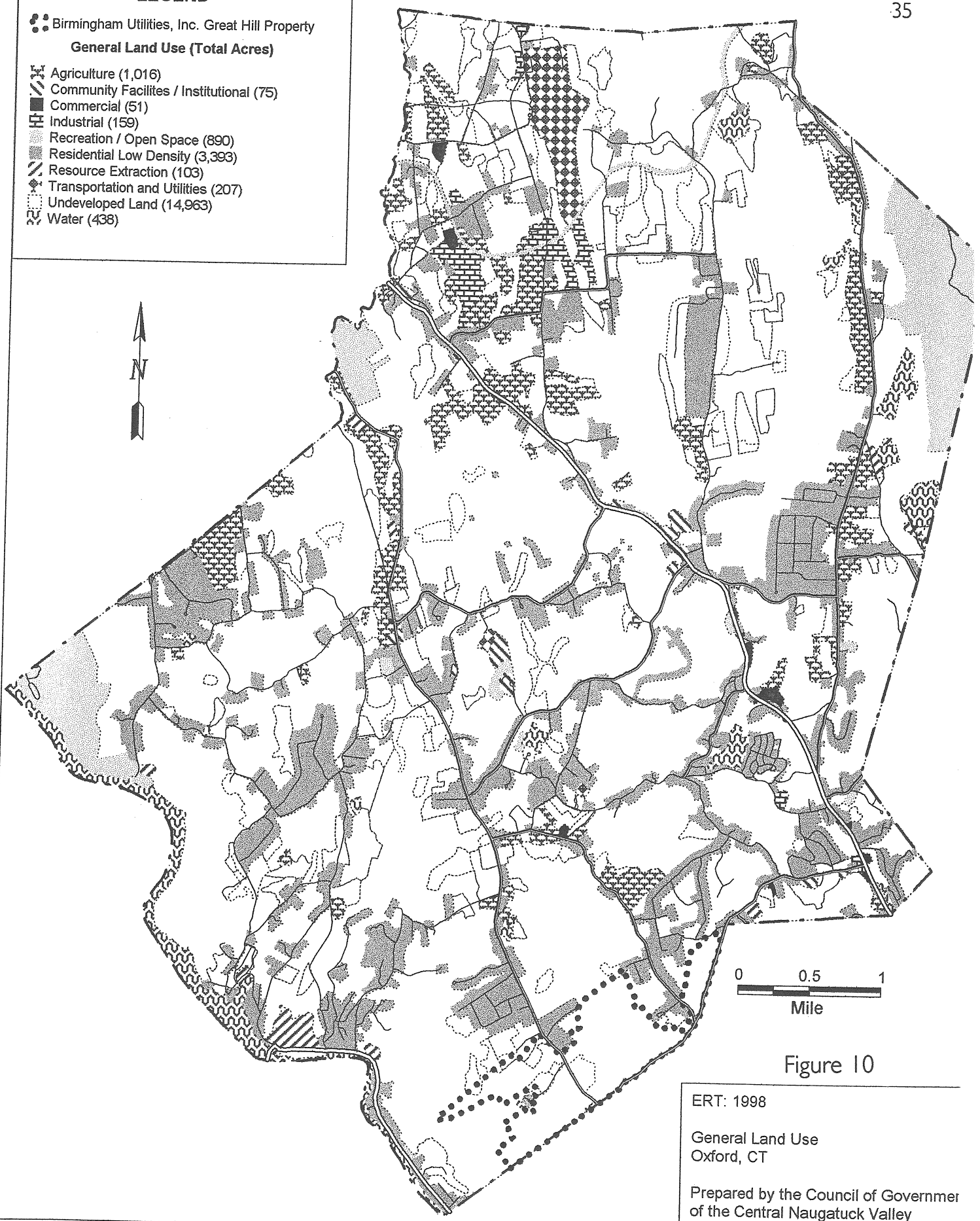


Figure 10

ERT: 1998

General Land Use
Oxford, CT

Prepared by the Council of Governmer
of the Central Naugatuck Valley

8. Archeological Review

A review of the archaeological site files and maps of the state of Connecticut shows no known archaeological resources on the project area; however, there is a record of one prehistoric Native American encampment located immediately adjacent to the property to the northeast. This encampment represents Native American hunting and gathering activities approximately 4,000 years ago and archaeological recovery at the site includes full grooved axes, a ground celt and a number of unidentified stone projectile points.

In addition, Quaker Farms represents one of the earliest settlements in the Oxford/ Seymour area and consists of a series of old 18th century farmsteads. There is at least an historic foundation and a possible school house feature as well as other stone ruins still in place. The Quaker Farms area has had a great deal of land use by Native American and early colonial settlers.

The Office of State Archaeology recommends an archaeological survey for any development planned for the parcel. In the northeast section along the Four Mile Brook, the Office anticipates Native American encampments and also toward the southwest where there is the possibility of outcrops of bedrock which could provide natural ledges for rock shelter sites for Native American occupation. The area should be surveyed for historic ruins. Those ruins should be documented and evaluated for their historic significance within any land use application.

The parcel in question is not very large and as a result an archaeological survey of the area can be conducted rather expeditiously. The Office of State Archeology recommends that the town of Oxford consider these cultural resources in the possible acquisition and development of this property. The Office of State Archaeology is prepared to offer any technical assistance to the town in conducting the above archaeological survey.

Appendix A

1984 ERT Report
Ansonia-Derby Water Company Lands

Great Hill Reservoir Tract

For Appendix Information please contact
the ERT Office at 860-345-3977

ABOUT THE TEAM

The King's Mark Environmental Review Team (ERT) is a group of environmental professionals drawn together from a variety of federal, state and regional agencies. Specialists on the Team include geologists, biologists, soil scientists, foresters, climatologists and landscape architects, recreational specialists, engineers and planners. The ERT operates with state funding under the aegis of the King's Mark Resource Conservation and Development (RC&D) Area - an 83 town area serving western Connecticut.

As a public service activity, the Team is available to serve towns within the King's Mark RC&D Area - *free of charge*.

Purpose of the Environmental Review Team

The Environmental Review Team is available to assist towns in the review of sites proposed for major land use activities or natural resource inventories for critical areas. For example, the ERT has been involved in the review of a wide range of significant land use activities including subdivisions, sanitary landfills, commercial and industrial developments and recreation/open space projects.

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 site and highlighting opportunities and limitations for the proposed land use.

Requesting an Environmental Review

Environmental reviews may be requested by the chief elected official of a municipality or the chairman of an administrative agency such as planning and zoning, conservation or inland wetlands. Environmental Review Request Forms are available at your local Soil and Water Conservation District and through the King's Mark ERT Coordinator. This request form must include a summary of the proposed project, a location map of the project site, written permission from the landowner/developer allowing the Team to enter the property for the purposes of a review and a statement identifying the specific areas of concern the Team members should investigate. When this request is reviewed by the local Soil and Water Conservation District and approved by the King's Mark RC&D Executive Council, the Team will undertake the review. At present, the ERT can undertake approximately two reviews per month depending on scheduling and Team member availability.

For additional information regarding the Environmental Review Team, please contact the King's Mark ERT Coordinator, Connecticut Environmental Review Team, P.O. Box 70, Haddam, CT 06438. The telephone number is 860-345-3977.