

# **NEWTON PROPERTY**

**NORTH BRANFORD,  
CONNECTICUT**

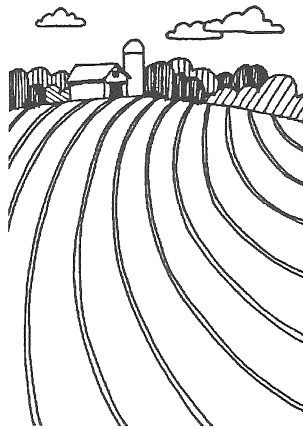
## **KING'S MARK ENVIRONMENTAL REVIEW TEAM REPORT**

**KING'S MARK RESOURCE CONSERVATION & DEVELOPMENT AREA, INC.**

# NEWTON PROPERTY

NORTH BRANFORD, CONNECTICUT  
MAY 1994

## Environmental Review Team Report



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

Haddam and Wallingford, Connecticut

for the  
North Branford Planning and Zoning Commission

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 Commission and the Town. The results of the Team action are oriented toward the development of a better environmental quality and long-term economics of the land use. The opinions contained herein are those of the individual Team members and do not necessarily represent the views of any regulatory agency with which they may be employed.

## ACKNOWLEDGEMENTS

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.

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I would also like to thank Richard Schultz, the Town Planner and Kurt Weiss, the Town Engineer, for their cooperation and assistance during this environmental review.



# EXECUTIVE SUMMARY

## INTRODUCTION

The environmental review for the 15± acre Newton Property was requested by the North Branford Planning and Zoning Commission. The field review took place on March 17, 1994.

The Town is studying the feasibility of developing a campus-type industrial park (commercial/business/light industry) in the Northford section of town. The industrial park site has been identified as the 40 acre Clintonville Road Associates Property and 15± acres of the adjacent Newton Property. This report focuses on the feasibility of the Newton Property being included in the industrial park proposal. Specific areas that are addressed include: the suitability of rezoning this parcel, affects on the natural resource base and guidelines for land use planning.

The review process consisted of 4 phases:

- 1) Inventory of the site's natural resources (collection of data);
- 2) Assessment of these resources (analysis of data);
- 3) Identification of resource problem areas; and
- 4) Presentation of planning, management and land use guidelines.

## GEOLOGY

The geologic material present is predominantly till, with alluvium found in the river valley. Stratified drift is found on the adjacent Clintonville Road Associates Property, but it is not known if the stratified drift continues underneath the till. This may be important to know if any type of surface impoundments are planned since the stratified drift would conduct more groundwater away from the site.

Depending on the regulations used to develop the site care should be taken in controlling stormwater runoff, especially if there are large paved areas. No development should take place in the floodplain of the Muddy River, and again care should be taken so that the Muddy River is protected from wastes or spills.

At the present time, the residentially zoned Newton Property is separated from the industrially zoned Clintonville Road Associates property by a significant difference in elevation that forms a natural boundary between the two. If the Newton Property is rezoned this boundary would be removed and the option of continuing a wildlife corridor/greenbelt would be lost.

## SOIL RESOURCES

Soils within this parcel have developed in a variety of different parent materials. Soils in the steeper, upland portions and in the wetlands in the southwestern corner of the site have formed in glacial till. Soils between the Muddy River and the forested wetlands formed in glacial outwash, and soils in the floodplain have formed in recent alluvial material.

Use of this property for continuation of an industrial park would require that the steeper glacial till uplands be levelled, graded and shaped. It is likely that there would be adverse impacts to the wetlands on and off-site from these activities. There is also the possibility of seepage from the faces of cut slopes that would necessitate the installation of a properly designed drainage system.

A comprehensive erosion and sediment control plan that is strictly followed would be very important in order to alleviate potential surface water quality problems arising from the development of the site.

With development of this parcel for an industrial park it seems that wetland values would be lost and that the chance to join wildlife corridors/open space would be lost.

## THE NATURAL DIVERSITY DATA BASE

The Natural Diversity Data Base shows no known extant populations of Federal or State Endangered, Threatened or Special Concern Species occurring at the Newton Property.

## INLAND WETLAND REVIEW

Using aerial photos it was determined that 20% of the site consists of the Muddy River and floodplain, 10% is wetlands, 10% is mature hemlock forest on the slopes adjacent to the Muddy River floodplain, 10% is covered with deciduous forest and 50% is in agricultural production.

Most of the site currently drains southward to 1± acre forested wetland which contributes flow to a unnamed watercourse that joins the Muddy River in North Haven. The 1 acre wetland on the southwest boundary is a scrub-shrub to forested-type wetland.

The Muddy River and its associated floodplain and wetlands is a critical, linear habitat that should be preserved. The area serves as flood control, wildlife habitat, and has visual/aesthetic quality. The forested wetland in the southwestern portion of the site functions as a nutrient/sediment trap for upgradient agricultural areas. It also has great value for wildlife habitat and its ecological integrity. It may also serve to control flooding downstream.

If this site is used as an extension of the industrial park it will require extensive cutting and filling of the natural grades on site. Direct impacts would probably include filling to create buildable area and this would significantly effect all the functional values of the wetlands. Indirect impacts may result from significant cuts near wetlands which could negatively effect their hydrology, or improper deposition of stormwater run-off from the developed areas. Development near the wetlands without a significant buffer would effect their value as wildlife habitat. The mature coniferous forest now provides a valuable buffer to the Muddy River floodplain and also provides wildlife habitat.

It is recommended that development of this parcel be kept to a scale that would allow for the retention of the valuable wetland in the southwest section of the parcel, the mature hemlock trees, and the Muddy River floodplain (approximately 40% of the site). The remainder of the site appears to encompass approximately 9 acres, without taking into account zoning setbacks. This may not make it profitable to include in the industrial park. Careful assessment of alternative project designs/alternative land uses should be undertaken before a commitment of significant resources is made toward industrial development of this site.

## FISHERIES RESOURCES

The Muddy River is a stream contributory to the Quinnipiac River. Adjacent to the site the river is of moderate gradient containing sequential riffle-pool instream habitat. The river is managed by the DEP Fisheries Division as a put-and-take coldwater trout fisheries. It is stocked annually in the towns of North Haven and Wallingford.

The diverse group of resident, anadromous and catadromous finfish species were found when it was last sampled by DEP in 1990.

Surface waters of the Muddy River in this area are classified by DEP as "Class A". Designated uses include potential drinking water supply, fish and wildlife habitat, recreational use, agricultural and industrial supply, and other legitimate uses.

The 15± Newton Property does not seem to be a complimentary parcel to the adjacent industrial site. The access would require a large cut, and then large amounts of fill to make the site suitable for infrastructure development. Soil and stormwater run-off are two major concerns because of proximity to the Muddy River. Erosion and sediment deposition can reduce survival of fish eggs and aquatic insects, fill in pool habitat and impair overall fish survival. The Muddy River adjacent to the Newton Property contains very little evidence of sediment accumulation at the present time. Stormwaters from development could contain a variety of pollutants that would harm aquatic organisms and nutrients could fertilize waters causing water quality degradation.

The Town should consider leaving this parcel as open space because of its rural character, the river, floodplain and wetlands, the unfavorable topography and its generally high environmental quality.

## LAND USE PLANNING STRATEGIES

The Newton Property is zoned for residential use, and it is presently part of an existing farm that dates back to the late 1700's. The site includes frontage on a narrow rural residential street. To the west is the 40 acre industrially zoned Clintonville Associates Property, to the southeast is a residential development and to the north is the Muddy River and the town of Wallingford. The character of the area is rural. Public water and sewer could be extended to serve the site.

The high quality of the Muddy River needs to be protected, and a 100 foot streambelt buffer should be respected with regard to building and site development. The building envelopes should not include wetlands, transition areas or flood plain. The abutting land in the town of Wallingford is zoned for 2 acre rural residential use, is part of an aquifer protection

district, and the town requires a 100 foot greenbelt buffer along the Muddy River in all commercial and industrial zones.

The State Conservation and Development Plan land use map depicts the area as a conservation area, under a subheading entitled Areas of Environmental Concern. The South Central Regional Council of Governments Plan of Development is a guide for broad based planning, which seeks to guide development to areas with adequate infrastructure and to protect environmentally sensitive lands.

In the development proposal that was discussed (joining the 15± acre Newton site with the 40 acre Clintonville Road Associates site to create a commercial/industrial/business park) the *Firelite* entrance on Route 22 would be used for access. The Town needs to review the need for another permanent or emergency access to an expanded industrial park, as well as giving consideration to creating new comprehensive standards to regulate "Campus-like" or "Business Park" developments. These regulations should include detailed design elements to minimize site disturbance and maximize open space. Issues to consider include: maximum length of roadways, amount of impervious surface, total land and wetland disturbance, grading and slope considerations, buildable area, setbacks and stormwater management, design of buildings, lighting, noise control, air pollutions, odors, hazards, etc. Traffic impact studies should address: impact to state arterials, intersections and local roads in North Branford, Wallingford and North Haven; coordination with ConnDOT, signalization improvements, analysis of present roadway conditions, capacity, volumes, sight lines, etc.

From an existing land use perspective, the creation of a commercial/industrial/business park would not be a top priority for this parcel. A substantial amount of land disturbance would have to take place for this site to be developed for an "industrial use". It is felt that the site should remain low density rural residential. It seems that the municipal Open Space Subdivision regulations are a better fit for the property and could allow for cluster housing on the higher, flatter areas, while retaining the farmland and open spaces features found on the site.

## ARCHAEOLOGICAL REVIEW

A review of the State of Connecticut Archaeological Site Files and Maps show a known prehistoric Native American encampment on the property owned by the Clintonville Road Associates (the 40 acre adjacent parcel). This archaeological site is located in the immediate floodplain of the Muddy River in the western portion of the site.

Since this property was not reviewed by the ERT, the State Archaeologist contacted the Town directly to discuss his concern for the preservation of this site. After a discussion with the Town Planner, the State Archaeologist is satisfied that the impact to the archaeological resource will be avoided as the project is presently planned. Should plans change the Office of the State Archaeologist would like the opportunity review any new plans.

# TABLE OF CONTENTS

	Page
Acknowledgements -----	ii
Executive Summary -----	iv
Introduction -----	1
Land Use Map -----	3
Geology -----	4
Topographic Map -----	6
Soils -----	7
Open Space Plan Map -----	9
Soils Map -----	10
Soil Interpretation Report -----	11
Non-Technical Soils Report -----	12
Inland Wetland Review -----	14
The Natural Diversity Data Base -----	17
Fisheries Resources -----	18
Land Use Planning Strategies -----	20
Archaeological Review -----	24

# INTRODUCTION

An environmental review was requested for a portion of the Newton Property (approximately 15 acres) by the North Branford Planning and Zoning Commission. The site is located in the Northford section of North Branford.

The Town is currently studying preliminary plans for the development of a campus-type commercial/light industrial park for this area. A recent economic development report recognized the 15 acre parcel and an adjacent 40 acre industrially zoned parcel (owned by Clintonville Road Associates) as having sufficient acreage, the availability of public sewers and water, proximity to I-91, and a sufficient work force available to warrant further study. This ERT study focuses on the 15 acre Newton Property. The Clintonville Road Associates Property was withdrawn from ERT consideration prior to the field review.

The 15 acre Newton Property is located at the rear of 600 Village Street, and is part of a larger farm parcel. This area is currently zoned one acre residential. The site is gently rolling to steep with an abrupt drop-off forming the boundary with the Clintonville Road Associates Property to the west. A portion of the Muddy River flows through the property. Other site features include floodplain and wetlands.

The Town has asked for assistance in determining the suitability of including the 15 acre Newton parcel in the proposed industrial park. Specific concerns centered on the natural resource base and how it would be affected by the proposal and on land use suitability and planning.

## The Environmental Review Team Process

Through the efforts of the Town of North Branford and the King's Mark ERT, this environmental review and report was prepared for the Town. This report primarily provides a description of the on-site natural resources and presents planning, management and land use guidelines. The review process consisted of four phases:

1. Inventory of the site's natural resources (collection of data);
2. Assessment of these resources (analysis of data);
3. Identification of resource problem areas; and
4. Presentation of planning, management and land use guidelines.

The data collection phase involved both field and literature research. The ERT field review took place on March 17, 1994. Mapped data or technical reports were also perused, and specific information concerning the property was collected. Being on-site allowed some Team members to check and confirm mapped information and identify other resources.

Once Team members had assimilated an adequate data base, they were able to analyze and interpret their findings. Results of this analysis enabled Team members to arrive at an informed assessment of the property's natural resource opportunities and limitations. Individual Team members then prepared and submitted their reports to the ERT coordinator for compilation into the final ERT report.

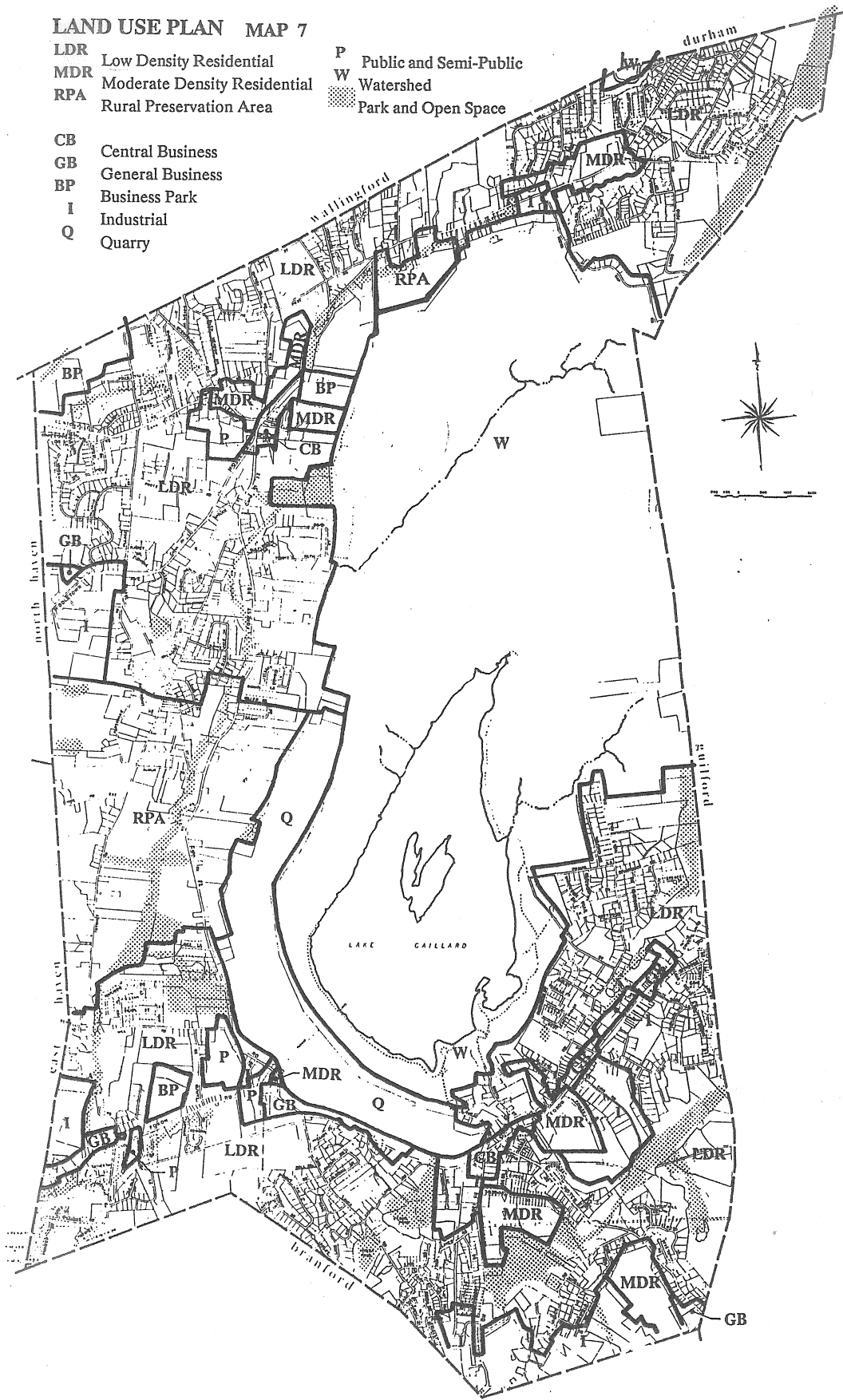
# LAND USE MAP

## North Branford Plan of Department



### LAND USE PLAN MAP 7

- LDR Low Density Residential
- MDR Moderate Density Residential
- RPA Rural Preservation Area
- P Public and Semi-Public
- W Watershed
- ☐ Park and Open Space
- CB Central Business
- GB General Business
- BP Business Park
- I Industrial
- Q Quarry





## GEOLOGY

The field review concentrated on the 15± acre Newton Property. Any comments on the Clintonville Road Associates Property are based on information from maps and aerial photos.

The geologic material in the 15± parcel is predominantly till, with the exception of alluvium in the river valley. The lower lying areas in the Clintonville Road Associates Property are predominantly ice-contact stratified drift, the remains of a glacial lake during glacial retreat 10,000 or so years ago. It is impossible to tell without drilling whether the stratified drift continues underneath the till or not. This could be important if a use for the site is planned that would include surface impoundments; stratified drift is more permeable than till, and would conduct more ground water way from the site.

The Town regulations for I-3 zoning allow up to 60% of the surface of the area of a lot to be covered with pavement or buildings. Since the size of both of these parcels is small, it is unlikely that developing either or both of these properties will by itself be enough to cause significantly greater flooding potential in the river basin. This is especially true because the Muddy River is a fairly large stream. If a large concentration of pavement is planned at the higher elevations on the site, steps should be to avoid channelizing runoff from buildings and parking areas. This can cause undesirable erosion and gulying effects.

Along the Muddy River itself, it is desirable to prevent development in the floodplain. If this requires extending the protected area beyond the usual 50 foot limit, this should be considered. It is also important to check contours for a 100-year flood and 150-year flood or 200-year flood; these could impact the proposed use for the site (please refer to the Land Use Planning Strategies section). Since sewers and not septic systems are proposed for the site, the presence of the river should not be a factor for sewage disposal, but it is important to recognize that any other wastes or spills will very quickly enter the river system, unless the site is carefully designed.

The topography of the area is such that most of the Clintonville Road Associates Property is at a significantly lower elevation than the Newton Property. With the present zoning, the knoll near the boundary of the two parcels is a significant barricade between present (or future) residential development and possible future industrial development. If the zoning on the Newton Property is changed, most of the barricade will be removed. The Town should consider if they want this to happen. Another possible option would be to design a wildlife corridor between the

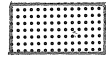
existing greenbelt to the south and the Muddy River, perhaps following the wetland inlet into the Newton Property as far as possible, and allow that corridor to act as a visual barricade between the industrial and residential sites. This would have the desirable side effect of connecting wildlife habitats.

## Reference

Flint, R.F., 1963. Geological Map of Branford Quadrangle, CT . Quadrangle Report #14, State of Connecticut Geological and Natural History Survey.

# TOPOGRAPHIC MAP

Scale 1" = 2000



Approximate Site



# SOIL RESOURCES

## General Soil Conditions

Soils within this parcel, as described in the National Cooperative Soil Survey of New Haven County, have developed in a variety of different parent materials. Soils of the Cheshire, Wethersfield and Yalesville series, observed in the steeper upland portions of the property, have formed in friable or compact glacial till, as have the Wilbraham soils found in wetlands in the southwestern corner of the parcel. Branford soils, located between the Muddy River and the forested wetlands, have developed in loamy deposits underlain by coarse-textured glacial outwash. The Rumney soils, observed within the floodplain immediately adjacent to the river bed, have formed in recent alluvial material. Physical properties of these soils are described in greater detail in the Nontechnical Soils Description Report, and soil limitations for land uses associated with the development proposed are demonstrated in the Soil Interpretation Report.

## Site Topography and Soil Erodibility

The wetter soils, which cross the parcel from the southwest to the northeast, are flanked by steep glacial till uplands. Use of the property for continuation of the commercial/industrial park would require that these steeper ridges be levelled and would necessitate considerable grading, shaping and hauling of soil materials thereafter. It is unlikely that needed land grading and smoothing could be accomplished without adverse impacts to wetlands both on and off the parcel. It is also probable that the depth of cuts required, especially at the eastern edge of the property, would result in considerable seepage from the face of such a cut slope, necessitating installation of a properly designed drainage system.

While surface soils within this property are of generally moderate erodibility, the required excavation would expose substrata over much of the area. The erodibility of subsoil layers is much higher than that of upper soil horizons, and, therefore, development of and adherence to a comprehensive soil erosion and sedimentation control plan would be of utmost importance in order to alleviate potential surface water quality problems.

## Inland Wetlands

It is difficult to envision development of this parcel as a commercial/industrial park without loss of those values inherent in on-site inland wetlands. In addition, the natural corridor joining open space along Clintonville Road with the Muddy River would certainly be severed with development of the parcel as proposed.

# OPEN SPACE MAP

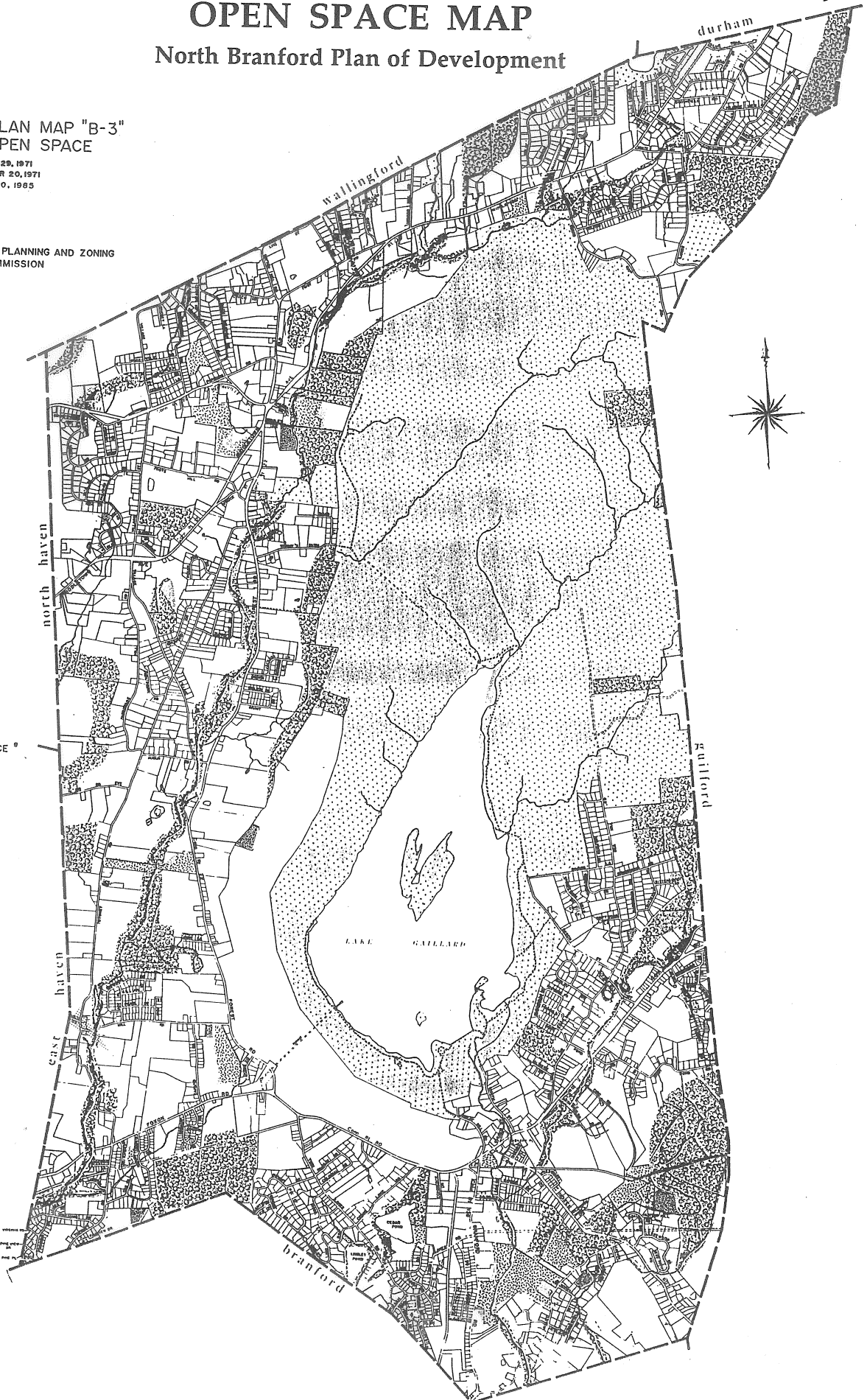
## North Branford Plan of Development



PLAN MAP "B-3"  
OPEN SPACE

ADOPTED: NOVEMBER 29, 1971  
EFFECTIVE: DECEMBER 20, 1971  
REVISED: AUGUST 20, 1985

NORTH BRANFORD PLANNING AND ZONING  
COMMISSION



- LEGEND
- PLANNED OPEN SPACE
  - EXISTING
  - WATER AUTHORITY
  - TOWN OWNED
  - LAND TRUST
  - OVER GREENBELT



# SOILS MAP

Scale 1" = 1320'





# Soil Interpretation Report

Map Symbol	Soil Name	Shallow Excavations	Small Commercial Buildings	Local Streets and Roads	Lawns, Landscaping, and Golf Fairways
BoB	Branford	SEVERE Cut banks Cave	MODERATE Slope	MODERATE Frost Action	SLIGHT
CsC	Cheshire	MODERATE Slope	SEVERE Slope	MODERATE Slope	MODERATE Slope
Rv	Bash	SEVERE Cut banks Cave Wetness	SEVERE Floods Wetness	SEVERE Wetness Floods Frost Action	SEVERE Wetness Floods
WkC	Wethersfield	MODERATE Dense Layer Wetness Slope	SEVERE Slope	MODERATE Wetness Slope Frost Action	MODERATE Slope
Ws	Wibraham	SEVERE Wetness	SEVERE Wetness	SEVERE Wetness Frost Action	SEVERE Wetness
YaB	Yalesville	SEVERE Depth to Rock	MODERATE Slope Depth to Rock	MODERATE Depth to Bedrock	SLIGHT

**SLIGHT** - A *slight* limitation indicates that soil properties generally are favorable for the specified use and that limitations are minor and easily overcome.

**MODERATE** - A *moderate* limitation indicates that soil properties and site features are unfavorable for the specified use, but the limitations can be overcome or minimized by special planning and design.

**SEVERE** - A *severe* limitation indicates that one or more soil properties or site features are so unfavorable or difficult to overcome that a major increase in construction effort, special design, or intensive maintenance is required. For some soils that are rated severe, costly measures may not be feasible.



# Nontechnical Soils Description Report

Map Symbol	Description
BoB	<p>BRANFORD SILT LOAM, 3 TO 8 PERCENT SLOPES This gently sloping, well drained soil formed in loamy over sandy and gravelly glacial outwash. It is on outwash plains and terraces. Depth to bedrock is commonly more than 60 inches below the surface. The water table is commonly below a depth of 6 feet. Permeability is moderate or moderately rapid in the surface layer and subsoil, and rapid in the substratum. Surface runoff is medium and the available water capacity is moderate.</p>
CsC	<p>CHESHIRE FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES This sloping, well drained soil formed in friable or firm glacial till. It is on hills, ridges and side slopes of the glaciated uplands. Depth to bedrock is commonly more than 60 inches below the surface. The water table is commonly below a depth of 6 feet. Permeability is moderate or moderately rapid in the surface layer, subsoil and substratum. Surface runoff is rapid and the available water capacity is high.</p>
RV	<p>RUMNEY VARIANT, SILT LOAM This nearly level, somewhat poorly to poorly drained soil formed in recent silty alluvial deposits, derived from acid, reddish, sandstone, siltstone, and shale. It is on floodplains. Depth to bedrock is commonly greater than 60 inches below the surface. The soil has a seasonal high water table at a depth of 6 to 18 inches from winter to spring. Permeability is moderate in the surface layer and subsoil, and moderate or moderately slow in the substratum. Surface runoff is slow and the available water capacity is moderate.</p>
WkC	<p>WETHERSFIELD LOAM, 8 TO 15 PERCENT SLOPES This sloping, well drained loamy soil formed in compact glacial till on uplands. It is on till plains, low ridges, and drumlins. Depth to bedrock is commonly greater than 60 inches below the surface. This soil has a seasonal high water table that is perched at a depth of about 2 feet for a short period in early spring. Permeability is moderate in the surface layer and subsoil, and slow or</p>

# Nontechnical Soils Description Report Cont.

Map Symbol	Description
Ws	<p>very slow in the dense substratum. Surface runoff is medium to rapid and the available water capacity is moderate.</p> <p>WILBRAHAM VERY STONY SILT LOAM These nearly level, poorly and very poorly drained soils formed in compact loamy glacial till. They are in depressions and drainageways of glacial till uplands. Depth to bedrock is commonly greater than 60 inches below the surface. Stones cover 8 to 25 percent of the surface. These soils have a seasonal high water table at or near the surface from fall to spring. Permeability is moderate in the solum and slow or very slow in the substratum. Surface runoff is slow and the available water capacity is moderate.</p>
YaB	<p>YALESVILLE FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES This gently sloping, well drained soil formed in loamy glacial till. It is on uplands occupying hills and ridges. Depth to bedrock ranges from 20 to 40 inches below the surface. The water table is commonly below a depth of 6 feet. Permeability is moderate or moderately rapid in the surface layer and subsoil, and moderately rapid in the substratum. Surface runoff is medium to rapid and the available water capacity is moderate.</p>

## INLAND WETLAND REVIEW

This section of the report will pertain only to the 15± acre Newton Parcel proposed for inclusion in a commercial/light industrial park that is being studied. Included in this section are observations of the wetland resources, the impacts that the proposed activities will have on those resources and recommendations for future development of this parcel.

### Existing Conditions

The study area is currently under agricultural production and is bordered by the Muddy River to the north, additional agricultural production to the east, residential and forested areas to the south and an abandoned gravel extraction area to the west. Access to this lot is currently from the east through the farmstead.

As a result of a stereographic inspection of 1" = 1000' aerial photographs of this parcel, it has been determined that approximately 20% of the 15± acres on this parcel consists of the Muddy river and its floodplain. Of the remainder of the site, approximately 10% appears to be inland wetland, 10% consists of a mature hemlock forest covering steep slopes bordering the Muddy River floodplain. Another 10% is covered with deciduous forest, while 50% of the parcel is in agricultural production.

The slopes on the site are moderate with steeper slopes along the floodplain and western boundary. Most of the site currently drains southward toward a low, forested, 1+ acre wetland area located on site which contributes flow to an unnamed watercourse flowing generally westward to join the Muddy River in North Haven (Clintonville). The 1 acre wetland on the southwest boundary of this site appears to be relatively unaffected by the surrounding development and agricultural activities. It seems to be a shrub-scrub to forested, shrub-scrub type wetland and is located in a topographic depression surrounded by forested slopes. More precise descriptions of the hydrological characteristics of this wetland were not possible due to snow cover which existed during field inspection.

In the northwest section of this parcel is a mature stand of coniferous trees, primarily eastern hemlock, situated on top of and along steep slopes leading down to the Muddy River floodplain.

## **Wetland Functional Values**

The Muddy River, with its adjacent wetland and floodplain soils, is a critical, linear habitat that should be preserved where it passes through this parcel. This area serves as flood control, wildlife habitat and visual/aesthetic quality, however its overall ecological integrity may have been somewhat impaired as a result of the surrounding agricultural land-use activities.

The forested wetland on the southwestern portion of this site functions very well as a nutrient/sedimentation trap for upgradient agricultural areas. The higher lands surrounding this wetland isolates it well from surrounding land-use, increasing its value as wildlife habitat and giving it more ecological integrity. By detaining stormwater flow at the top of its local watershed, it most likely serves well to control flooding at developed locations downstream.

## **Proposed Activities**

This parcel is being considered by the Town of North Branford as an extension to a proposed "campus-type industrial park" being planned on its western boundary. Access to the subject parcel would be through its western boundary. Elevations of the gravel extraction area to the west are significantly lower than those of the subject parcel. Utilizing this parcel as an extension of developing areas to the west would require significant cutting and, most likely, filling of the natural grades of the site.

## **Impact of Proposed Activities on Watercourses and Wetlands**

Depending on the proposed scope of the intended use of this parcel, direct impact to the wetland area may occur in the form of filling to provide buildable area. This would significantly effect all functional values listed above. Indirect impact may result from significant cuts near the wetland negatively effecting its hydrology or improper deposition of stormwater run-off from the developed area of the parcel. Development near the wetland without providing a significant upland buffer area would effect its value as wildlife habitat.

Additionally, it is likely that the mature coniferous forest stand located on the northwest portion of this parcel provides a valuable buffer to the Muddy River floodplain. Among other functions, this area could provide nesting and roosting habitat for certain birds utilizing the Muddy River floodplain.

## Recommendations

Given the existence of a valuable wetland in the southwest section of this parcel, a recommended buffer area of mature hemlock trees in the northwest section of the parcel, as well as the Muddy River floodplain itself (approximately 40% of the site), development of this parcel should be kept to a scale which allows for the preservation of these useful natural areas. Adding to it necessary zoning setbacks, it may not be profitable to gain access to this parcel for the limited amount of recommended usable land available (judged to be approximately 9 acres). Careful assessment of alternative project designs and/or alternative land uses should be undertaken prior to commitment of significant resources toward industrial development of this parcel.

## THE NATURAL DIVERSITY DATA BASE

The Natural Diversity Data Base maps and files have been reviewed regarding the Newton Property. According to our information, there are no known extant populations of Federal or State Endangered, Threatened or Special Concern Species occurring at the site in question.

Natural Diversity Data Base information includes all information regarding critical biological 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. Consultation 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.

If you have any additional questions regarding this information please contact Ken Metzler (566-3540). Please be advised that this is a preliminary review and not a final determination. A more detailed review may be conducted as part of any subsequently environmental permit applications submitted to DEP for the proposed site.

## FISHERIES RESOURCES

This section of the report will assess the fisheries resources of the Muddy River which abuts the 15 acre parcel being considered for commercial/light industrial development.

### Fish Population

The Muddy River is a south central coastal stream tributary to the Quinnipiac River. Adjacent to the 15 acre parcel the river is of moderate gradient containing sequential riffle-pool instream habitat. The river contains a narrow band of shrub vegetation within the riparian zone most of which has been historically used for pasture land.

The river is managed by the DEP Fisheries Division as a put-and-take coldwater trout fisheries. It is annually stocked with more than 4,770 adult (9-12") brook, brown, and rainbow trout in the towns of North Haven and Wallingford.

The river was last sampled in 1990 by the Fisheries Division in the Town of Wallingford upstream from the Tyler Road crossing and in New Haven above the Patton Road crossing. The following diverse group of resident, anadromous ( those that migrate up rivers from the sea to breed) , and catadromous (those that migrate down river to breed in marine waters) finfish species were found: brown trout, brown bullhead, largemouth bass, pumpkinseed sunfish, redbreast sunfish, grass pickerel, yellow perch, white sucker, fallfish, blacknose dace, longnose dace, common shiner, tessellated darter, banded killifish, sea lamprey and American eel.

Surface waters of Muddy River in this area are classified by the DEP as "Class A". Designated uses for this classification are: potential drinking water supply, fish and wildlife habitat, recreational use, agricultural and industrial supply, and other legitimate uses.

### Recommendations

From a natural resource perspective, the 15 acre parcel is not a complimentary parcel for adjunction to the 40 acre Clintonville Road Associates Parcel. To gain access to the property from the 40 acre parcel would require a large cut through the terrace which separates the two parcels. In addition, steep slopes and uneven topographical features would require

large amounts of fill to make land more suitable for infrastructure development. Since surface drainage would be conveyed to the Muddy River, soil and stormwater runoff into Muddy River would be two major concerns.

During construction, disturbed topsoil would be exposed and susceptible to runoff events, especially if suitable erosion and sediment controls are not properly installed and maintained. Resultant stream sedimentation can reduce survival of fish eggs and aquatic insects, fill-in pool habitat and impair overall fish survival. At present, this stretch of the Muddy River contains very little evidence of sediment accumulation.

Stormwaters, on the other hand, contain a variety of pollutants that are detrimental to aquatic organisms. Pollutants commonly found in stormwaters are: hydrocarbons (gasoline and oil), herbicides, heavy metals, road salt, fine silts, and coarse sediment. Also, nutrients in stormwater runoff can fertilize stream waters causing water quality degradation.

In conclusion, due to the rural character, presence of river and floodplain wetlands, unfavorable topographic features for development, and general high environmental quality of this area, the town should consider leaving this parcel as open space.



## LAND USE PLANNING STRATEGIES

### Site Location

The location of the 15 acre farm parcel lies in the northwest quadrant of the Town of North Branford, in an area known as Northford. The majority of the property gently slopes to the northwest towards the Muddy River and the Town of Wallingford. Presently, the property is part of an existing farm that has structures that date back to the 1770's. The farmland property to the east includes approximately 1,000 feet of frontage on a narrow rural residential street - Village Street. Directly to the west lies a 40 acre industrial tract that is buffered by a tree lined ridge. To the south is a 5 lot residential development accessed via Woodvale Road.

### Site Characteristics

The site is zoned for residential use requiring a minimum lot size of one acre (40,000 s.f.) - R-40. The 40 acre industrial parcel to the west is relatively flat and zoned for industrial use. A recent economic development report prepared by Garnet Consulting Services targets the farm site for potential connection with the industrial property to the west of the farm. In the report, it is assumed that water and sewer lines could be extended to the site via a small pump station. The following utilities serve the local area residents:

- Water - South Central Connecticut Regional Water Authority - extension of service comes from North Haven water lines.
- Sewer - Town of North Haven
- Electric - Town of Wallingford

The estimated population within a 1 mile radius of the site is roughly 2,400 people, fairly evenly distributed between the Towns of Wallingford and North Branford. This low density population estimate reflects the rural character of the area.

### Environmental Constraints

All building and site development should respect a 100 foot streambelt buffer along the Muddy River. There is a need to maintain a high water quality standard for the Muddy River, which is stocked for recreational fishermen. The headwaters of the Muddy River feed into the MacKenzie Reservoir, a public water supply reservoir for the Town of Wallingford. The Muddy River flows southwest from the reservoir along the border of North Branford and into North Haven, eventually flowing into the Quinnipiac River.

Other sections of this report will address the amount of on-site wetland soils, floodplain management and flood hazards, and stormwater management. Road construction should follow the contours of the land. The building envelopes should not include wetlands, transition areas, or flood prone areas. The North Branford Planning Department indicated that the property is not within the 100 year floodplain or part of the municipal National Flood Insurance Program (NFIP).

## **Conformance to Other Regulations and Plans**

As stated earlier, the site would need a zone change from low density residential (R-40) to industrial or business park for any industrial, commercial or mixed use development. The area has been depicted as a proposed business park in the 1991 Plan of Development Land Use Plan.

The abutting land in the Town of Wallingford is zoned low density rural residential which includes a minimum lot size of two acres. The southern section of Wallingford, along the Muddy River, is also delineated as an aquifer protection district. Wallingford requires a 100 foot greenbelt buffer along the Muddy River in all commercial and industrial districts. Land disturbance should be kept to a minimum in the greenbelt zone.

Both the State Conservation and Development Plan and the South Central Regional Council of Governments Regional Plan of Development are broad based policy oriented documents and are not site oriented in terms of delineating land use categories on maps. The State Conservation and Development land use map depicts the area as a conservation area under a subheading entitled Areas of Environmental Concern. As a general policy, the Regional Plan of Development seeks to help guide appropriately scaled development to areas with adequate infrastructure and protect environmentally sensitive lands.

## **Site Access and Site Design Guidelines**

One development scenario for the property, discussed in the Garnet economic development report, envisions the merger of the 15 acre farm parcel with the abutting 40 acre industrial tract to develop a business office park. The existing entrance to the *Firelite* plant on Route 22 would be used for the site access to the proposed business park development. Local authorities would need to decide whether any additional access points (permanent or emergency) would be necessary. Current North Branford Subdivision Regulations limit the length of dead end cul-de-sacs to 700 feet. Prior to any development proposals, new comprehensive standards should be drafted to regulate Business Park developments. The regulations should utilize detailed design elements to minimize land disturbance and maximize open space retention for landscaping. Some key engineering design issues to consider for such a proposal include:

- maximum length of roadway or cul-de-sac, amount of impervious surface, total land and wetland disturbance, grading and slope considerations, amount of buildable area after effective buffer setbacks, and stormwater containment and discharge requirements.

Traffic impact studies should address the following key issues:

- impact on key state arterials, intersections, and local roads in North Branford, Wallingford and North Haven; signalization modifications or requirements; increased truck traffic; coordination with State DOT and municipal transportation improvement projects and overall safety considerations. The traffic impact analysis should also contain present roadway conditions, existing roadway capacity, existing and projected traffic volume (ADT, Peak AM, Peak PM), existing and projected volume capacity ratios, existing and projected levels of service, existing and projected sight lines, site generated traffic and traffic distributions and traffic accident experience.

The City of Meriden has developed regulations encouraging Business Park activities. The comprehensive floating zone is labeled a Planned Executive Office Development (PEOD) district. Some of the key features of the district include the following:

- a minimum tract of 16 acres, phased construction schedules, lot coverage not exceeding 50 % of the gross land area, required 40 foot buffer around the perimeter of the site, all buildings in the PEOD shall be of similar architectural design, color, texture and scale.
- performance standards to control noise, glare and lighting, vibrations, air pollution, odors and fire hazards.

In speaking with the Meriden planning staff, the regulations have established two PEOD zones adjacent to the I-91 interchange and suburban residential neighborhoods which have not produced any negative results.

The Town of Berlin has similar Professional Office Development (POD) regulations which look to create campus-type development parks in and around residential neighborhoods. In their POD regulations the maximum building coverage allowed is 25% and the maximum impervious surface coverage is 60%. The definition of impervious surface coverage is “the percentage which the ground floor area of all buildings, structures and pavement on a lot bears to the lot area.”

The Town of Wallingford has also developed similar regulations for industrial expansion zones and highway interchange districts. The Industrial Expansion District incorporates a comprehensive list of performance standards involving noise levels, vibration, odors, smoke, glare and heat and liquid or solid waste.

## Conclusion

In reviewing the farm site from an existing land use perspective, the creation of a business park development would not be a top priority. A substantial amount of land disturbance would most likely take place on the sloping property for construction of the roads, buildings and parking areas. More importantly, an earthen berm currently acts as a natural transition to buffer activities at the adjacent industrial property. The predominate land use characteristic of the area should remain low density rural residential. Although not recommended by the North Branford Planning and Zoning Commission, accessing the property via Village Street would impact a narrow local street with a difficult intersection alignment at Route 22 and Village Street. It would appear that the 40 acre industrial site is marketable enough on its own as a business development site and would not need to be extended further. Competition is fierce for the “clean” campus development parks, as all towns try to expand their grand lists. The current inventory of surplus high quality commercial space in the region is high and should take some time to recover.

The Town of North Branford has a long history of agriculture and the inclusion of this site into a business development park does not appear to be the most appropriate use of the land at this time. Although an industrial classification for the property would return the highest value to the town in terms of property taxes, good agricultural property is becoming a scarce resource. The municipal Open Space Subdivision regulations would seem to produce a better fit for the property and neighboring residential neighborhoods. An Open Space Development plan for the property might cluster the housing on the higher, relatively flat ground, while retaining the significant farmland and open space features found on the site.

## ARCHAEOLOGICAL REVIEW

A review of the State of Connecticut Archaeological Site Files and Maps shows a known prehistoric Native American encampment area on the property owned by the Clintonville Road Associates (the 40 acre parcel adjacent to the Newton Property). This archaeological site is located in the immediate floodplain of the Muddy River in the western portion of that site.

Since the initial ERT review request, this portion of the ERT study has been eliminated for ERT Team consideration. As a result, the State Archaeologist contacted the North Branford Town Planner, and discussed his concern for the preservation of this prehistoric archaeological resource. When the location of the campsite was described, the Town Planner assured the State Archaeologist that the site would be protected due to the town's wetland regulations and streambelt preservation plan, which would prohibit construction activities in the floodplain area.

The Office of State Archaeology is satisfied that impact to the recorded archaeological site in their files will be avoided as the project presently is proposed. Nonetheless, should proposed plans change and a review of the Clintonville Road Associates Property resurface, the Office of State Archaeology would appreciate another review opportunity to ensure the continued preservation and conservation of this cultural resource.

# 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 203-345-3977.