ROBERT S. PALMER

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SUMMARY REAL ESTATE APPRAISAL REPORT

OF

RESIDENTIAL ACREAGE

PROPERTY ADDRESS:

Footit Drive and Atkins Street
Middletown, Connecticut 06457

PROPERTY OWNER:

The Meriden Trust and Safe Deposit Company, Successor Trustee

PREPARED FOR:

Hod Wilcox
481 Warpus Road
Madison, CT 06443

PREPARED BY:

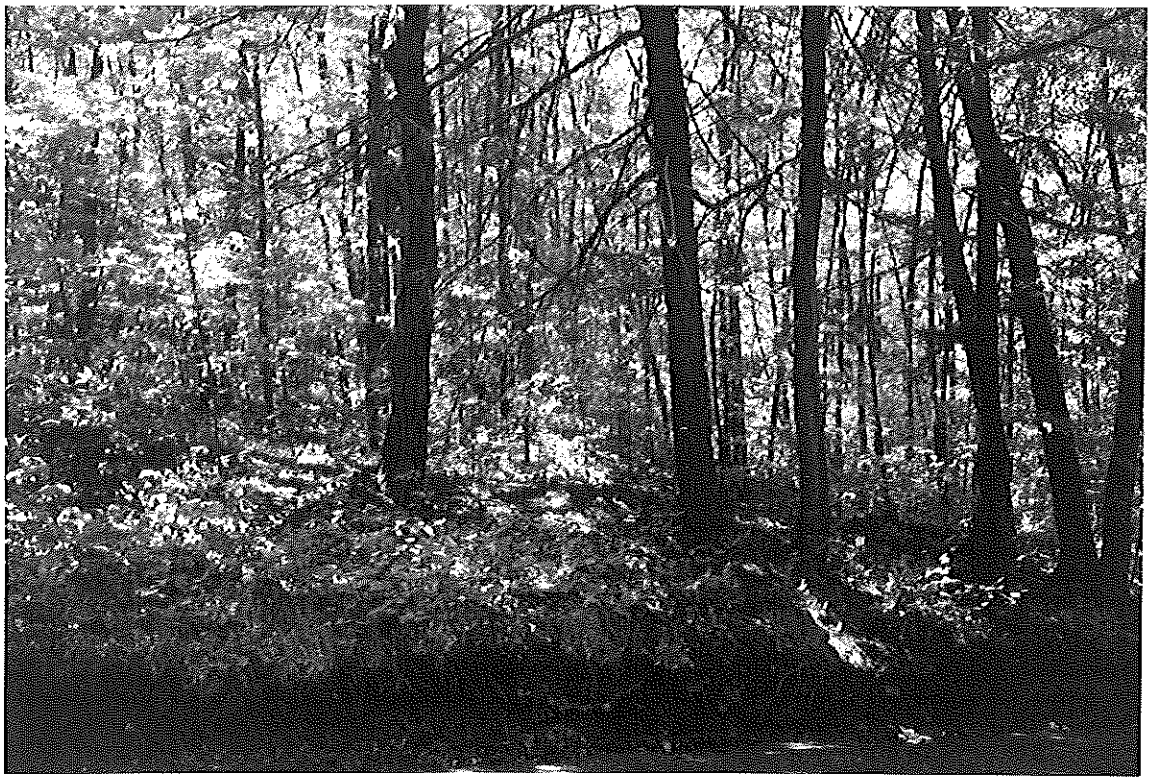
Robert S. Palmer, MAI
Roger Palmer, MAI
173 South Main Street
P.O. Box 173
Middletown, Connecticut 06457

DATE OF VALUATION:

April 4, 1995

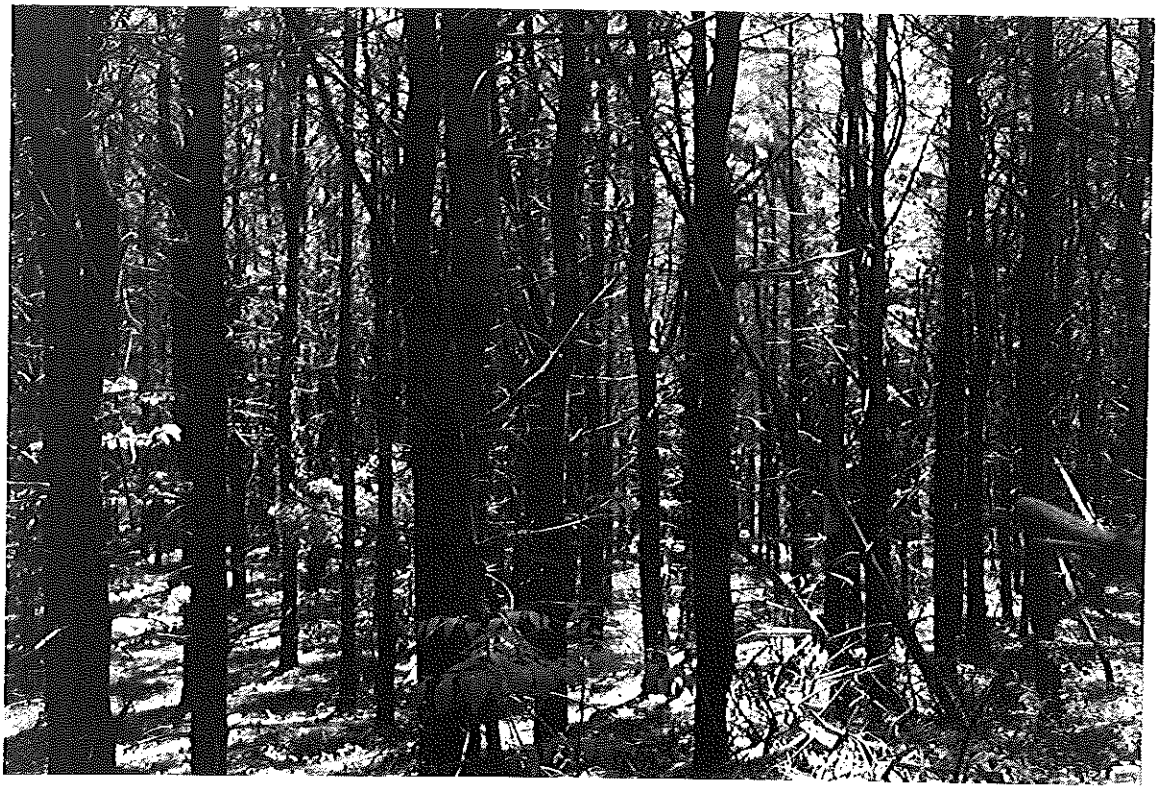
#1949

PHOTOGRAPHS OF SUBJECT PROPERTY



S-1 -- View of the southerly portion of Parcel I taken from across Footit Drive, facing in a southerly direction.

PHOTOGRAPHS OF SUBJECT PROPERTY (cont.)



S-2 -- Interior view of the southerly portion of Parcel I.

PHOTOGRAPHS OF SUBJECT PROPERTY (cont.)

S-3 -- View of the northerly portion of Parcel I taken from across Footit Drive, facing in a northerly direction.

PHOTOGRAPHS OF SUBJECT PROPERTY (cont.)

S-4 -- Interior view of the northerly portion of Parcel I.

PHOTOGRAPHS OF SUBJECT PROPERTY (cont.)

S-5 -- Street scene along Footit Drive near Parcel I, facing in an easterly direction.

PHOTOGRAPHS OF SUBJECT PROPERTY (cont.)

S-6 -- View of Parcel II taken from across Atkins Street, facing in an easterly direction.

PHOTOGRAPHS OF SUBJECT PROPERTY (cont.)

S-7 -- Typical interior view of Parcel II.

PHOTOGRAPHS OF SUBJECT PROPERTY (cont.)

S-8 -- Street scene along Atkins Street near Parcel II, facing in a northerly direction.

PURPOSE OF THIS REPORT

The purpose of this report is to estimate the market value of the subject property as of April 4, 1995.

USE OF THIS REPORT

The use of this report is to provide the client with an estimate of market value for use in asset evaluation. This report is only intended for use by the client. The appraiser is not responsible for unauthorized use of this report.

APPRAISAL DEVELOPMENT AND REPORTING PROCESS

In estimating the market value of the subject property, the scope and process of collecting, confirming and reporting data is as follows:

1) Inspection of the subject property, which included, but is not limited to, the site and the improvements;

2) Review of municipal records and information supplied by the property owner to establish the property interests and constraints affecting the subject property;

3) Conduct a reasonably complete and thorough market survey for market data that is considered comparable to the subject property;

4) The market area surveyed is limited to Middletown and the surrounding communities; and,

5) The market data used on this report is confirmed and verified with one or more of the following sources: the property owner, grantor/grantee, broker, attorney for the parties involved, deeds of conveyance, town land records, assessors records, public officials, and other public information.

The appraisal development and reporting process did not invoke the Departure Provision of USPAP.

DATE OF ESTIMATE OF VALUE

The date of the estimate of market value is April 4, 1995.

DATE OF INSPECTION

The date of inspection of the property is May 23, 1995.

EFFECTIVE DATE OF APPRAISAL

The effective date of this appraisal is April 4, 1995.

BASIS OF ESTIMATE OF VALUE

The estimate of value in this report is expressed in terms of cash to the seller and typical market financing being available to the buyer.

DEFINITION MARKET VALUE

"The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently, and knowledgeably and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of the sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1) buyer and seller are typically motivated;

2) both parties are well informed or well advised, and acting in what they consider their best interests;

3) a reasonable time is allowed for exposure in the open market;

4) payment is made in terms of cash in United States dollars or in terms of financial arrangements comparable thereto; and,

5) the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale." [OCC Rule 12 CFR 34.42 (f)]

PROPERTY RIGHTS APPRAISED

The property rights being appraised are the Fee Simple Estate. Fee Simple Estate is defined as, "Absolute ownership unencumbered by any other interest or estate, subject to only the limitations imposed by the governmental powers of taxation, eminent domain, police power, and escheat." [Appraisal Institute, The Dictionary of Real Estate Appraisal, Third Edition, (Chicago: Appraisal Institute, 1993, p. 140].

IDENTIFICATION OF PROPERTY

The subject property is located on Footit Drive and Atkins Street in Middletown, Connecticut. The appraised parcels were conveyed to The Meriden Trust and Safe Deposit Company, Successor Trustee, in a Quit-Claim Deed from The Massachusetts Company, Trustee. This deed is recorded in volume 903, page 414 of the Middletown Land Records. A copy of this deed is in the addenda of this report. The appraised parcels are further described as follows:

Parcel I -- 71.493±AC on Footit Drive is described on a map entitled "Prepared for the ESTATE OF HORACE C. WILCOX, SR. Middletown, Conn. Reino E. Hyppa & Associates Civil Engineers & Land Surveyors Glastonbury, Conn. Scale 1" = 40' Date 10-13-80 Map No. 1-177-1A." This map is recorded as Map No. 143-3 in the Middletown Land Records. The property is further identified as Map 2, Block 9-1, Lot 25A in the Middletown Assessor's Records.

Parcel II -- 5.084±AC on Atkins Street is described on a map entitled "Prepared for the ESTATE OF HORACE C. WILCOX, SR. Middletown, Conn. Reino E. Hyppa & Associates Civil Engineers & Land Surveyors Glastonbury, Conn. Scale 1" = 40' Date 10-13-80 Map No. 1-177-1A." This map is recorded as Map No. 142-3 in the Middletown Land Records. The property is further identified as Map 3, Block 9-2, Lot 4 in the Middletown Assessor's Records.

IDENTIFICATION OF ITEMS OTHER THAN REAL PROPERTY

No items other than real property, such as personal property or trade fixtures, will be listed or valued. Only real property will be valued in this limited appraisal.

SALES HISTORY

The last transfer of the subject property occurred when The Massachusetts Company, Trustee, quit-claimed title to The Meriden Trust and Safe Deposit Company, Successor Trustee, on July 18, 1989, for "One ($1.00) Dollar and other good and valuable considerations" (No conveyance tax collected). The subject property has not transferred within the past three (3) years. The property is not currently being listed for sale or lease. There is no known purchase and sale contract nor option agreement presently encumbering the subject property.

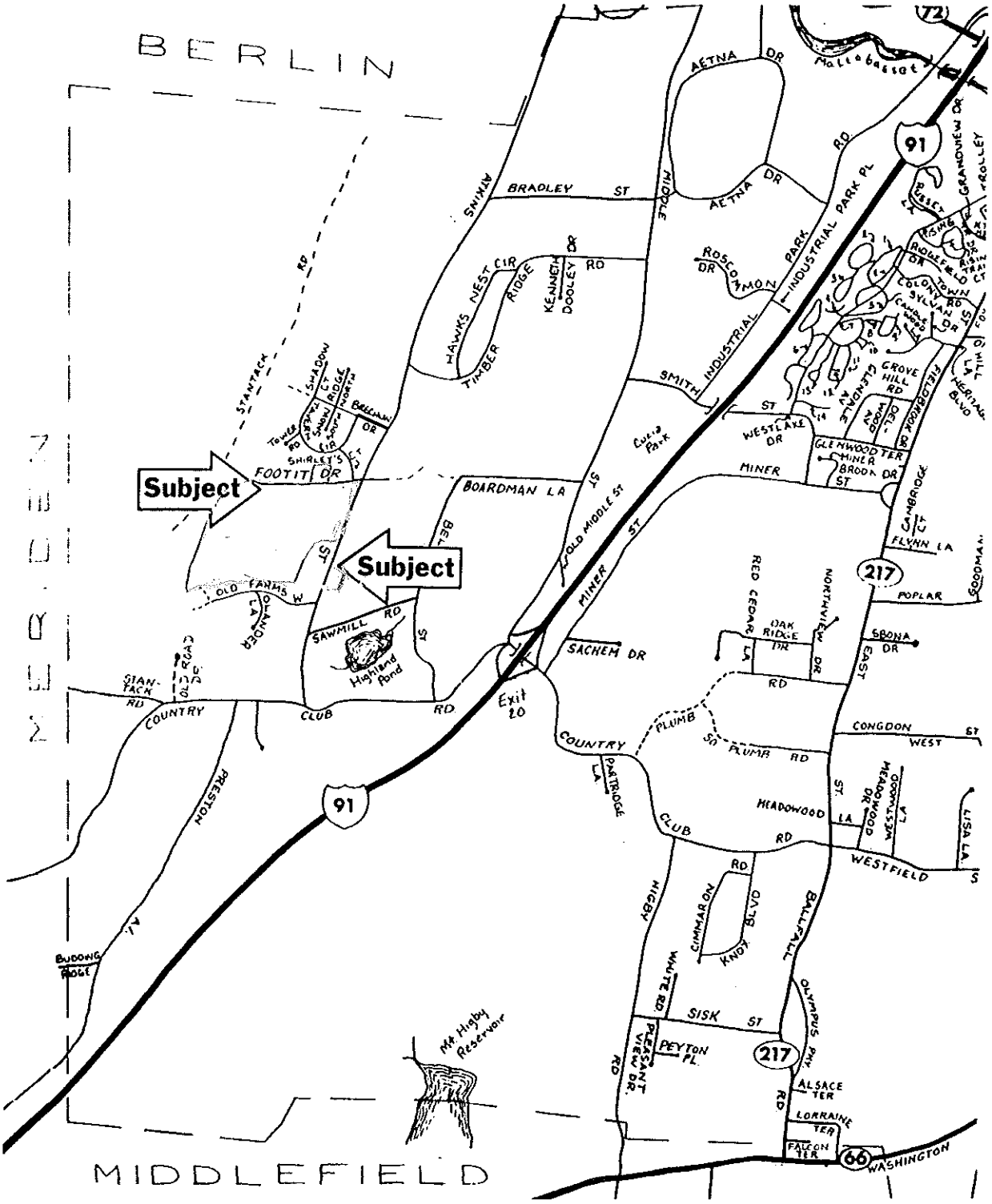
COMMUNITY AND LOCATION ANALYSIS

The subject property is located in the south-central section of the State of Connecticut, in the City of Middletown, within Middlesex County. Middletown has excellent access to the State and Interstate highway network. Currently, Middletown can be characterized as an active community, with large residential and commercial sectors. Over the past thirty years the Middletown population has grown at a compounded rate of 0.84% per year, with the 1990 census being 42,762 persons. The housing available to the community is diversified. Slightly over 46% of the housing stock is composed of single-family homes, with the remainder being in multi-unit buildings. Single-family dwellings are located throughout Middletown, with the older dwellings being located near the central section of the community. Newer houses are generally found in the more outlying suburban/rural areas. Multi-family dwellings are located throughout Middletown. Most of the older and smaller multi-family buildings are in the central section near downtown. The larger apartment complexes are generally located near the main roads and thoroughfares. The pace of new housing construction within Middletown has varied drastically over the past few years. In 1985-87 the construction of new housing units reached a peak. From 1987 to 1990 the construction of housing units steadily decreased. In 1990 permits were issued for 83 housing units, which is only 10% of 1987 levels. From 1991 through 1993 permits were issued for an average of 113± units in each year. The level of new housing construction during 1993 (138 units) represents a significant increase in the demand for housing over the previous few years. This increase in housing construction is primarily due to the lower prices of residential lots and lower interest rates.

Middletown has a significant commercial base. The commercial activity is located in several areas: Main Street, South Main Street, Newfield Street, Saybrook Road, and Washington Street. The Main Street area has historically served as the economic center for the community. During the past few years many businesses have either closed or moved from the Main Street area. Recently several new business have moved into downtown Middletown, and all this new leasing activity has considerably reduced the downtown vacancy rate for retail and office space. Outside the downtown area the demand for retail space is steady. Washington Street and South Main Street are both commercial thoroughfares. The commercial properties in these areas include: strip shopping centers, convenience stores, single-tenant retail buildings, restaurants, gas stations, office buildings, repair garages, and bank branch offices. Outside the downtown area there is little vacancy of retail space, with the exception of newer or expanded complexes. These developments exhibit a slow and constant absorption of retail space. Middletown's industrial sector is spread throughout the city. In the north-central sections of the city there are several older industrial mill buildings. Over the past decade a few of these mill buildings have been converted to residential apartments or professional offices. Most of the recent industrial development has taken place in western Middletown near Interstate 91. This development ranges from distribution warehouses to large manufacturing facilities to multi-tenant "Flex" buildings.

COMMUNITY AND LOCATION ANALYSIS (cont.)

Location Map



COMMUNITY AND LOCATION ANALYSIS (cont.)

During the past few years Middletown has experienced an economic decline as evidenced by increasing unemployment rates. This is in part a result of the prolonged downturn in the national and regional economies. However, it should be noted that the Middletown unemployment rate has historically been below the State and National averages. Another positive sign to this data is that the current unemployment rates are below 1992 and 1993 levels.

The subject property is located in the western section of Middletown near the Meriden and Berlin municipal boundaries. The immediate vicinity near the subject property is a rural area that is composed of residential dwellings, farms, and undeveloped land. Most of the houses are wood frame single-family dwellings that range in age from new construction to 60± years. The recent construction of new single-family homes is scattered throughout the neighborhood, either in subdivisions or on individual lots. The construction of new single-family dwellings over the past few years has continued at a steady pace, but at a level far below that of the late 1980's. A few active farms are in the immediate area. There are substantial amounts of undeveloped land throughout the subject neighborhood.

Overall, the City of Middletown has benefited from its central location, growing population, and access to the highway network. During the past few years the local economy has experienced a decline which is evidenced by the higher unemployment rates and higher vacancy rates. Recently, the vacancy rates and effective rental rates have stabilized. The current employment rates are below the 1992 and 1993 averages. This data may signify the beginning of a modest economic recovery.

SITE AND DATA ANALYSIS

Parcel I -- 71.493±AC on Footit Drive

Parcel I is composed of two (2) pieces of land located on the north and south sides of Footit Drive, between Atkins Street and Stantack Road. The land contains a total of 71.493±AC. The piece on the north side is an irregularly shaped corner plot that contains 25.772±AC, with 1,182.94±FT of frontage along on Footit Drive and 1,326.10±FT on Stantack Road. The southerly portion is an irregularly shaped interior parcel that contains 45.721±AC, with 2,555.55±FT of frontage along Footit Drive.

Footit Drive in the vicinity of this land is a gravel two-way City maintained road, while Stantack Road is an unimproved dirt road from Footit Drive to the Berlin Town Line. The width, overall condition, and inland-wetlands makes portions of Stantack Road impassable to automobiles. Thomas Nigosanti, Middletown City Engineer, stated that if Parcel I was developed the owner/developer would most likely be required to make improvements to Footit Drive and Stantack Road. Mr. Nigosanti indicated the scope of road improvements would depend of the density of the proposed development.

Parcel I is basically at road grade with most of Footit Drive and Stantack Road. Certain portions are above or below these streets. The topography of the land ranges from gently rolling to rolling. The vast majority of Parcel I is covered with brush and trees. Elevations for the northerly piece range from 230±FT at the center to 320±FT near the southeast corner. According to a study entitled "Wetlands Analysis and Mapping, July, 1982", prepared by Purcell Associates, the areas on the northerly piece surrounding East Spruce Brook are inland-wetlands. Elevations for the southerly portion range from 250±FT at the center to 330±FT near the southwest corner. According to the Purcell Study, there are three areas of inland-wetlands on the southerly plot: 1) areas surrounding Spruce Brook; 2) near East Spruce Brook at the center; and, 3) an area of inland wetlands and marsh are near the eastern end. According to the Flood Insurance Rate Map (F.I.R.M.) community panel #090068-0006-B (Revised 7/16/90), Parcel I is located in an area "determined to be outside the 500-year floodplain".

No sub-soil survey was procured in the preparation of this appraisal report. It will be an assumption basic to this report, that the subject property meets and conforms to all Federal, State, and Municipal health and environmental regulations. If the property does not conform to these regulations, the values as estimated in this report should be modified.

In reviewing the legal description and maps provided, the subject site does not appear to be encumbered by any adverse easements, restrictions, or Rights-of-Way that affect the current utilization of the subject property.

SITE AND DATA ANALYSIS (cont.)

Parcel I -- 71.493±AC on Footit Drive (cont.)

Electricity, telephone service and cable television are available to the subject property. Sanitary sewers are located at the intersection of Atkins Street and Old Farms West. Public water and natural gas are not available. Refuse/garbage removal in the immediate area is provided by private contractors.

Overall, the size, shape, topography, and overall utility of Parcel I make it suitable for residential development.

Parcel II -- 5.084±AC on Atkins Street

Parcel II is located on the east side of Atkins Street, between Saw Mill Road and Timber Ridge Road. Atkins Street is a paved two-way City road. The subject site is a rectangularly shaped interior parcel that contains 5.084±AC, with 399.15±FT of frontage along Atkins Street. The site depth ranges from 458.99±FT to 459.32±FT. The width of the rear property line is 478.88±FT.

The subject site is basically at road grade with Atkins Street. The topography ranges from level to gently rolling. The land is level at the front, and it slopes down toward the rear. Elevations range from 246±FT near Atkins Street to 210±FT at the southeast corner. The vast majority of the parcel is covered with brush and trees. According to a study entitled "Wetlands Analysis and Mapping, July, 1982", prepared by Purcell Associates, there are no apparent inland-wetlands on Parcel I. According to the Flood Insurance Rate Map (F.I.R.M.) community panel #090068-0006-B (Revised 7/16/90), Parcel II is located in an area "determined to be outside the 500-year floodplain".

No sub-soil survey was procured in the preparation of this appraisal report. It will be an assumption basic to this report, that the subject property meets and conforms to all Federal, State, and Municipal health and environmental regulations. If the property does not conform to these regulations, the values as estimated in this report should be modified.

According to a deed between Horace C. Wilcox, Jr. and W. Nicholas Knight, et al, the property located at 227 Atkins Street is together with the right to use the water well located on appraised property (Parcel II) for a period of five (5) years beginning July 10, 1972. The deed outlining this encumbrance is recorded in volume 385, page 442 of the Middletown Land Records. According to Hod Wilcox, he indicated the house located at 227 Atkins Street was still using the water well, even though the right to use this water well expired several years ago. This encumbrance should not have a substantial adverse affect on the current or potential utilization of this land.

SITE AND DATA ANALYSIS (cont.)

Parcel II -- 5.084±AC on Atkins Street (cont.)

The land is vacant residential acreage. Some of the major improvements on the property include:

- Ruins of several rubblestone foundations and retaining walls.
- An old unused wooden water storage tank.
- A covered wood structure that appears to contain the water well that is being used by the house at 227 Atkins Street.

This improvements on the property are in very poor overall, and they have minimal contributory value.

Electricity, telephone service and cable television are available to the subject property. Sanitary sewers are located a short distance south of the appraised parcel at the intersection of Atkins Street and Old Farms West. Public water and natural gas are not available. Refuse/garbage removal in the immediate area is provided by private contractors.

Overall, the size, shape, topography, and overall utility of the Parcel II make it suitable for residential development.

ZONING DATA

According to the most recent zoning map of the City of Middletown, the subject parcels are located within the Residential (R-60) zone. Section 21 of the Middletown Zoning Regulations addresses the R-60 zone. The dimensional and yard requirements for lots within the R-60 zone are as follows:

ITEM	REQUIREMENT
Minimum Lot Frontage	200 ft.
Minimum Lot Area	60,000 sf.
Minimum Front Yard	50 ft.
Minimum Side Yard	20 ft.
Minimum Rear Yard	30 ft.
Maximum Building Height	3 stories
Maximum Building Height	36 ft.
Maximum Lot Coverage	25%

The appraised parcels currently meet or exceed the dimensional and yard requirements for the R-60 zone. Any subdivision of the property would be subject to approval by the Middletown Planning and Zoning Commission. Section 60 addresses the permitted uses allowed in the R-60 zone. Some of the permitted uses allowed within the R-60 zone are as follows:

- 60.01.01 · Single-Family Dwelling, detached.
- 60.01.03 · Farming or other agricultural uses--any green-house that brings the total of such ground area to 1,000 sq. ft. or more shall be a special exception.
- 60.01.04 · Residential Unit Business Pursuit.

According to a Proposed Land Use Map (Figure 10) in a study entitled "Lamentation Mountain Tri-Town Project Land Use Plan, June 1994", prepared by and for the Berlin, Meriden and Middletown Conservation Commissions, the proposed land use for the easterly part of Parcel I is single-family residential, while the proposed use for extreme westerly section is as a regional park. A copy of this Land Use Plan is presented in the addenda.

William Warner, Director of the Middletown Planning and Zoning Department, stated that the proposed uses outlined in the "Lamentation Mountain Tri-Town Project Land Use Plan" will not have a direct impact on the utilization of Parcel I for residential development. Mr. Warner indicated that the Middletown Planning and Zoning Department would be willing to offer "trade-offs" to a property owner/ developer in exchange for adhering to the proposed land uses outlined in the "Lamentation Mountain Tri-Town Project Land Use Plan". Mr. Warner stated that one of the "trade-offs" would be to allow a "cluster" design subdivision that creates

ZONING DATA (cont.)

"open space". Section 44.08.35 of the Middletown Zoning Code, a copy of which is in the addenda, address "cluster" design subdivisions. A brief review of these regulations indicates that a "cluster" subdivision would allow for the same number of lots to be developed on the property in exchange for creating open space that is not less than 33% of the total tract area. The Middletown Planning and Zoning Commission may also permit a "reasonable density bonus" on the number of lots being developed if the amount of open space within the subdivision is increased by a minimum of five (5%) percent.

Conclusion

In reviewing the Middletown Zoning Code, the current use of the subject parcels as vacant and unimproved residential acreage is a legal and conforming use within the Residential (R-60) zone. Development of multiple single-family homes on either parcel would require subdivision approval from the Middletown Planning and Zoning Commission. In exchange for creating open space in the development of the Parcel I a "cluster" subdivision could be approved. Depending on the amount of open space created a "reasonable density bonus" could be granted in the development of Parcel I.

TAXES AND ASSESSMENT DATA

The Town of Middletown underwent a City-wide revaluation in 1987. The semi-annual real estate tax payments for the grand list of October 1, 1994, are due on July 1, 1995, and January 1, 1996. The tax rate for the subject property is as follows:

List of October 1, 1994	
City Rate	22.9 mills
Fire Rate	1.1 mills
Total Tax Rate	24.0 mills

Parcel I -- 71.493±AC on Footit Drive is currently classified as "open space" under Public Act 490 (formerly P.A. 79-513). The current assessment and annual real estate tax burden for Parcel I is as follows

PARCEL I -- MAP 2, BLOCK 9-1, LOT 25A

BUILDING	$0
LAND	$4,970
TOTAL	$4,970

TAX RATE		ASSESSMENT		CURRENT ANNUAL TAXES
0.0240	x	$4,970	=	$119.28

The current assessment and annual real estate tax burden for Parcel II -- 5.084±AC on Atkins Street is as follows

PARCEL II -- MAP 3, BLOCK 9-2, LOT 4

BUILDING	$0
LAND	$50,500
TOTAL	$50,500

TAX RATE		ASSESSMENT		CURRENT ANNUAL TAXES
0.0240	x	$50,500	=	$1,212.00

DESCRIPTION AND ANALYSIS OF IMPROVEMENTS

There are no improvements on the subject property to describe.

HIGHEST AND BEST USE ANALYSIS

Highest and best use is a market driven concept that identifies the most profitable, competitive use to which a property can be put. The term highest and best use is defined as:

> "The reasonably probable and legal use of vacant land or an improved property, which is physically possible, appropriately supported, financially feasible, and that results in the highest value." [Appraisal Institute, The Appraisal of Real Estate, Tenth Edition, (Chicago: Appraisal Institute, 1992), p. 275]

In determining the highest and best use of the property, four inherent elements of highest and best use must be considered.

1) Legally permissible	The uses that are permitted according to zoning or other restrictions.
2) Physically possible	The legally permissible uses the site can physically accommodate.
3) Financially feasible	Legally permitted uses that produce a positive return.
4) Maximally productive	The financially feasible uses that produce the highest value or return.

Each of the four elements will be addressed sequentially to determine the highest and best use for the appraised parcels.

Parcel I -- 71.493±AC on Footit Drive

1. As stated earlier in this report, development of multiple single-family homes on Parcel I would require subdivision approval from the Middletown Planning and Zoning Commission. In exchange for creating open space in the development of the appraised property a "cluster" subdivision could be approved. Depending on the amount of open space created a "reasonable density bonus" could be granted in the development of the subject property.

2. The physically possible uses of the property are controlled by the site characteristics. The size, shape, topography, and overall utility of Parcel I make it suitable for residential development.

3. Financially feasible uses are those that deliver a positive return. The utilization of Parcel I for single-family residential development is a financially feasible use. This will be supported in the valuation section of this report.

HIGHEST AND BEST USE ANALYSIS (cont.)

Parcel I -- 71.493±AC on Footit Drive (cont.)

4. The utilization of Parcel I for single-family residential development is the most reasonably probable, legally permitted, and financially feasible use the subject property could be put to. Development of the property as a "cluster" design subdivision that creates "open space" would most likely deliver the highest net return. There is no other apparent reasonably probable use that could deliver a higher return. A "cluster" design subdivision would deliver a higher net return, because the number of lots will not be reduced and the development costs, i.e., road construction, associated with a "cluster" subdivision would be less than that in a "normal" subdivision. Also, a "reasonable density bonus" could be granted in the development of a "cluster" subdivision depending on the amount of open space created. This "density bonus" would deliver a still greater net return.

Therefore, the highest and best use for Parcel I is for development as a "cluster" design single-family subdivision that creates "open space". Such a use would be compatible with the "Lamentation Mountain Tri-Town Project Land Use Plan, June 1994".

Parcel II -- 5.084±AC on Atkins Street

1. As stated earlier in this report, the current use of Parcel II as vacant and unimproved residential acreage is a legal and conforming use within the Residential (R-60) zone. Development of multiple single-family homes on Parcel II would require subdivision approval from the Middletown Planning and Zoning Commission.

2. The physically possible uses of the property are controlled by the site characteristics. The size, shape, topography, and overall utility of Parcel II make it suitable for development into sites for several detached single-family homes.

3. Financially feasible uses are those that deliver a positive return. The utilization of Parcel II for single-family residential development is a financially feasible use. This will be supported in the valuation section of this report.

4. The utilization of Parcel II for single-family residential development is the most reasonably probable, legally permitted, and financially feasible use the subject property could be put to. There is no other apparent reasonably probable use that could deliver a higher return.

Therefore, the highest and best use for Parcel II is for subdivision into sites for several detached single-family homes.

VALUATION PROCESS

The techniques of the Sales Comparison Approach will be used to estimate the market value of the subject parcels. The Sales Comparison Approach involves the gathering and analysis of recent land sales. The sales are then converted to a common unit of comparison, i.e., sale price per acre of land. Adjustments are made to the sale prices per acre to account for differences between the sales and the subject. Based on the adjusted sale prices an estimated value for the appraised parcels are indicated.

A survey of recent residential acreage land sales within Middletown and the surrounding area was conducted. On the following pages are the results of that survey. These land sales were presented because they reflect a similarity, as compared to the subject, in terms of use, size, topography, zoning, date of sale, and overall utility.

VALUATION PROCESS (cont.)

LAND SALE #1 -- Coles Road @ Evergreen Road, Cromwell, CT

GRANTOR: Federal Deposit Insurance Corporation, as Receiver for Central Bank

GRANTEE: Cromwell Fire District

VOL./PAGE: 575/191 DEED: Quit-Claim DATE X: 1/24/95
R: 1/26/95
INSP: 4/17/95

SALE PRICE: $300,000 C.T.: None Collected

MORTGAGE: No financing was recorded with the sale. Cash to the seller.

ZONING: Residence (A-25) & Residence (A-40)

UTILITIES: Water, Electricity

LOT AREA: 51.95±AC FRONTAGE: 1,112.55±FT Coles Rd, 88.67±FT corner, & 1,283.84±FT Evergreen Road.

TOPOGRAPHY: The site is at road grade with Coles Road and Evergreen Road. The front portion near Coles Road is basically level and clear. The remainder is wooded, and the interior topography ranges from gently rolling to rolling. A stream and inland-wetlands (12±AC) cross the rear of the larger parcel in a north-south direction. The smaller parcel has 1.3±AC of inland-wetlands.

EASEMENTS: The rear of the larger parcel is subject to a 50' wide easement in favor of the Algonquin Gas Transmission Company. Since this easement is located within an area of inland-wetlands, and this encumbrance should not have a significant adverse impact on development potential.

PRICE PER ACRE: **$5,775**

REMARKS: The property was conveyed to Central Bank in a Committee Deed from Theodore V. Raczka, Committee of Sale, on June 4, 1980. The Federal Deposit Insurance Corporation was appointed receiver for Central Bank in February 1992. According to Scott Haber, selling broker, this property was listed on the "open market" with his firm for 2± years before it came under agreement to be sold.

VALUATION PROCESS (cont.)

LAND SALE #1 -- Coles Road @ Evergreen Road, Cromwell, CT (cont.)

REMARKS (cont.): The property is composed of two (2) parcels that contain a total of 51.95±AC. These tracts are separated by Interstate 91. The easterly portion is located at the intersection of Coles Road and Evergreen Road, and it contains 34±AC. The smaller western parcel is located on the north side of Evergreen Road directly west of Interstate 91, and this tract contains 17.95±AC. On December 13, 1994, the Cromwell Fire District obtained a special permit from the Cromwell Planning and Zoning Commission to build a fire house on the property. Construction for this facility to begin by the end of 1995.

VALUATION PROCESS (cont.)

LAND SALE #2 --West side of East Street, Middletown, CT

GRANTOR: Hunt Club at Middletown, Inc.

GRANTEE: Avondale Farms, LLC

VOL./PAGE: 1061/30 DEED: Warranty DATE X: 12/7/94
R: 12/8/94
INSP: 2/28/95

SALE PRICE: $1,544,680 C.T.: $1,699.15

MORTGAGE: 1st · People's Bank - $3,970,000 construction mortgage with the interest rate being at the Prime Rate plus 1.25%. Monthly interest only payments in arrears with payments to begin on January 1, 1995. The balance of the loan is due anytime after December 7, 1997, but no later than December 7, 1999.
2nd · People's Bank - $1,000,000 commercial revolving promissory note with the interest rate being at the Prime Rate plus 1.25%. Monthly interest only payments in arrears with payments to begin on January 1, 1995. The balance of the loan is due anytime after December 7, 1997, but no later than December 7, 1999. This note shall be used to finance the construction of houses and the interest due on the construction mortgage.

ZONING: Residential (R-15)

UTILITIES: Water, Sewer, Electricity

LOT AREA: 107.65±AC FRONTAGE: 481.580±FT East Street and 112.12±FT Miner Street

TOPOGRAPHY: The site is open and clear, with the topography ranging from level to gently rolling. Inland-wetlands are scattered about the site.

EASEMENTS: The property is subject to several utility easements. These easements should not have an adverse impact on the utilization of this land as a residential subdivision.

PRICE PER ACRE: **$14,349**

VALUATION PROCESS (cont.)

LAND SALE #2 --West side of East Street, Middletown, CT (cont.)

REMARKS: The Middletown Planning and Zoning Commission granted preliminary approval on February 10, 1988, for a 127-lot residential subdivision. This property previously transferred on August 3, 1988, for $3,550,000. Hunt Club at Middletown, Inc., a subsidiary of European American Bank, obtained title to this property through foreclosure proceedings on February 18, 1994. On March 23, 1994, the Middletown Planning and Zoning Commission granted a 3-year extension of the preliminary subdivision approvals. According to Andrew Russell of European American Bank, the property transferred involved 125 lots. Nine (9) of these lots require Wetlands permits before they can be developed. According to John T. Kasper, Engineering Technician of the Middletown Water & Sewer Department, the buyer will have to extended public water and sanitary sewer 500±FT to the subdivision.

This land is located along Route 217 in the western section of Middletown in an area commonly known as "Westfield". As of May 1995, only preliminary road construction has begun. The property is also identified in Maps Nos. 123-94 & 124-94 in the Middletown Land Records.

VALUATION PROCESS (cont.)

LAND SALE #3 -- Atkins Street and Footit Drive, Middletown, CT

GRANTOR: Federal Deposit Insurance Corporation, as Receiver for Connecticut Savings Bank

GRANTEE: Sunrise Farms Project, LLC

VOL./PAGE: 1056/713 DEED: Quit-Claim DATE X: 10/20/94
R: 10/24/94
INSP: 1/30/95

SALE PRICE: $275,000 C.T.: None Collected

MORTGAGE: People's Bank - $137,500 (50%) with the interest rate being at the Prime Rate plus 1.25%. Monthly interest only payments in arrears, with the balance of the loan due on October 25, 1995.

ZONING: Residential (R-60)

UTILITIES: Electricity

LOT AREA: 95.487±AC FRONTAGE: 615.94±FT Atkins Street and 2,192.15±FT Stantack Road.

TOPOGRAPHY: The site is wooded with some inland-wetlands (7±AC) located near the front and rear. The overall topography ranges from gently rolling to rolling. There are minimal inland-wetlands affecting this parcel.

EASEMENTS: There do not appear to be any adverse easements or encumbrances that have a measurable impact on the utilization of the site.

PRICE PER ACRE: **$2,880**

REMARKS: This property previously transferred in 1987 & 1988 as two parcels for a total consideration of $1,134,000. The Middletown Planning and Zoning Commission granted preliminary approvals on March 23, 1988, for a 70-lot residential subdivision (a/k/a Sunrise Farms). As a condition of this subdivision approval the developer was required to install a water system which includes a 1,487,000± gallon water storage tank, a pneumatic system and appurtenances, and a gravity and pump sewer system. Connecticut Savings Bank obtained title to this property through foreclosure proceedings on January 3, 1991. According to the Middletown Planning and Zoning Office the subdivision approvals expired on March 23, 1995. This land is located in a rural residential area of western Middletown, near the Berlin and

VALUATION PROCESS (cont.)

LAND SALE #3 -- Atkins Street and Footit Drive, Middletown, CT (cont.)

REMARKS (cont.): Meriden Town lines. Stantack Road is a seldom used dirt road. The property is identified as Map 2, Block 5-1, Lots 2A1, 4 & 4A in the Middletown Assessor's Records.

VALUATION PROCESS (cont.)

LAND SALE #4 -- 217R Tri-Mountain Road, Durham, CT

GRANTOR: Carey G. Lowe, Jr.

GRANTEE: John J. Ozycz & Martine M. Ozycz (½ interest); and, Thom S. Ozycz & Helenet Ozycz (½ interest)

VOL./PAGE: 141/830 & 832 DEED: Warranty DATE X: 3/29/94
R: 3/29/94
INSP: 2/14/95

SALE PRICE: $350,000 C.T.: $385.00 Total

MORTGAGE: No financing was recorded with the sale. Cash to the seller.

ZONING: Residential (R-60)

UTILITIES: Electricity

LOT AREA: 86.391±AC FRONTAGE: 190±FT

TOPOGRAPHY: The topography ranges from gently rolling to rolling, with land sloping downward toward the center. Inland-wetlands cross through the center of the land. The vast majority of the property is wooded.

EASEMENTS: There do not appear to be any adverse easements or encumbrances that have a measurable impact on the utilization of the site.

PRICE PER ACRE: **$4,051**

REMARKS: This land is an irregularly shaped parcel that is located in a rural residential area near Route 17 in western Durham. This property is also near Tri-Mountain State Park and the Wallingford Town line. The land is described in Map No. 665 of the Durham Land Records, and it is further identified as Map 85, Lots 7, 7.1 & 7.2 in the Durham Assessor's Records.

VALUATION PROCESS (cont.)

LAND SALE #5 -- West side of Higby Road, Middletown, CT

GRANTOR: Carl R. Swanson and Janet B. Swanson

GRANTEE: Robert A. Smythe and Catherine L. Smythe

VOL./PAGE: 1058/546 DEED: Warranty DATE X: 11/9/94
R: 11/9/94
INSP: 5/24/95

SALE PRICE: $94,500 C.T.: $103.95

MORTGAGE: Farmers & Mechanics Bank - $70,875 (75%) @ 10.5% initial interest rate. The interest rate is adjusted yearly at the U.S. T- Bill index plus 5.0%. Monthly payments of principle and interest in arrears, with the balance of the loan being due on December 1, 1999.

ZONING: Residential (R-45)

UTILITIES: Electricity

LOT AREA: 9.0±AC FRONTAGE: 210±FT

TOPOGRAPHY: The land is level, open, and at road grade at the front, and it slopes downward toward the rear. Inland-wetlands cross through the center of the land in a north-south direction. The majority of the rear is wooded.

EASEMENTS: There do not appear to be any adverse easements or encumbrances that have a measurable impact on the utilization of the site.

PRICE PER ACRE: **$10,500**

REMARKS: This land is a rectangularly shaped interior parcel that is located in a rural/suburban of western Middletown. This property is located 1± mile from an interchange for Interstate 91. The buyers are planning to construct a single-family home on the property within the next few years. The land is identified as Map 7, Block 21-1, Lot 1A in the Middletown Assessor's Records.

VALUATION PROCESS (cont.)

LAND SALE #6 -- 1795 Bartholomew Road, Middletown, CT

GRANTOR: David G. Sierpinski and William R. Milardo

GRANTEE: Alexandre J.R. Carre and Regine J. Carre

VOL./PAGE: 1050/123 DEED: Warranty DATE X: 7/12/94
R: 7/20/94
INSP: 5/25/95

SALE PRICE: $82,900 C.T.: $91.19

MORTGAGE: Peoples Bank - $293,400 construction mortgage. $58,500 was the initial amount advanced for the purchase of the land. The remaining balance is for the construction of a single-family dwelling. The balance of the loan due on June 1, 2025.

ZONING: Residential (R-60)

UTILITIES: Electricity

LOT AREA: 5.154±AC FRONTAGE: 72.81±FT Bartholomew Road & 782.28±FT Chamberlain Hill Road

TOPOGRAPHY: The land is at road grade with Bartholomew Road, and it is below grade on Chamberlain Hill Road. The topography ranges from gently rolling to rolling. Inland-wetlands cross through the center of the land in a north-south direction. The vast majority of the property is wooded with scattered areas of rock and ledge.

EASEMENTS: There do not appear to be any adverse easements or encumbrances that have a measurable impact on the utilization of the site.

PRICE PER ACRE: **$16,085**

REMARKS: This land is a irregularly shaped parcel that is located in a rural residential of southern Middletown near the Haddam Town Line. After the date of sale the buyers constructed a large single-family dwelling. The land is described in Map No. 55-94 of the Middletown Land Records, and it is further identified as Map 50, Block 49-2, Lot 1 in the Middletown Assessor's Records.

VALUATION PROCESS (cont.)

LAND SALE #7 -- West side of Chamberlain Highway (Route 71), Berlin , CT

GRANTOR: Emma M. McKeon & Francis W. McKeon

GRANTEE: Jet Development Corporation

VOL./PAGE: 354/806 DEED: Warranty DATE X: 12/15/93
R: 12/16/93
INSP: 5/25/95

SALE PRICE: $85,000 C.T.: $93.50

MORTGAGE: No financing was recorded with the sale. Cash to the seller.

ZONING: Single-Family Residential (R-21)

UTILITIES: Water, Electricity

LOT AREA: 5.5±AC FRONTAGE: 470±FT

TOPOGRAPHY: The topography ranges from level to gently rolling. The front is level, open, and at road grade. The rear section is wooded. The northern portion slopes down towards the Mattabasset River. The areas near the Mattabasset River are inland-wetlands.

EASEMENTS: There do not appear to be any adverse easements or encumbrances that have a measurable impact on the utilization of the site.

PRICE PER ACRE: **$15,455**

REMARKS: This land is an irregularly shaped interior parcel that is bounded to the north by the Mattabasset River. The property is located along Route 71 in suburban residential area of Berlin that is commonly referred to as "Kensington". The purchasers are using the property for the storage of material and equipment used in their construction business. As of May 25, 1995, no plans have been submitted to the Berlin Planning Office to develop this land. Sanitary sewers are located 500±FT north along Route 71. The land is identified as Map 14-1, Block 12, Lot 13 in the Berlin Assessor's Records.

VALUATION PROCESS (cont.)

Land sales 1, 2, 3, & 4 will be analyzed to value Parcel 1, while the other three land sales will be utilized to value Parcel II. The land sales presented differ from the subject property in various respects. These items are generally referred to as "elements of comparison". Elements of Comparison are defined as "The characteristics or attributes of properties and transactions that cause the prices to vary; include real property rights conveyed, financing terms, conditions of sale, market conditions, location, physical characteristics, and other characteristics, such as economic characteristics, use, and non-realty components of value." [Appraisal Institute, The Dictionary of Real Estate Appraisal Third Edition, Chicago: Appraisal Institute, 1993), p. 114]. The following is a discussion of these elements.

Sales Analysis -- Parcel I -- 71.493±AC on Footit Drive

Sale 1 took place less than 3± months prior to the date of valuation, and during this intervening period there has been no measurable change in market conditions. No adjustment is required for changes in market conditions since the date of sale. Land sale 1 is located along paved roads within a residential area of Cromwell, while Parcel I is located along gravel and dirt roads. This makes sale 1 superior to the subject property in terms of location, and the sale price per acre for sale 1 will be adjusted downward to account for this difference in location. The topography of land sale 1 and Parcel I are roughly comparable, and no adjustment is necessary for this characteristic. No other adjustments are required. The overall adjustment to the sale price per acre for sale 1 is downward.

Sale 2 took place 4± months prior to the date of valuation, and no adjustment is required for changes in market conditions since the date of sale. Land sale 2 is located along a paved road within a residential area of Middletown, while the appraised parcel is located along gravel and dirt roads. This makes sale 2 superior to the subject property in terms of location, and the sale price per acre will be adjusted downward to account for this difference in location. The topography of sale 2 is superior to that of the Parcel I, and the sale price per acre will be adjusted downward to account for this characteristic. As of the date of transfer, land sale 2 had approvals in place for a residential subdivision, while there are no subdivision approvals in place for the subject property. Generally, purchasers/developers will not purchase nor exercise their option on a property unless approvals are in place. The sale price per acre for land sale 2 will be adjusted significantly downward to reflect this difference in zoning approvals. No other adjustments are required. The overall adjustment to the sale price per acre for sale 2 is substantially downward.

ASSUMPTIONS AND LIMITING CONDITIONS

1. The legal description furnished is assumed to be correct and no responsibility is assumed for legal matters in character nor is any opinion rendered as to title which is assumed to be marketable.

2. The property is appraised free and clear of any or all liens or encumbrances unless otherwise stated.

3. Responsible ownership and competent property management are assumed.

4. The information furnished by others is believed to be reliable. No warranty, however, is given for its accuracy. Should there be any material inaccuracy in the assumptions in this report, the results of this report are subject to review and revision.

5. All engineering and engineering assumptions are assumed to be correct. The plot plans and illustrative material in this report are included only to assist the reader in visualizing the property.

6. It is assumed that there are no hidden or unapparent conditions of the property, subsoil, or structures that render it more or less valuable. No responsibility is assumed for such conditions or for arranging for engineering studies that may be required to discover them.

7. It is assumed that there is full compliance with all applicable federal, state, and local environmental regulations and laws unless noncompliance is stated, defined, and considered in the appraisal report.

8. It is assumed that all applicable zoning and use regulations and restrictions have been complied with, unless a nonconformity has been stated, defined, and considered in the appraisal report.

9. It is assumed that all required licenses, certificates of occupancy, consents, or other legislative or administrative authority from any local, state, or national government or private entity or organization have been or can be obtained or renewed for any use on which the value estimate contained in this report is based.

10. It is assumed that the utilization of the land and improvements is within the boundaries or property lines of the property described and that there is no encroachment or trespass unless noted in the report.

ASSUMPTIONS AND LIMITING CONDITIONS (cont.)

11. The distribution, if any, of the total valuation in this report between land and improvements applies only under the stated program of utilization. The separate allocations for land and buildings must not be used in conjunction with any other appraisal and are invalid if so used.
12. Possession of this report, or a copy thereof, does not carry with it the right of publication. It may not be used for any purpose by any other person other than the party to whom it is addressed without the written consent of the appraiser, and in any event only with proper written qualification and only in its entirety.

13. The appraiser herein by reason of this appraisal is not required to give further consultation, testimony, or be in attendance in court with reference to the property in question unless arrangements have been previously made.

14. Neither all nor any part of the contents of this report (especially any conclusions as to value, the identity of the appraiser, or the firm with which the appraiser is connected) shall be disseminated to the public through advertising, public relations, news, sales, or other media without prior written consent and approval of the appraiser.

15. The Americans with Disabilities Act ("ADA") became effective on January 26, 1992, I (we) have not made specific compliance survey and analysis of this property to determine whether or not it is in conformity with the various detailed requirements of the ADA. It is possible that a compliance survey of the property, together with a detailed analysis of the requirements of the ADA, could reveal that the property is not in compliance with one or more of the requirements of the Act. If so, this fact could have a negative effect upon the value of the property. Since I (we) have no direct evidence relating to this issue, I (we) did not consider possible noncompliance with the requirements of ADA in estimating the value of the property.

16. It will be an assumption basic to this report, that the subject property meets and conforms to all Federal, State, and Municipal health and environmental regulations. If the property does not conform to these regulations, the values as estimated in this report should be modified.

ASSUMPTIONS AND LIMITING CONDITIONS (cont.)

17. Effective September 28, 1992, the State of Connecticut enacted new lead poisoning prevention and control regulations (C.S.R. 19a-111-1 through 19a-111-11). The appraisers are not qualified to determine if there is lead paint on or within the building improvements. No lead paint survey was procured in the preparation of this appraisal report. It is recommended that a qualified firm conduct a thorough and adequate interior and exterior survey of the building improvements to determine if there is lead paint on or within the structure. It will be an assumption basic to this report, that the subject property meets and conforms to all Federal, State, and Municipal regulations regarding lead paint. If the property does not conform to these regulations, the values as estimated in this report should be modified.

CERTIFICATION OF THE APPRAISER(S)

I certify that, to the best of my knowledge and belief,...

- The statements of fact contained in this report are true and correct.
- The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, are my personal, unbiased professional analyses, opinions, and conclusions.
- I have no present or prospective interest in the property that is the subject of this report, and I have no personal interest or bias with respect to the parties involved.
- My compensation is not contingent on any action or event resulting from the analyses, opinions, or conclusions in, or the use of, this report.
- The preparation of the report and analyses, opinions and conclusions were developed in conformity with the Uniform Standards of Professional Appraisal Practice.
- The appraisal assignment and final value estimate(s) are not based on a requested minimum valuation, a specific valuation, or a range of valuation for the approval of a loan.
- My analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and the Standards of Professional Practice of the Appraisal Institute and the Uniform Standards of Professional Practice (USPAP) as adopted by the Appraisal Standards Board of the Appraisal Foundation.
- The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
- As of the date of this report, I, Robert S. Palmer, have not completed the requirements under the continuing education program of the Appraisal Institute.
- I have <u>not</u> made a personal inspection of the property that is the subject of this report.
- No one provided significant professional assistance to the person(s) signing this report.
- I, Robert S. Palmer, am currently licensed by the State of Connecticut to appraise and value real estate within the State of Connecticut (License No. 483). I have passed the uniform examination necessary for Certification.

May 31, 1995 — DATE

Robert S. Palmer — ROBERT S. PALMER, MAI

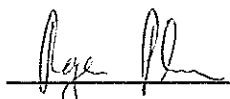
CERTIFICATION OF THE APPRAISER(S)

I certify that, to the best of my knowledge and belief...

- The statements of fact contained in this report are true and correct.
- The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, are my personal, unbiased professional analyses, opinions, and conclusions.
- I have no present or prospective interest in the property that is the subject of this report, and I have no personal interest or bias with respect to the parties involved.
- My compensation is not contingent on any action or event resulting from the analyses, opinions, or conclusions in, or the use of, this report.
- The preparation of the report and analyses, opinions and conclusions were developed in conformity with the Uniform Standards of Professional Appraisal Practice.
- The appraisal assignment and final value estimate(s) are not based on a requested minimum valuation, a specific valuation, or a range of valuation for the approval of a loan.
- My analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and the Standards of Professional Practice of the Appraisal Institute, and the Uniform Standards of Professional Practice (USPAP) as adopted by the Appraisal Standards Board of the Appraisal Foundation.
- The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
- As of the date of this report, I, Roger Palmer, have completed the requirements under the continuing education program of the Appraisal Institute.
- I have made a personal inspection of the property that is the subject of this report.
- No one provided significant professional assistance to the person(s) signing this report.
- I, Roger Palmer, am currently licensed by the State of Connecticut to appraise and value real estate within the State of Connecticut (License No. 484). I have passed the uniform examination necessary for Certification.

May 31, 1995

DATE



ROGER PALMER, MAI

QUALIFICATIONS OF APPRAISER

Robert S. Palmer, MAI

EMPLOYMENT:	Independent Fee Real Estate Appraiser Real Estate Appraiser and Consultant Middletown, CT 1951 to Date
EDUCATION:	Cornell University, Ithaca, NY School of Law (J.D.) Doctor of Law, June 1951 University of Connecticut, Storrs, CT Bachelor of Arts, June 1948 Major: Government Appraisal Institute, Chicago, IL Principles & Techniques of Real Estate Appraising Urban Property Appraising Condemnation Appraisal Practice S.R.E.A - Reviewing Appraisers Course Special Application of Appraisal Analysis No. 301
LICENSE:	State of Connecticut (License No. 483) Certified - Spring 1991 to date
MEMBERSHIP:	Member of the Appraisal Institute (MAI) No. 4706 - May 8, 1972 to date. Member of Connecticut and Federal Bar 1951 to date.
APPRAISAL EXPERIENCE:	Appraisal of residential and commercial properties for financial institutions, governmental agencies, and individual clients
TYPES OF PROPERTIES APPRAISED:	Retail, office, industrial, residential, condominium, residential subdivisions, sanitary landfills, agricultural, nursing homes, unimproved land, and eminent domain
PAST AREAS OF ASSIGNMENT:	Connecticut

QUALIFICATIONS OF APPRAISER

Roger Palmer, MAI

EMPLOYMENT:	Independent Fee Real Estate Appraiser Real Estate Appraiser and Consultant, Middletown, CT October 1988 to Date
	Associate, Patrick McMahon Associates, Inc. Real Estate Appraisers and Consultants, Worcester, MA February 1987 to September 1988
	Associate, Robert S. Palmer, MAI Real Estate Appraiser and Consultant, Middletown, CT June 1985 to January 1987
EDUCATION:	Columbia University, New York, NY School of International and Public Affairs Masters of International Affairs, May 1985
	Clark University, Worcester, MA Bachelor of Arts, May 1983 Major: Economics
	Appraisal Institute, Chicago, IL Attended various courses and seminars given throughout the country related to real estate valuation and required for the MAI designation.
LICENSE:	State of Connecticut (License No. 484) Certified - Spring 1991 to date
MEMBERSHIP:	Member of the Appraisal Institute (MAI) No. 8908 - May 22, 1991 to date
APPRAISAL EXPERIENCE:	Appraisal of properties for financial institutions, governmental agencies, and, individual clients
TYPES OF PROPERTIES APPRAISED:	Retail, office, industrial, residential condominium developments, residential subdivisions agricultural, nursing homes, unimproved land, and, eminent domain
PAST AREAS OF ASSIGNMENT:	Connecticut, Massachusetts, Rhode Island

QUITCLAIM DEED

TO ALL PEOPLE TO WHOM THESE PRESENTS SHALL COME, GREETING:

KNOW YE, That IT, THE MASSACHUSETTS COMPANY, INC., a corporation organized and existing under the laws of the Commonwealth of Massachusetts and having an office and place of business in Boston, Massachusetts, TRUSTEE under a certain Trust Agreement between Horace C. Wilcox and The Massachusetts Company, Inc., dated the 15th day of May, 1978, for the consideration of One ($1.00) Dollar and other good and valuable considerations received to its full satisfaction of THE MERIDEN TRUST AND SAFE DEPOSIT COMPANY, a corporation organized and existing under the banking laws of the State of Connecticut and having an office and place of business in Meriden, Connecticut, SUCCESSOR TRUSTEE under that certain Trust Agreement between Horace C. Wilcox and The Massachusetts Company, Inc., dated the 15th day of May, 1978, does remise, release, and forever QUITCLAIM unto the said The Meriden Trust And Safe Deposit Company, SUCCESSOR TRUSTEE under that certain Trust Agreement between Horace C. Wilcox and The Massachusetts Company, Inc., dated the 15th day of May, 1978, its successors and assigns forever, all the right, title, interest, claim and demand whatsoever as it, the said releasor, has or ought to have in or to those three (3) certain pieces or parcels of land with all buildings and improvements thereon, situated in the City of Middletown, County of Middlesex and State of Connecticut, bounded and described as shown on Schedule A attached hereto and made a part hereof.

TO HAVE AND TO HOLD the premises, with all the appurtenances, unto the said Releasee, its successors and assigns forever, so that neither it, the said Releasor, nor its successors nor any other person under it or them shall hereafter have any claim, right or title in or to the premises, or any part thereof but therefrom it is and they are by these presents forever barred and excluded.

IN WITNESS WHEREOF, The Massuchusetts Company, Inc., Trustee under a certain Trust Agreement between Horace C. Wilcox and The Massachusetts Company, has hereunto caused its corporate name to be signed and seal affixed this 5th day of July in the year of our Lord nineteen hundred and eighty-nine.

Signed, Sealed and Delivered
in the presence of

Patrick A. Blake

Gilda Gallizzo

THE MASSACHUSETTS COMPANY, INC.,
TRUSTEE

By: Maurice F. Lesses, V.P.

By: Marie A. Robie V.P. L.S.

Its Sr. V. P. & V. P.

COMMONWEALTH OF MASSACHUSETTS

ss. JULY 5, 1989

COUNTY OF SUFFOLK

On this the 5th day of July, 1989, before me, the undersigned officer, personally appeared Maurice F. Lesses & Marie A. Robie, who acknowledged to be the Sr. V.Pres. & V. Pres. of The Massachusetts Company, Inc., Trustee under a certain Trust Agreement between Horace C. Wilcox and The Massachusetts Company, a corporation, and that they as such officers, being authorized so to do, executed the foregoing instrument for the purposes therein contained, by signing the name of the corporation as such Trustee by them as such officers.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Jill S. Madden
Notary Public

JILL S. MADDEN
NOTARY PUBLIC
My commission exp. Apr. 26, 1990

My Commission Expires:

Latest address of Grantee:

No. and Street 1295 East Main Street
City Meriden
State CT Zip 06450

NO CONVEYANCE TAX COLLECTED

Anthony Sbona

Town Clerk of Middletown

SCHEDULE A.

A certain piece or parcel of land situated in the City of Middletown, County of Middlesex and State of Connecticut, containing 5.084 acres, as shown on a map entitled "Prepared For ESTATE OF HORACE C. WILCOX, SR. Middletown, Conn. Reino E. Hyyppa & Associates Civil Engineers & Land Surveyors Glastonbury, Conn. Scale 1" = 40' Date 10-13-80 Map No. 1-77-1A," on file in the Middletown Town Clerk's Office and further bounded and described as follows:

NORTHERLY: By land now or formerly of Richard A. Lindquist, Jr., as shown on said map, 458.99 feet;
EASTERLY : By lands now or formerly of Paula A. & Evelyn M. Olander, as shown on said map, 478.88 feet;
SOUTHERLY: By lands now or formerly of Paula A. & Evelyn M. Olander and land of Raymond J. Olander, each in part in all, as shown on said map, 459.32 feet;
WESTERLY : On Atkins Road, as shown on said map, 499.15 feet, said line being a bent line.

Together with all right, title and interest in and to Atkins Road.

A certain piece or parcel of land situated in the City of Middletown, County of Middlesex and State of Connecticut, and shown as "Area = 25.772 Acres" on map entitled "Prepared For ESTATE OF HORACE C. WILCOX, SR. Middletown, Conn. Reino E. Hyyppa & Associates Civil Engineers & Land Surveyors Glastonbury, Conn. Scale 1" = 100' Date 10-13-80 Map No. 1-77-1A," on file in the Middletown Town Clerk's Office and further bounded and described as follows:

NORTHERLY: By land now or formerly of William T. Shea, John F. Green & James A. Morrow, as shown on said map, 280.83 feet;
EASTERLY : By land now or formerly of William T. Shea, John F. Green & James A. Morrow, as shown on said map, 154.67 feet;
NORTHERLY: Again, By land now or formerly of William T. Shea, John F. Green & James A. Morrow, as shown on said map, 579.74 feet, said line being a bent line;
EASTERLY : Again, By land now or formerly of William T. Shea, John F. Green & James A. Morrow, as shown on said map, 368.03 feet, said line being a bent line, and by land now or formerly of Stephen J. & Barbara L. Leinwand, as shown on said map, 676.15 feet;
SOUTHERLY: On Footit Drive, as shown on said map, 1182.94 feet;
WESTERLY : On Stantack Road, as shown on said map, 1326.21 feet.

Together with all right, title and interest in and to Footit Drive and Stantack Road.

A certain piece or parcel of land situated in the City of Middletown, County of Middlesex and State of Connecticut and shown as "Area = 45.721 Acres" on map entitled "Prepared For ESTATE OF HORACE C. WILCOX, SR. Middletown, Conn. Reino E. Hyyppa & Associates Civil Engineers & Land Surveyors Glastonbury, Conn. Scale 1" = 100' Date 10-13-80 Map No. 1-77-1A", on file in the Middletown Town Clerk's Office and further bounded and described as follows:

NORTHERLY: By land now or formerly of Florence Varricchione, 1276.98 feet the southerly extension of Stantack Road, 28.11 feet, and by Footit Drive, 2527.04 feet, all as shown on said map;
EASTERLY : By lands now or formerly of Theodore C. & Elizabeth C. Krumm and Albert Lindquist, each in part, in all, 542.78 feet, as shown on said map, said line being a bent line;
SOUTHERLY: By land now or formerly of the Estate of Roy C. Wilcox, as shown on said map, 3638.18 feet, and
WESTERLY : By the Meriden-Middletown Town Line, as shown on said map, 504.49 feet.

Together with all right, title and interest in and to Stantack Road and Footit Drive.

Rec'd for Record July 18, 1983 at 10:52 A.M.

Recorded by Anthony L. Bona
Town Clerk

FORM D1 CONNECTICUT - WARRANTY DEED - SURVIVORSHIP

VOL 385 PAGE 442

To all People to Whom these Presents shall Come, Greeting:

Know Ye, That I, HORACE C. WILCOX, JR., of the City of Middletown, County of Middlesex and State of Connecticut

for the consideration of Sixty Thousand ($60,000.00) Dollars

received to my full satisfaction of W. NICHOLAS KNIGHT and SUSAN H. KNIGHT, both of the Town of East Haddam, County of Middlesex and State of Connecticut,

do give, grant, bargain, sell and confirm unto the said

W. NICHOLAS KNIGHT and SUSAN H. KNIGHT

and unto the survivor of them, and unto such survivor's heirs and assigns forever all that certain piece or parcel of land with all the buildings and improvements thereon situated in the Westfield District of the Town of Middletown, County of Middlesex and State of Connecticut, bounded and described as follows:

NORTHERLY	by land now or formerly of Roy C. Wilcox, 497 feet more or less;
EASTERLY	on Atkins Street, 260 feet more or less;
SOUTHERLY	by land now or formerly of William H. Wilcox, 240 feet more or less;
WESTERLY	by land now or formerly of William H. Wilcox, 44 feet more or less;
SOUTHERLY	again by land now or formerly of William H. Wilcox, 285 feet more or less, and
WESTERLY	again by land now or formerly of William H. Wilcox, 283 feet more or less.

Being the same premises described in deeds from Roy C. Wilcox to Horace C. Wilcox, Jr., the first deed dated December 15, 1958, and recorded in the Middletown Land Records, Volume 295, Page 248, and the second deed dated January 2, 1959, and recorded in Middletown Land Records, Volume 295, Page 526.

Together with an easement for a term of five years after the date hereof to use the well and the connections thereto as presently existing located on other land of the grantor located across the street from the above described premises with the right to enter to maintain the same.

SAID PREMISES ARE SUBJECT TO THE FOLLOWING INCUMBRANCES:

1. Taxes on the List of October 1, 1971 and Fire District Tax which the grantees assume and agree to pay as part consideration hereof.
2. Such a state of facts as an accurate survey might disclose and any and all ordinances, municipal regulations, executive orders, public or private laws, zoning ordinances and building lines if established.

It is the intention of this instrument to convey said above described premises to the grantees herein as joint tenants with the right of survivorship expressly vested in said grantees, and not as tenants in common.

$66.00 Conveyance Tax received

Town Clerk of Middletown

To Have and to Hold the above granted and bargained premises, with the appurtenances thereof, unto them the said grantees, and unto the survivor of them, and unto such survivor's heirs and assigns forever, to them and their own proper use and behoof.

And also, I the said grantor do for myself, my heirs, executors, administrators, and assigns, covenant with the said grantees and with the survivor of them, and with such survivor's heirs and assigns, that at and until the ensealing of these presents I am well seised of the premises, as a good indefeasible estate in FEE SIMPLE; and have good right to bargain and sell the same in manner and form as is above written; and that the same is free from all incumbrances whatsoever, except as hereinbefore mentioned.

And Furthermore, I the said grantor do by these presents bind myself and my heirs, and assigns forever to WARRANT AND DEFEND the above granted and bargained premises to them the said grantees, and to the survivor of them and to such survivor's heirs and assigns, against all claims and demands whatsoever, except as hereinbefore mentioned.

In Witness Whereof, I have hereunto set my hand and seal this 10th day of July, in the year of our Lord nineteen hundred and seventy-two.

Signed, Sealed and Delivered in presence of

Robert H. Luby — Horace C. Wilcox, Jr. (L.S.)

Ivar A. Jozus — (L.S.)

(L.S.)

State of Connecticut, County of MIDDLESEX } ss. Middletown

On this the 10th *day of* July, *19* 72, *before me,* Robert H. Luby, *the undersigned officer, personally appeared* Horace C. Wilcox, Jr.

known to me (or satisfactorily proven) to be the person whose name is *subscribed to the within instrument and acknowledged that* he *executed the same for the purposes therein contained, as* his *free act and deed.*

In Witness Whereof, *I hereunto set my hand and official seal.*

Robert H. Luby
Commissioner of the Superior Court
Title of Officer

Received for Record July 10, 1972 at 2 H. 15 M. P. M.
Recorded by Louise F. Lucia
Town Clerk

VOL 706 PAGE 173

CERTIFICATE OF DEVISE, DESCENT OR DISTRIBUTION

PRC-58 NEW 7-74 (C.G.S. Sec. 45-286)

STATE OF CONNECTICUT
COURT OF PROBATE

[Note: File certificate with town clerk where real property is situated.]

FOR COURT USE ONLY

DATE:

ORIGINAL TO:

Court of Probate, District of MERIDEN: District No. 080

ESTATE OF HORACE C. WILCOX,
LATE OF MERIDEN, DECEASED

DATE OF DEATH 3/23/80.

THIS CERTIFIES that as appears from the records of this Court said deceased died on the date above written and his estate has been duly settled in this Court; and there is ~~distributed, set out or divided or descended~~ given, devised and bequeathed

TO THE MASSACHUSETTS COMPANY, INC., of Boston, Massachusetts, TRUSTEE, all the rest, residue and remainder of his estate, in accordance with a certain Trust Agreement executed on the 15th day of May, 1978, including the following:

SEE "SCHEDULE A" ATTACHED.

[Give name, place of residence and share of each distributee]

SCHEDULE A.

A certain piece or parcel of land situated in the City of Middletown, County of Middlesex and State of Connecticut, containing 5.084 acres, as shown on a map entitled "Prepared For ESTATE OF HORACE C. WILCOX, SR. Middletown, Conn. Reino E. Hyyppa & Associates Civil Engineers & Land Surveyors Glastonbury, Conn. Scale 1" = 40' Date 10-13-80 Map No. 1-77-1A," on file in the Middletown Town Clerk's Office and further bounded and described as follows:

NORTHERLY: By land now or formerly of Richard A. Lindquist, Jr., as shown on said map, 458.99 feet;
EASTERLY : By lands now or formerly of Paula A. & Evelyn M. Olander, as shown on said map, 478.88 feet;
SOUTHERLY: By lands now or formerly of Paula A. & Evelyn M. Olander and land of Raymond J. Olander, each in part in all, as shown on said map, 459.32 feet;
WESTERLY : On Atkins Road, as shown on said map, 499.15 feet, said line being a bent line.

Together with all right, title and interest in and to Atkins Road.

A certain piece or parcel of land situated in the City of Middletown, County of Middlesex and State of Connecticut, and shown as "Area = 25.772 Acres" on map entitled "Prepared For ESTATE OF HORACE C. WILCOX, SR. Middletown, Conn. Reino E. Hyyppa & Associates Civil Engineers & Land Surveyors Glastonbury, Conn. Scale 1" = 100' Date 10-13-80 Map No. 1-77-1A," on file in the Middletown Town Clerk's Office and further bounded and described as follows:

NORTHERLY: By land now or formerly of William T. Shea, John F. Green & James A. Morrow, as shown on said map, 280.83 feet;
EASTERLY : By land now or formerly of William T. Shea, John F. Green & James A. Morrow, as shown on said map, 154.67 feet;
NORTHERLY: Again, By land now or formerly of William T. Shea, John F. Green & James A. Morrow, as shown on said map, 579.74 feet, said line being a bent line;
EASTERLY : Again, By land now or formerly of William T. Shea, John F. Green & James A. Morrow, as shown on said map, 368.03 feet, said line being a bent line, and by land now or formerly of Stephen J. & Barbara L. Leinwand, as shown on said map, 676.15 feet;
SOUTHERLY: On Footit Drive, as shown on said map, 1182.94 feet;
WESTERLY : On Stantack Road, as shown on said map, 1326.21 feet.

Together with all right, title and interest in and to Footit Drive and Stantack Road.

A certain piece or parcel of land situated in the City of Middletown, County of Middlesex and State of Connecticut and shown as "Area = 45.721 Acres" on map entitled "Prepared For ESTATE OF HORACE C. WILCOX, SR. Middletown, Conn. Reino E. Hyyppa & Associates Civil Engineers & Land Surveyors Glastonbury, Conn. Scale 1" = 100' Date 10-13-80 Map No. 1-77-1A", on file in the Middletown Town Clerk's Office and further bounded and described as follows:

NORTHERLY: By land now or formerly of Florence Varriochione, 1276.98 feet the southerly extension of Stantack Road, 28.11 feet, and by Footit Drive, 2527.04 feet, all as shown on said map;
EASTERLY : By lands now or formerly of Theodore C. & Elizabeth C. Krumm and Albert Lindquist, each in part, in all, 542.78 feet, as shown on said map, said line being a bent line;
SOUTHERLY: By land now or formerly of the Estate of Roy C. Wilcox, as shown on said map, 3638.18 feet, and
WESTERLY : By the Meriden-Middletown Town Line, as shown on said map, 504.49 feet.

Together with all right, title and interest in and to Stantack Road and Footit Drive.

Reference to the records of said Probate Court being hereby had for a more particular description.

IN TESTIMONY WHEREOF, on this 14th day of NOVEMBER, 1984, I have hereunto set my hand and affixed the SEAL of this Court to this certificate.

SEAL

, Judge, ~~Ass't. Clerk~~

CERTIFICATE OF DEVISE, DESCENT OR DISTRIBUTION

Rec'd. for Record Nov. 19 1984 at 3 H55m P. M.

Recorded by Anthony Sloma
Town Clerk

Recorded Probate Records
Vol.
Page
Ass't. Clerk

KNOW ALL MEN BY THESE PRESENTS, That the Farmers and Mechanics Savings Bank, a corporation located and doing business in the Town of Middletown, County of Middlesex, and State of Connecticut, for the consideration of ONE DOLLAR and other valuable considerations does hereby release and discharge a certain mortgage given it by GEORGE J. MILLIOT, JR. and SUSAN P. MILLIOT

dated May 1, 1979

and recorded in the records of the town of Middletown

county of Middlesex, and State of Connecticut, in book 540

Page 284

the debt secured by said mortgage having been fully paid.

IN WITNESS WHEREOF, said FARMERS AND MECHANICS SAVINGS BANK has hereunto set its hand and seal by its Assistant Secretary, ~~his/her~~ being duly authorized, this 16th day of November, A.D. 19 84.

Signed, sealed and delivered in presence of

Nellie P. Nyren

Nellie P. Nyren

Deanna L. Bianco

Deanna L. Bianco

FARMERS AND MECHANICS SAVINGS BANK,

by Patricia G. Bedlack
Patricia G. Bedlack, Assistant Secretary

STATE OF CONNECTICUT,
County of Middlesex, } ss. Middletown, November 16 A.D. 19 84

Personally appeared PATRICIA G. BEDLACK, ASSISTANT SECRETARY of the FARMERS AND MECHANICS SAVINGS BANK and signer and sealer of the foregoing instrument and acknowledged the same to be ~~his/her~~ free act and deed, and also the free act and deed of the said FARMERS AND MECHANICS SAVINGS BANK, before me

Nellie P. Nyren
Nellie P. Nyren *Notary Public*

My Commission Expires 3/31/88

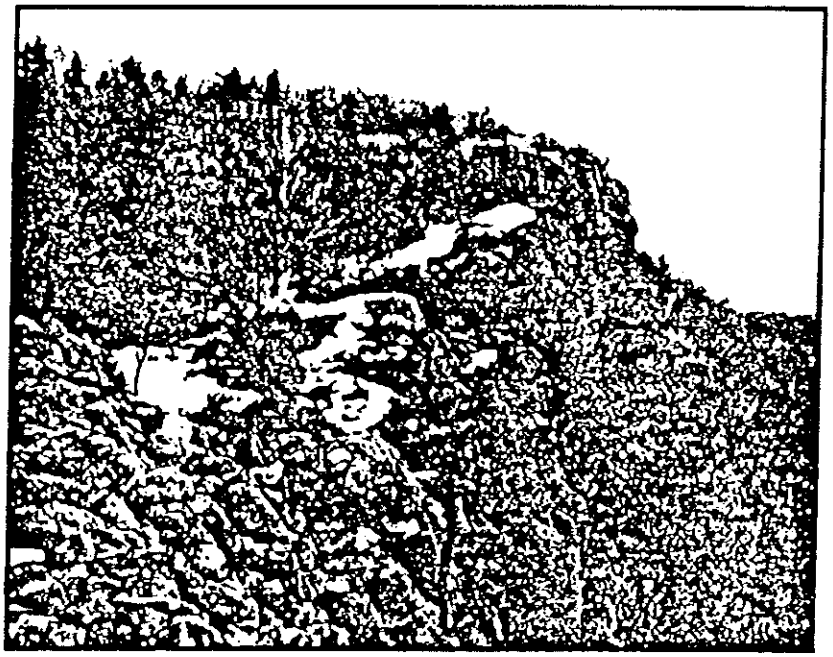
Rec'd. for Record Nov. 16, 1984 at 4:00 P.M.

Recorded by Anthony Sloma
Town Clerk

0508 (3/83)

Lamentation Mountain Tri-Town Project

LAND USE PLAN



Prepared by and for
Berlin Conservation Commission
Meriden Conservation Commission
Middletown Conservation Commission

June 1994

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List Of Figures

ACKNOWLEDGEMENTS

In 1991 the Berlin, Meriden and Middletown Conservation Commissions launched the Lamentation Mountain Tri-Town Project (the "Tri-Town Project") to work on a uniform and consistent conservation and development plan for Lamentation Mountain, which lies in the three towns. The Tri-Town Project met three times to review available historical, geological, and biological information, and existing maps and to establish study goals and planning options. At an initial project meeting on March 19, 1991 presentations were made by Jelle DeBoer of Wesleyan University (geology and water resources); Joseph Hickey, Department of Environmental Protection (trap rock ridges and recreation); Jim Gibbons, University of Connecticut Extension Service (natural resource planning); and Geoff Colegrove, Midstate Regional Planning Agency (computerized mapping).

In 1992, the Tri-Town Project received a $300 grant from the Rockfall Foundation (Middletown, CT). These funds were used for the development of the Natural Resource Inventory and final copies of this report. The Natural Resource Inventory of Lamentation Mountain was carried out by Ms. Beth Lapin of The Nature Conservancy during the summer of 1992. In 1993, the Tri-Town Project received recognition as an Outstanding Planning Program from the Connecticut Chapter of the American Planning Association. The project was also acknowledged in the recent State Plan of Conservation and Development by the Connecticut office of Planning and Development.

The planning meetings and technical information compiled by the many volunteers, officials and organizations involved in this project provided the foundation for the focus and scope of the following report.

Others, whose interest, participation, and contributions made the completion of this report possible include: W. Voelker, R. Schmidt from the town of Berlin, D. Caruso, J. Netherton, R. Gibson from the City of Meriden; W. Warner, L. Bowers, R. Klattenberg from the City of Middletown; Northeast Utilities Service Company; the Connecticut Forest and Park Association; Midstate Regional Planning Agency; and the Connecticut Department of Environmental Protection.

I. INTRODUCTION AND PURPOSE OF THE STUDY

The Lamentation Mountain/Chauncey Peak ridgeline is a section of the Central Connecticut traprock ridge system that has been called Connecticut's Central Park. It constitutes the municipal boundary between the municipalities of Berlin, Meriden and Middletown. The fact that the study area is divided among three municipalities, three state planning regions and three soil and water conservation districts makes this location highly unique within the State of Connecticut.

The traprock ridge environment offers unique plant and wildlife habitat, magnificent and panoramic views of the central Connecticut Valley, extensive hiking, and educational opportunities and a place of peace and solace. Because of the existence of these special characteristics it became apparent to local planners and conservationists that a long term strategic plan was needed to guide the conservation of this important resource and to ensure that development will proceed in an environmentally responsible manner.

Since the inception of this planning effort it has been well understood that many of the challenges which municipalities experience today transcend their boundaries and are of regional and often statewide concern. The protection of Lamentation Mountain/Chauncey Peak is one of these challenges which must be cooperatively addressed at all levels of government. Coordination is necessary not only between the three muncipalities which are located in three different counties (Hartford, Middlesex, and New Haven) but also the three different regional planning agencies for those counties. For this reason, this multi-town planning effort is particularly innovative and forward-looking. It involves not only working at the three levels of government but also with multiple players within each level of government. This cooperative planning effort will insure that all participants within the three levels of government will be working in concert to provide for the coordinated conservation and development of this precious resource.

The rights and desires of landowners are of great importance to the Tri-Town Project. This report is intended to promote meaningful discussions with landowners and town land use agencies. The Tri-Town Project invites landowners views and seeks their input and support. If necessary, amendments will be incorporated. This report will also serve as a guide for use by town and city commissions, as well as, developers and property owners. The carefully guided conservation and development of this multi-town resource will benefit those who own land on the mountain by formulating recommendations to assist them by making the development process flow more smoothly. In addition, it will benefit all residents of the State by preserving and improving accessibility to this resource of statewide significance.

STUDY GOALS

The purpose of this multi-town planning effort was to identify the study area's natural features, analyze the constraints and opportunities for development and provide innovative land conservation and development recommendations designed to guide the future growth of the study area.

With this purpose in mind the Tri-Town Project Committee established the following project goals:

1) Permanently protect unique features, such as special wildlife habitats, rare and endangered species, the talus slope and the cliff faces ;

2) Maintain an unimpeded and publicly accessible trail network which allows for access to the higher elevations;

3) Maintain the natural scenic beauty of the mountain landscape as viewed from the mountain and from surrounding locations;

4) Promote open space planning and development techniques compatible with the natural qualities of the mountain and, in particular, the traprock ridgeline.

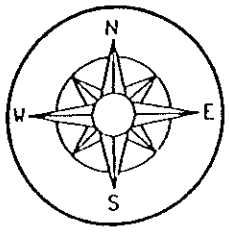
II. THE TRI-TOWN LAMENTATION MOUNTAIN STUDY AREA

The ridge under study is located in the Connecticut River valley in central Connecticut and runs approximately 3.5 miles north to south through the town of Berlin and cities of Meriden and Middletown

The ridge, which includes Lamentation Mountain and Chauncey Peak, has a maximum elevation of 720 feet above sea level. It is typical of many ridges in Connecticut with its steep west facing cliff and much more gradual east sloping side. The ridge runs on a slight southwest to northeast direction. From its higher elevations, Mt. Tom (Massachusetts) can be seen to the north, Sleeping Giant Mountain to the south, the Western Highland to the west and the Eastern Highlands to the east.

The study area, displayed in Figure 1, is approximately 1300 acres. It is bounded on the west by the 250 foot contour line at the base of the mountain running parallel to Connecticut Route 15, also known as the Berlin Turnpike. Westfield Road in Meriden and Country Club Road in Middletown constitute the southern extreme of the study area. The eastern boundary is an unimproved road known as Stantack Road. Stantack Road runs northerly from Country Club Road in Middletown to Spruce Brook Road in Berlin. In general, Spruce Brook Road constitutes the northern boundary of the study area.

Lamentation Mountain Study
Tri-Town Project
Study Area



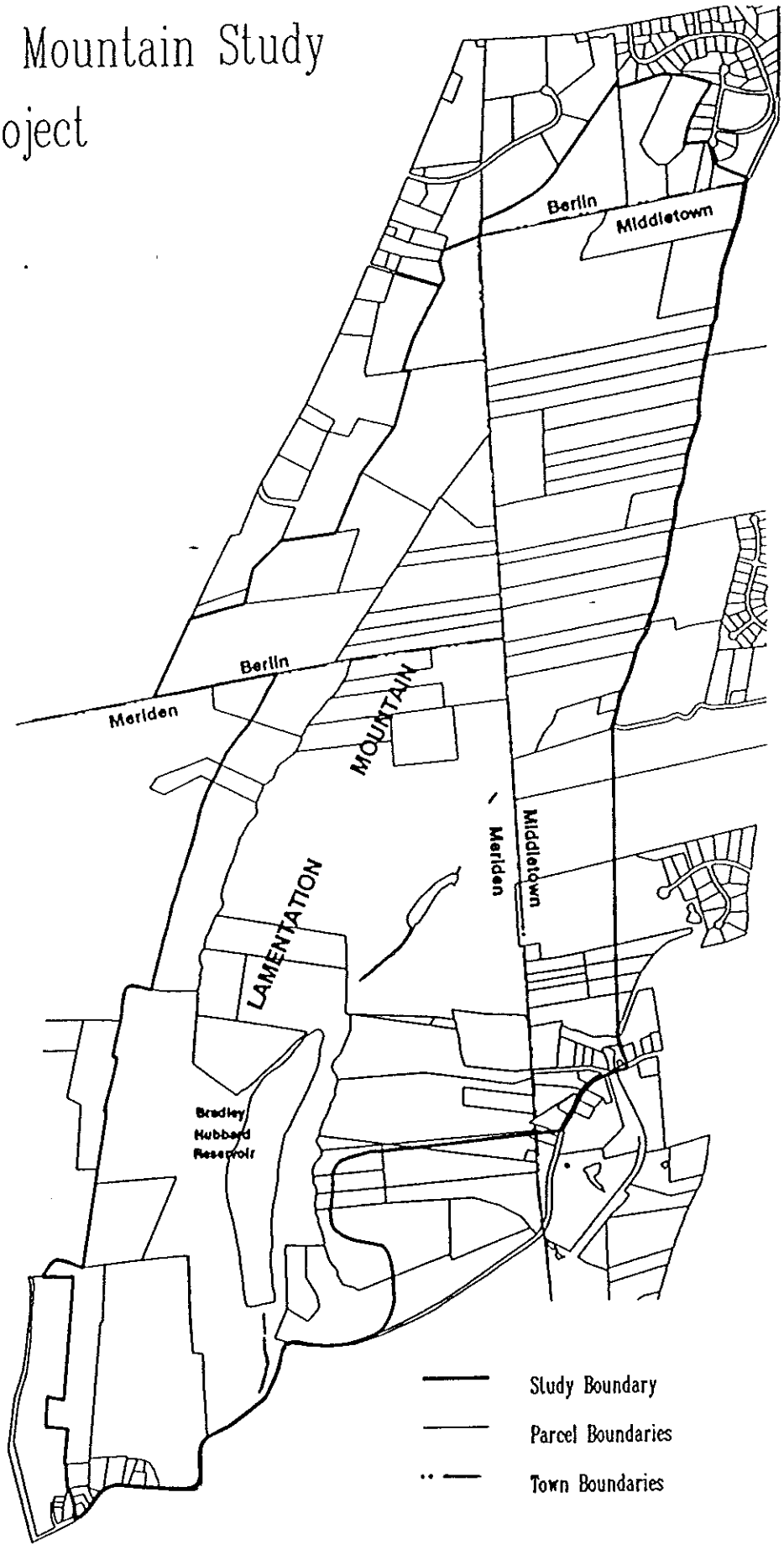


Figure 1

III. PRESERVATION IN EXISTING PLANS OF DEVELOPMENT

a. State of Connecticut Plan of Conservation and Development

The State Plan of Conservation and Development designates the majority of the study area as a "Conservation Area". A small area at the lower elevations in Middletown is designated as "Rural Area". The State Action Strategy for Conservation Areas is as follows:

> *"Plan and manage, for the long-term public benefit, the lands contributing to the state's need for food, fiber, water and other resources, open space, recreation, and environmental quality and ensure that changes in use are compatible with the identified conservation values."*

b. Regional Conservation and Development Plans

The Midstate Regional Planning Agency has designated the portion of the study area in Middletown as "Open Space" on its Regional Plan of Development.

The Central Connecticut Regional Planning Agency has designated the portion of the study area in Berlin as "Conservation/Preservation "on its Regional Plan of Development.

The South Central Regional Council of Governments has designated the portion of the study area in Meriden as "Limited Growth" on its Regional Plan of Development.

c. Local Plan's of Development

Meriden's Land Use Plan, adopted in 1985, identifies the bulk of the study area as Parks/Open Space. Also included in the study area is land designated as industrial, this being the present site of the traprock quarry. A smaller area on the western slope of Lamentation Mountain is designated as Residential-Low Density. The Plan also has as an objective "to protect the integrity of environmentally sensitive areas." In addition, the Plan recommends "acquisition of marginal lands adjacent to Giuffrida Park.....".

Middletown's "Guiding the Future: A Plan of Development for the Year 2000", adopted in 1990, identifies the area as Proposed Open Space. The Plan also contains a section on steep slopes and ridgelines. Quoting from the Plan:

> ***"These large parcels of wooded land have value for their plant and wildlife habitat, passive recreational use, and scenic quality. These values qualify them for consideration as protected open space."***
>
> ***"If these areas are threatened with development the Planning and Zoning Commission should consider creative development proposals which would cluster development at lower elevations and leave the higher elevations as open land."***

The plan also discourages the extension of public water and sewer into this area.

The Berlin Plan of Development adopted in 1992 focuses on the publicly owned land in the study area. The plan identifies Lamentation Mountain State Park and four parcels owned by the town within the study area. Private lands are identified as rural density. With regard to the traprock ridgelines the plan indicates that:

"The Town should seek to acquire as much of this resource as possible and to restrict development activities to well below the ridgelines and steep slopes."

IV. EXISTING LAND USE

Figure 2, the existing land use map, shows that the majority of the study area is undeveloped. As displayed on the land use map the Blue Blazed Mattabessett Trail provides pedestrian access to the ridgeline and runs the entire length of the study area. The trail can be accessed from Country Club Road in Middletown, Giuffrida Park in Meriden or from a small parking area on Spruce Brook Road in Berlin.

a. Meriden

In Meriden approximately 600 acres of land are located within Giuffrida Park, a city owned park containing a golf course and a watershed protection area for Bradley Hubbard Reservoir, a city water supply. There are also scattered single family homes, a large traprock quarry, and an automobile junk yard. A total of 32 privately owned lots exist within the project boundaries, the majority of which make up the quarry. The remaining small residential lots are located in the southwest portion of the study area.

b. Middletown

In Middletown, the current land use is primarily undeveloped privately held woodlands. The only other land use is 11 scattered single family homes on large lots. The majority of the homes (7) are located off of a private road at the southern extremity of the study area in Middletown. As stated, with the exception of these single family homes, the remainder of the land in Middletown is undeveloped. There are 49 privately owned lots. The Existing Land Use and Zoning Map indicates that the large area of undeveloped land in Middletown is fragmented into long narrow lots with the only access to the study area from Middletown via an unimproved city road (Footit Drive). City records do not indicate that Stantack Road, the study area's eastern boundary, is a city road. The land in Middletown surrounding the study area is predominately undeveloped with the exception of scattered single family homes and two large residential subdivisions. The southern most subdivision, known as the Old Farms Subdivsion, was constructed as an Environmentally Sensitive Cluster Design. This subdivision serves as an excellent example of the effectiveness of this planning design to integrate environmental protection with development.

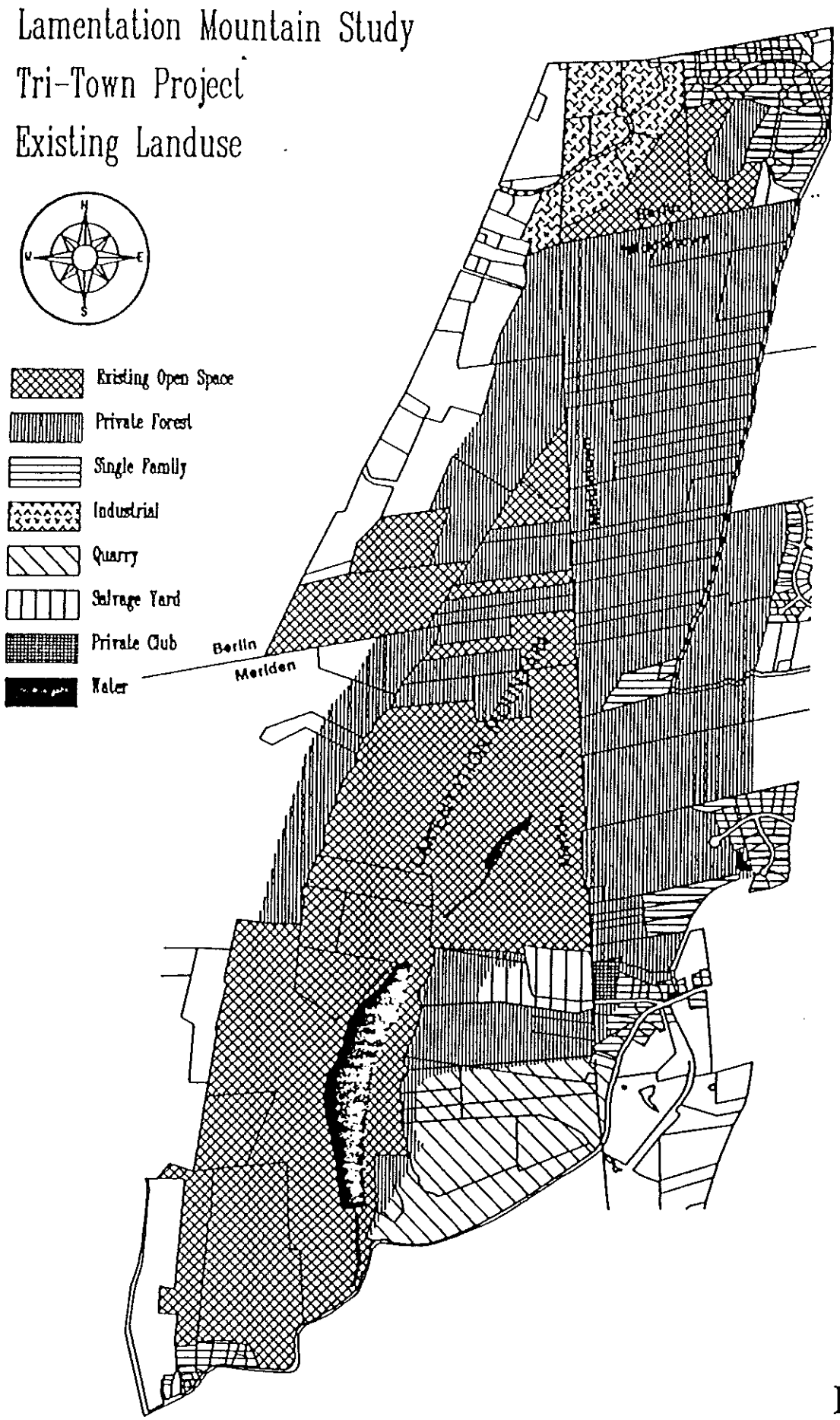

Lamentation Mountain Study
Tri-Town Project
Existing Landuse
N
W
E
S
Existing Open Space
Private Forest
Single Family
Industrial
Quarry
Salvage Yard
Private Club
Water
Berlin
Meriden

Figure 2

c. Berlin

The Town of Berlin has the smallest portion of land within the study area. Most of this land is completely undeveloped and six parcels are held as open space by the Town of Berlin or the State of Connecticut. The land owned by the State is Lamentation Mountain State Park, an undeveloped park that is accessible from the Berlin Turnpike. The only improvement on these parcels is a water tower owned by the Town of Berlin. There are three large undeveloped parcels of land at the western extreme of the study area. These parcels are privately held and have, along with significant development potential, direct access to Route 15. The land surrounding the study area in Berlin is developed with a residential and an industrial subdivision, and limited commercial development including restaurants and motels. The residential subdivision, known as "Lamentation Mountain Estates", at the northern extreme of the study area is also an excellent example of an Environmentally Sensitive Cluster Design.

V. EXISTING PUBLIC UTILITIES

a. Meriden

Public water and sewer lines currently do not service any of the study area. However, water and sewer service is available along Route 15 and a portion of Westfield Road. Connections could be made to these systems to service at least a portion of the study area if development were to occur.

b. Middletown

City sewer is available in the Old Farms subdivision adjacent to the area and city water and sewer are available in the Westfield Hills subdivision, which is also adjacent to the study area. While City water and sewer are available, due to topographic constraints it may be difficult to extend these lines. Furthermore, the City's Plan of Development currently discourages any further extensions into the study area.

c. Berlin

Public sewer and water are available along the Berlin Turnpike and from the Spruce Brook Road area. There is also a major gas line which traverses the study area in Berlin.

VI. EXISTING ZONING AND OPPORTUNITIES FOR CREATIVE DEVELOPMENT

a. Meriden

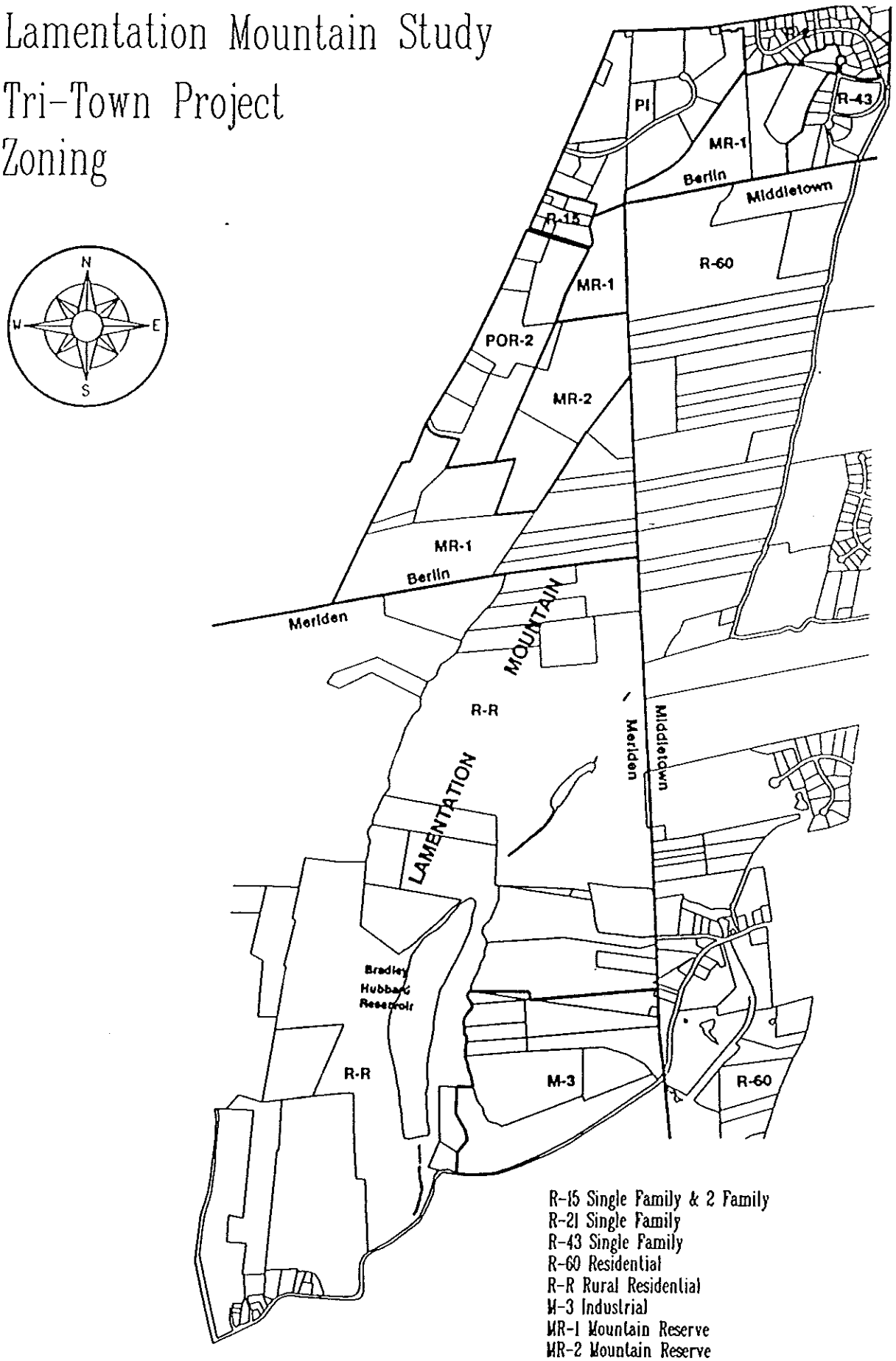
Meriden zoning is R-R (Rural-Residential) and M-3 (Industrial). The zoning of the study area is shown in Figure 3. The R-R zone requires 40,000 square feet of lot area. Permitted uses include single-family dwellings, public buildings, public and private utility substations, places of worship and public assembly, crop and tree farming, riding academies and stables, membership clubs, and child-care providers. The M-3 zone permits manufacturing, production and fabrication; offices, warehouses and distribution facilities; research and development; veterinarians; newspaper and job printing; industrial laundries; recreation centers; child care providers. Uses permitted by Special Exception include building materials and contractor's yards, feed and fuel storage, junk yards, commercial equipment, wholesale, retail, service and storage; bituminous paving plants and concrete plants; truck terminals; heliports, mobile homes and mobile home parks; factory outlets; and class II and III child care providers. Meriden also has a provision for cluster type development to allow for the maximum preservation of open space.

b. Middletown

Middletown zoning is R-60 Residential. This is a classic Rural Residential zone. The minimum lot area is 60,000 square feet and the permitted uses include farming, single family homes, day care centers, churches, schools, recreation areas, leaf composting areas and natural resource extraction.

In addition to standard subdivisions with large lots and thirty foot road widths, the City of Middletown Zoning Code contains both cluster regulations and Large Lot Environmentally Sensitive regulations. In exchange for a more environmentally sensitive subdivision and a greater amount of open space, the cluster regulations provide for flexibility in lot size and dimensions, road widths and sidewalk requirements. The cluster alternative also has a density bonus incentive to encourage the use of cluster design. The Large Lot Environmentally Sensitive subdivision allows for 18 foot private gravel roads.

Lamentation Mountain Study
Tri-Town Project
Zoning



R-15 Single Family & 2 Family
R-21 Single Family
R-43 Single Family
R-60 Residential
R-R Rural Residential
M-3 Industrial
MR-1 Mountain Reserve
MR-2 Mountain Reserve
PI Planned Industrial
POR-2 Planned Office / Residential

Scale: 1 inch equals 2000 feet.

Figure 3

nentation Mountain Study

Tri-Town Project

Topography

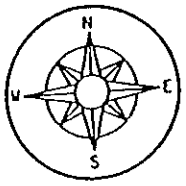


Figure 4

c. Berlin

Berlin zoning is Mountain Reserve 1 and Mountain Reserve 2. Mountain Reserve 1 is a single family, three acre lot zone. It permits single family residential, farms, parks, schools, churches, nursing homes, golf courses, and other similar uses. Mountain Reserve 2 allows similar uses but also includes multi-family housing at a density of two dwelling units per acre and a maximum impervious surface coverage of twenty-five percent. While the MR-2 zoning does allow multi-family development, it is restricted to a maximum elevation of 350 feet MSL. Berlin also has a cluster type development provision to allow for the maximum preservation of open space.

VII. NATURAL FEATURES

The study area's unique environmental features impose limitations on development. The following site analysis covers topography, drainage, steep slopes, soils, and vegetative communities.

a. Topography

Both the Lamentation Mountain and Chauncey Peak ridgelines are oriented north-south (see Figure 4). The Chauncey Peak ridgeline, approximately 3,000 feet in length, is located in the south central portion of the study area. At its northern most point, the ridge begins at a ravine with a stream at its base. This stream feeds into the Bradley Hubbard Reservoir. The ridge runs the length of the reservoir and at the southern terminus of the study area the ridge wraps around to the east. The summit of Chauncey Peak reaches elevation 688 mean sea level (MSL). From the top of the ridge to the west is a sheer cliff. From the top of this cliff elevation drops 377 feet to the shores of the reservoir.

East of the Chauncey peak ridgeline a significant portion of the eastern face has been altered. This alternation is due to an extensive quarrying operation. Undisturbed natural topography on the eastern slope is far more gently sloping from the summit. Elevation changes from 688 MSL at the summit down to a wetland area at approximately 400 MSL. This vertical change in elevation occurs over a horizontal distance of approximately 2,000 feet.

The much longer (approximately 2 miles) and much more recognizable Lamentation Mountain ridgeline is characterized by both exposed basalt cliffs with talus slopes and tree lined portions. Lamentation Mountain has a summit of 720 MSL with elevations along the ridge ranging from 550 at the southern terminus to approximately 250 feet at the northern terminus. From the top of the Lamentation Mountain ridgeline the elevation drops dramatically on the western cliffside of the mountain. The elevation changes over a horizontal distance of approximately 800 feet from approximately 600-720 MSL to approximately 350 MSL at the western edge of the study area.

As with Chauncey Peak, the eastern slope has a far more gentle decline in elevation from the summit. Moving from the northern terminus south to the Meriden/Berlin boundary the eastern slope drops fairly rapidly from approximately 600 MSL to 250 MSL over a horizontal distance of approximately 1,000 feet. From this point to the eastern edge of the study area the land is more gently sloping, with elevations ranging between 200-250 MSL. South of the Meriden/Berlin boundary line, the ridgeline drops off much more gently from the summit at 720 MSL down to 400 MSL at the stream which flows into the ravine north of the Bradley Hubbard Reservoir. This change in elevation occurs over a horizontal distance of approximately 2,200 feet. East of the stream which feeds into the reservoir the topography is much more gently sloping with elevations ranging between 250-300 MSL.

b. Drainage

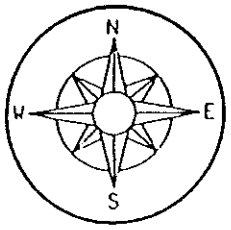
Overland flow of water off of the mountain drains into four distinct watersheds: the Harbor Brook, the Sawmill Brook, the Mattabesset, and the Belcher Brook watershed systems. The attached drainage map, Figure 5, illustrates these drainage patterns.

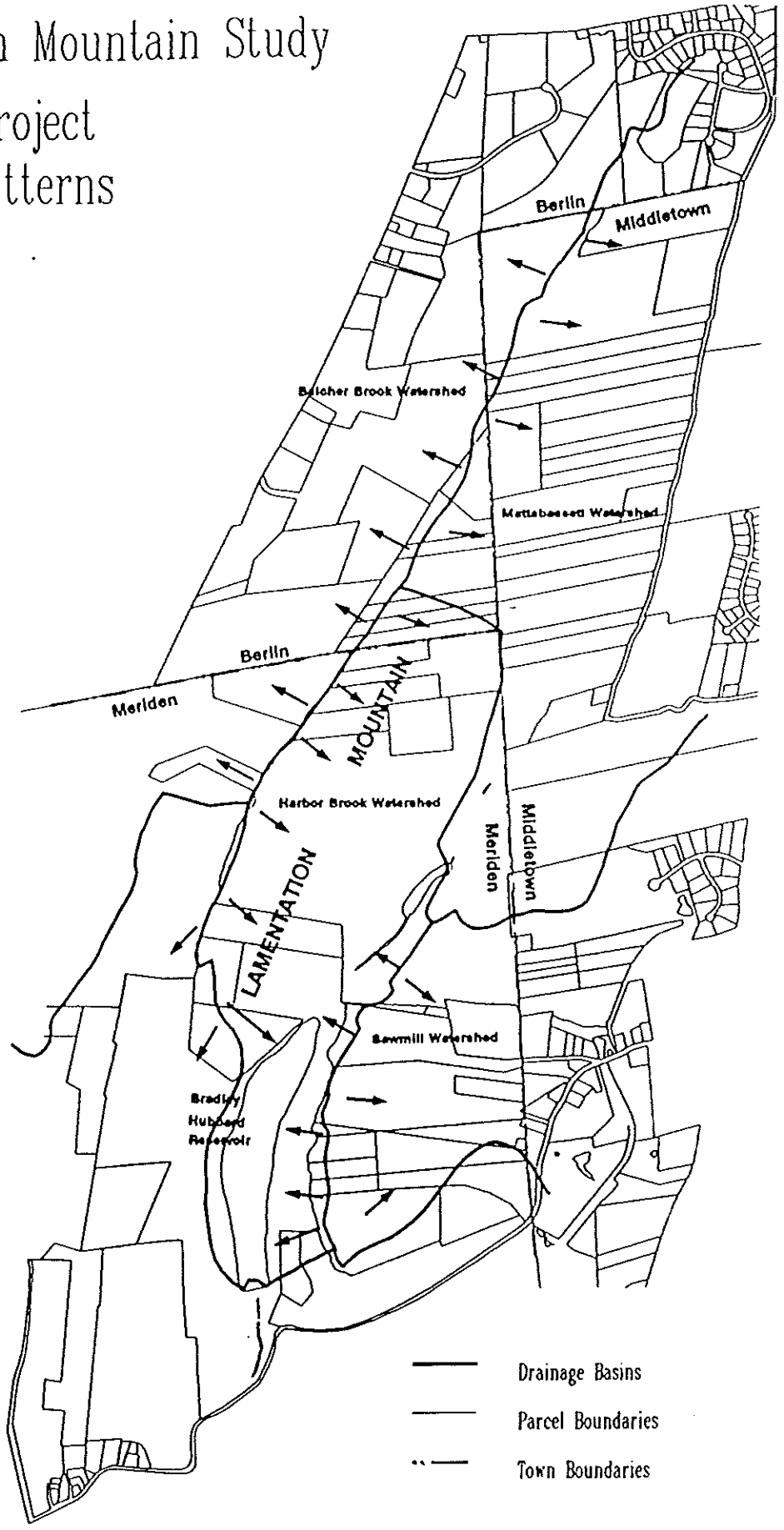
In the study area the Harbor Brook watershed drains overland to an unnamed stream, into the Bradley Hubbard Reservoir, Baldwins Pond, Harbor Brook, Hanover Pond, and finally into the Quinnipac River. Drainage from the western face of Chauncey Peak also drains directly into the reservoir.

The Mattabesset Watershed drains into Lamentation Brook, West Spruce Brook, Spruce Brook and their associated wetland corridors, which act as natural detention areas. At the northern end of the study area the streams converge into Spruce Brook, which flows northerly out of the study area to the Mattabesset River.

Lamentation Mountain Study

Tri-Town Project
Drainage Patterns





Scale: 1 inch equals 2000 feet.

Figure 5

Drainage from the western face of Lamentation Mountain enters the Belcher Brook Watershed. This drainage eventually crosses the Berlin Turnpike and drains into Silver Lake and a large wetland south of the lake. Silver Lake feeds into Belcher Brook and flows northerly, eventually, converging with the Mattabesset River in Berlin.

Drainage from the Sawmill Watershed first enters a large wetland area at the base of Chauncey Peak. The wetland detains the water for a period of time and gradually drains easterly to Sawmill Brook flowing through Highland Pond and then northerly to the Mattabesset River.

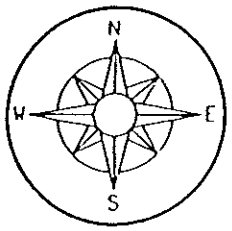
As is clear from the above discussion, a significant portion of the drainage from the study area reaches the Mattabesset River. The Mattabesset River and the sediments that it carries flow to the Connecticut River and Long Island Sound. Therefore, it can certainly be inferred that the protection of water quality in the study area contributes to preserving water quality in the Mattabessett River, the Connecticut River and , Long Island Sound.

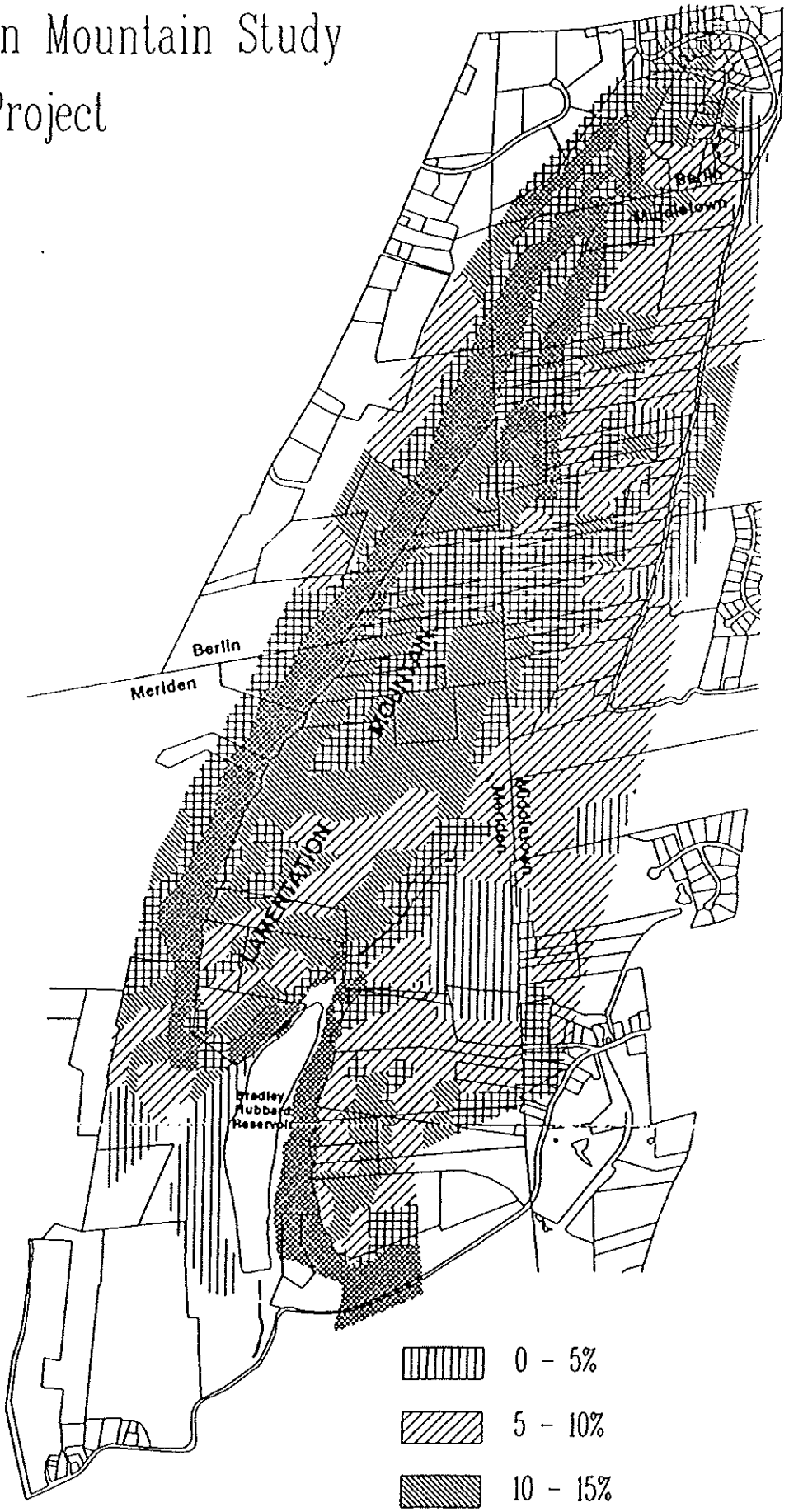
c. Slopes

The attached slope map, Figure 6, displays slopes of 0-5%, 5-10%, 10-15%, 15-25%, and greater than 25%. As the map clearly displays, there is a band of extremely steep slopes along the western face of both Lamentation Mountain and Chauncey Peak. The combination of elevation above sea level, steep slopes, and exposed cliffs creates a significant natural feature in the region. These memorable ridgelines and cliffs are in plain view to anyone traveling the highways within the Central Connecticut Corridor. Equally impressive are the panoramic views from the ridgelines which attract significant numbers of hikers and rock climbers each year. Because of these features, the undisturbed and steeply sloping traprock ridges with slopes greater than 25% are particularly significant and worthy of preservation.

There is also a significant amount of area with slopes between 15-25%. This characteristic, and to a lesser degree areas with slopes between 10-15%, clearly places restrictions on development. Due to the increasing cost of land versus development costs and the depletion of highly buildable land, steeply sloped lands have in many cases become feasible for development. In fact, they often provide dramatic and desirable home sites. However, development often requires extensive grading and deforestation. These practices on steep slopes can result in erosion and sedimentation. For these reasons, development on steep slopes, especially those in excess of 15%, should be discouraged. On slopes less than 15%, buildings should be carefully sited to insure watershed protection and preservation of the visual character of the area.

Lamentation Mountain Study
Tri-Town Project
Slopes





Scale: 1 inch equals 2000 feet.

Figure 6

Considering the single factor of slope, those areas with slopes of less than 10% can be considered most desireable for development. These areas are predominantly at the base of the mountain in Meriden and Middletown. In Berlin at the western and northern extremes of the study area there are also fairly large areas with slopes of less than 10%.

d. Soils

The following soil classifications are taken from the soil surveys of Hartford, Middlesex and New Haven counties. The surveys were complied by the USDA Soil Conservation Service. The soil complexes are displayed on the soils map, see Figure 7.

Holyoke Rock outcrop complex (HZE)

This complex is characteristic of traprock ridgelines and has slopes generally ranging from 15 to 40%. This complex has poor potential for community development. The complex is limited mainly by shallowness to bedrock, steep slopes and rock outcrops. Excavation is difficult and blasting is required in most places. On-site septic systems require special design and installation.

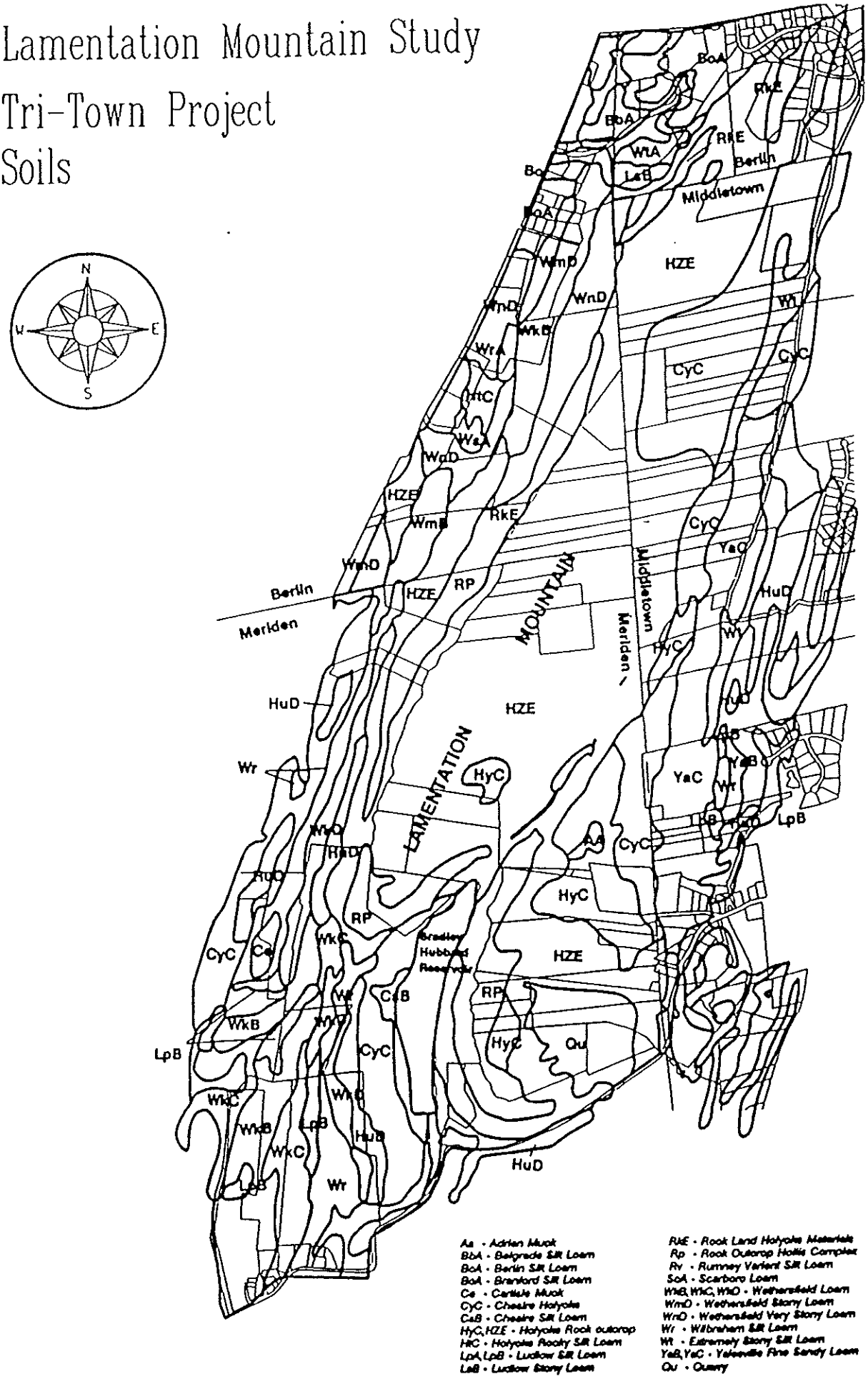
Cheshire Holyoke very stoney silt loam, slopes 3-15% (CyC)

This complex has fair potential for community development. Shallowness to bedrock in the Holyoke soils and the bedrock outcrops make excavating difficult. On-site septic systems require very careful design and installation. Larger than normal areas are sometimes needed for on-site septic systems. A few areas of bedrock outcrops provide a scenic and picturesque setting for homesites.

Yalesville fine sandy loam 8 to 15% slopes (YaC)

This soil has fair potential for community development. The soil is limited mainly by shallow depth to bedrock and the steep slopes. Bedrock makes deep excavation difficult. On-site septic systems need careful design and installation and sites require filling in places.

Lamentation Mountain Study
Tri-Town Project
Soils



As - Adrian Muck
BbA - Belgrade Silt Loam
BoA - Berlin Silt Loam
BsA - Branford Silt Loam
Ce - Carlisle Muck
CyC - Chesire Holyoke
CsB - Chesire Silt Loam
HyC,HZE - Holyoke Rock outcrop
HtC - Holyoke Rocky Silt Loam
LpA,LpB - Ludlow Silt Loam
LaB - Ludlow Stony Loam

RkE - Rock Land Holyoke Materials
Rp - Rock Outcrop Hollis Complex
Ry - Rumney Variant Silt Loam
ScA - Scarboro Loam
WkB,WkC,WkD - Wethersfield Loam
WmD - Wethersfield Stony Loam
WnD - Wethersfield Very Stony Loam
Wr - Wilbraham Silt Loam
Wt - Extremely Stony Silt Loam
YaB,YaC - Yalesville Fine Sandy Loam
Qu - Quarry

Scale: 1 inch equals 2000 feet.

Figure 7

Holyoke Rock outcrop complex 3 to 15% (HyC)

This complex has poor potential for community development. It is limited mainly by shallowness and by rock outcrops. Excavation is difficult and blasting is required in most places. On-site sewage disposal systems require very careful and often special design and installation. An area of five (5) acres or more is commonly needed for use as a suitable site for an on-site septic system.

Rock outcrop Hollis Complex (RP)

This complex has poor potential for community development. It is limited mainly by rock outcrops, shallow depth to bedrock and steep slopes. Excavation is very difficult and blasting is required in most places. On-site septic systems require very careful design and installation. In most places such systems are not practical because effluent seeps into cracks in the bedrock and contaminates groundwater. Also, an area of more than five (5) acres is generally needed for on-site septic systems.

Wilbraham silt loam (Wr)

This poorly drained soil is characterized in the State of Connecticut as an inland wetland soil. For this reason, the areas composed of these soils are carefully regulated by local inland wetland agencies. The soil has poor potential for community development. The soil is limited mainly by the high water table and the slowly permeable or very slowly permeable substratum. Areas generally need extensive filling for any type of development.

There are also numerous other soil groups within the study area which represent significantly smaller areas.

e. Vegetation

Figure 8 displays the natural communities that are common to traprock ridgelines. The study notes that the red cedar ledges, subacidic cliffs, subacidic talus, and subacidic talus forest/woodlands are all natural communities with limited examples within Connecticut. It indicates that for this reason occurrences of these communities are tracked by the Department of Environmental Protection's Natural Diversity Database. The report provides an exhaustive

Toposequence diagram of a traprock ridge system. From Metzler (no date).

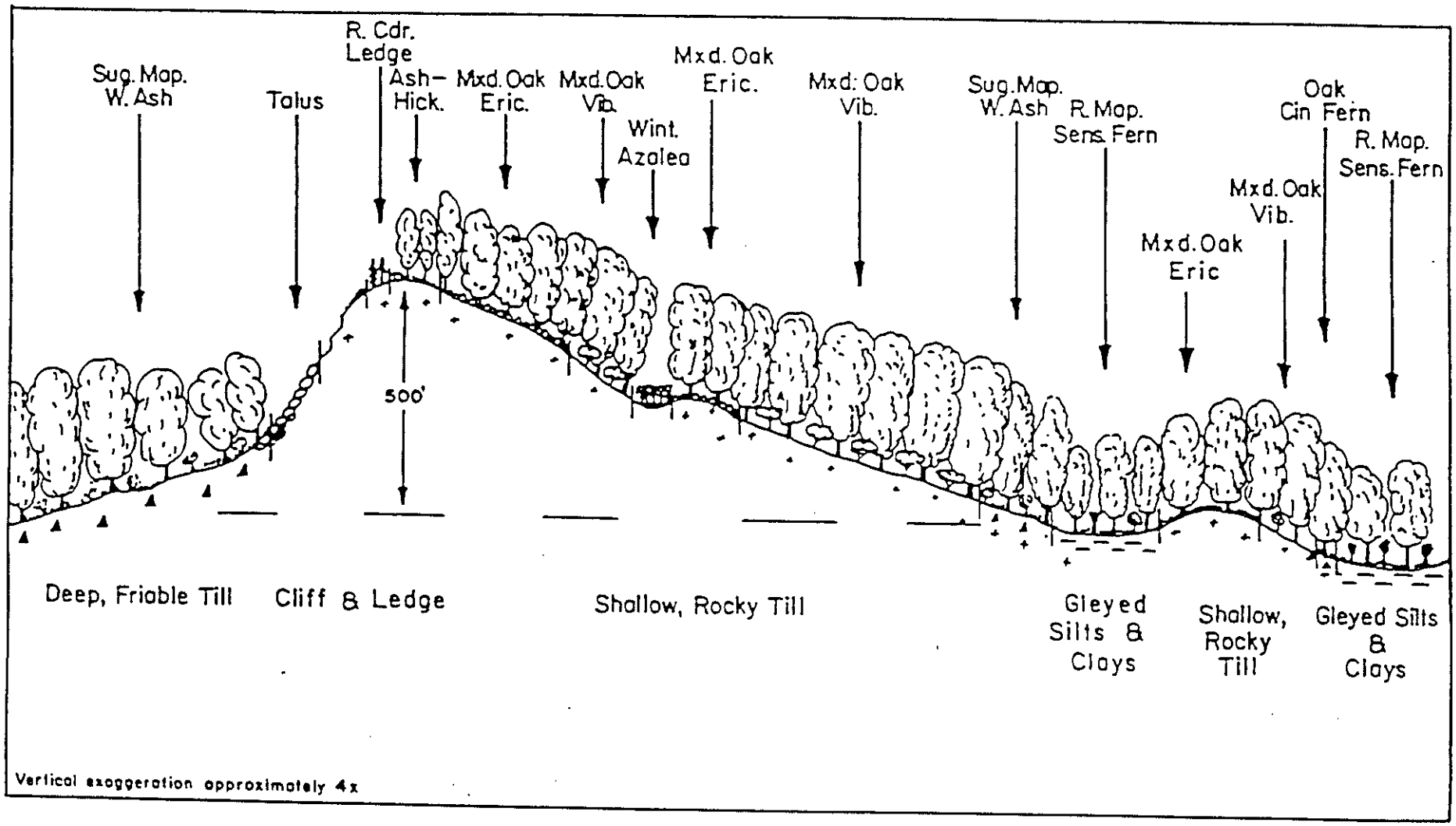


Figure 8

list of plant and animal species identified on the mountain, including the coyote, wild turkey, red tailed hawk, pheasant, ruffed grouse, white tailed deer, turkey vulture and copperhead snake.

In 1992 the Tri-Town Project employed Ms. Beth Lapin, a botanist with The Nature Conservancy, to conduct a natural resource inventory of the traprock ridgeline. This report identified the natural communities along the ridgeline in detail and in the study area in general. Portions of the report can be found in Appendix I.

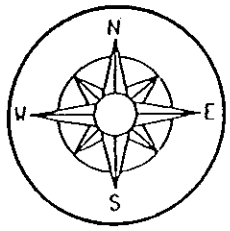
The study identified two species of plants on Lamentation Mountain that are on the State threatened list. These are the wallrue spleenwart (*Asplenium ruta mararia*) and the yellow corydalis (*Grydalis flavula*). The field study also identified the Falcate Orange Tip (*Paramidea midea*) as an unusual invertebrate in this area. This small white butterfly is not listed by the Stat of Connecticut as threatened, endangered, or of special concern, however, its distribution is restricted and being tracked by the Natural Diversity Database. Because of the sensitivity of the above noted species, detailed information is restricted and exempt from the Freedom of Information Act.

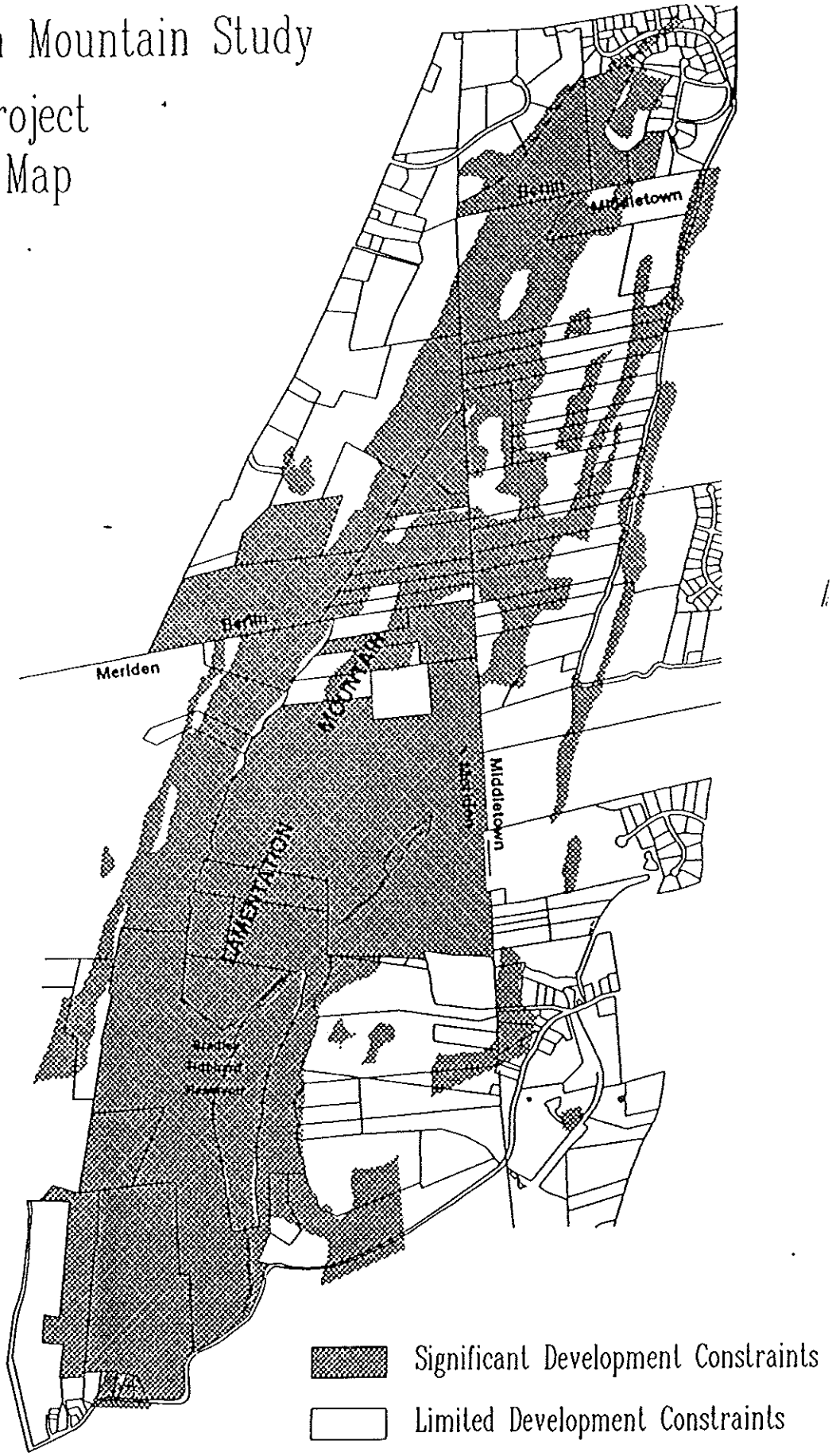
VIII. LIMITATION COMPOSITE MAP

In order to better analyze the development opportunities and identify those areas most suited for development, a limitations composite map was developed. The Limitations Composite Map, (Figure 9), shows which areas are encumbered by a combination of soil, wetlands, slope and/or ownership factors and areas where lands are more easily developable. As displayed on the Limitations Composite Map, a developable band of property exits along the lower eastern slopes of Lamentation Mountain and Chauncey Peak. These areas are not encumbered by soil type, land ownership, or steep slopes. The only other area that holds significant development potential is a band of land along the western extreme of the study area. This area has direct access to the Berlin Turnpike and public utilities. The remainder of the area, with the exception of four small isolated islands of developable land, can be considered generally undevelopable. To develop these areas, blasting, extensive regrading, and other significant modifications would be required. In most areas the ownership pattern of several long narrow wood lots adds additional difficulty for future development. Any unified development would require the assemblage of several parcels.

Lamentation Mountain Study

Tri-Town Project
Constraints Map





Scale: 1 inch equals 2000 feet.

Figure 9

IX. PROPOSED LAND USE MAP

Based on site visits, an analysis of the Limitations Composite Map, the location of access points and the availability of utilities, the attached Proposed Land Use Map was formulated. (see Figure 10).

a. Meriden

In Meriden on the eastern slope there are three large parcels of privately owned land that hold limited development potential. These properties are somewhat constrained by soil type. For any significant development to occur on these properties, Stantack Road in Middletown would have to be improved to more acceptable standards, and a unified development plan for the three parcels, with development concentrated at lower elevations, would have to be formulated. Due to the existing salvage yard, locating potable wells may be an additional constraint to development. The existing quarry should be gradually reclaimed for a more compatible land use.

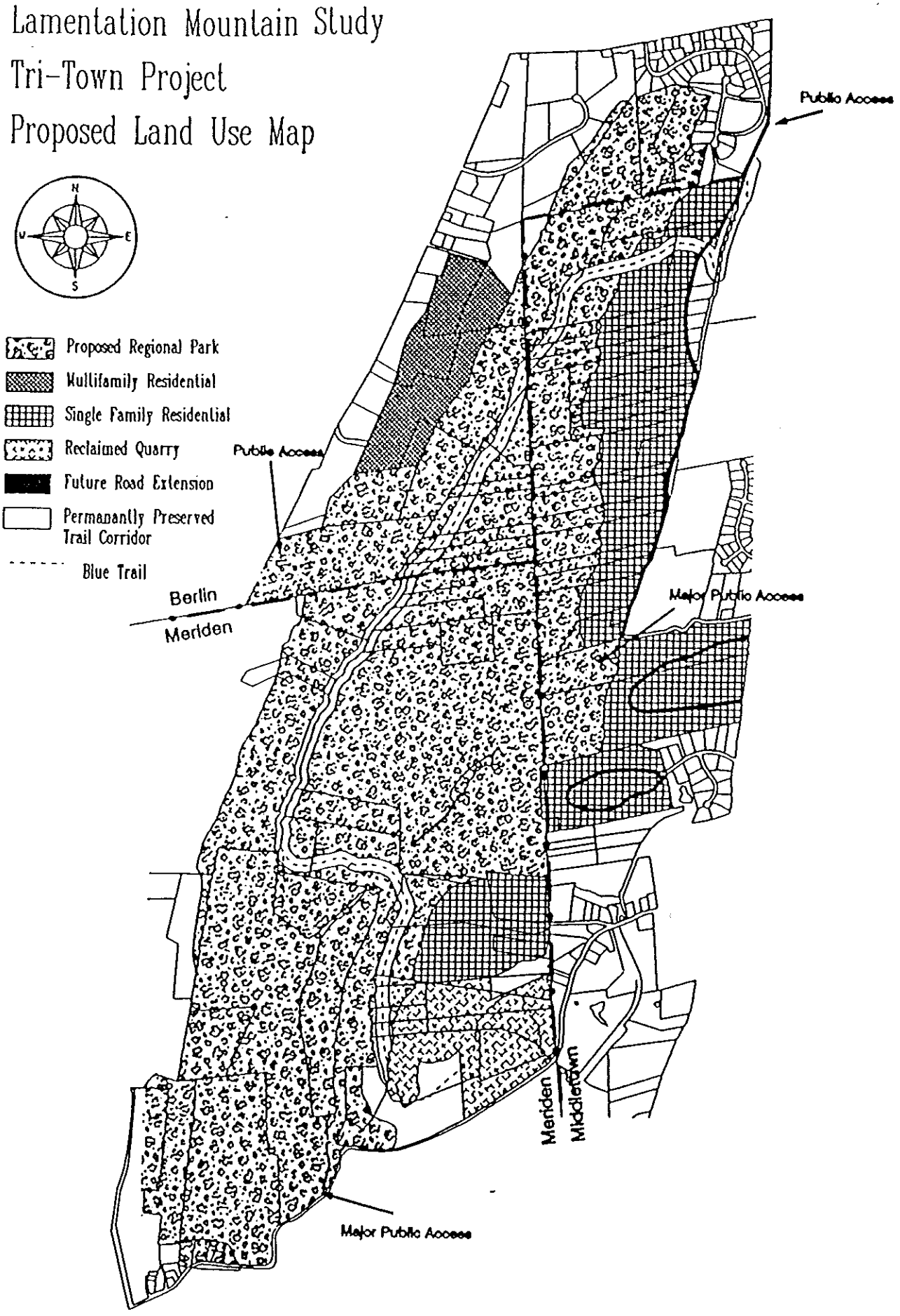
b. Middletown

In Middletown the majority of development should occur along Stantack Road at the lower eastern slope. Stantack Road runs at the base of several long and narrow wood lots. Due to this ownership pattern, it is unlikely that these lots will be assembled to allow a large unified development. Therefore, the potential in this area will most likely be limited to single family homes fronting on Stantack Road. There are some lots that could hold potential for small subdivisions. Home sites should be clustered at lower elevations and the less developable lands should be left undisturbed.

To encourage cluster development, Middletown should consider incentives such as reduction in lot area and frontage requirements and waivers of city street standards. In this way property owners would be allowed fair and economical use of their property while at the same time higher elevations would be preserved as permanent open space.

To accommodate development Stantack Road will have to be improved to acceptable standards. Considering the character of the area, this proposed land use plan does not

Lamentation Mountain Study
Tri-Town Project
Proposed Land Use Map



Scale: 1 inch equals 2000 feet

Figure 10

recommend that Stantack Road be improved to full city standards. Rather, consideration should be given to waiving some of the road standards to allow a progressive and economical extension of the road as lots are developed.

To the south of the intersection of Stantack Road and Footit Drive there are two large parcels of land extending to the east out of the study area. These parcels are approximately 45 and 74 acres respectively. These parcels could support cluster development similar to that at the adjacent Old Farms Subdivsion. When development plans are formulated for these parcels, consideration should be given to preserving the wetland corridor and the western extreme of the lots abutting Giuffrida Park as open space.

c. Berlin

At the western base of Lamentation Mountain in Berlin there is a large area of land suitable and approved for multi-family development. This area has direct access to Route 15 and all utilities. Once again, this development should be clustered at lower elevations to preserve the very steeply sloping cliffs and talus slopes as permanent open space. Unlike other developments, each year thousands of hikers will look down upon this development. Therefore, in developing these areas very careful attention must be given to the visual impact of the development from the ridgeline so as to create the most aesthetically pleasing viewing experience.

d. Tri-Town Open Space Corridor

In terms of open space, the 1964 "Middletown Plan of Development" proposed that the area of rugged land on Lamentation Mountain become a "City forest and wilderness park". The plan goes further and indicates that such a forest would provide "activities such as camping, picnicking, hiking, horseback riding... and many others". In light of this, consideration should be given to the establishment of a "regional forest and wilderness park". Clearly, as the region becomes more completely saturated with development a regional open space such as this could prove to be an irreplaceable resource in the Central Connecticut region. An example of an active open space similar to the one proposed can be found on Avon Mountain on Metropolitan District Commission land straddling the towns of Avon, West Hartford, Farmington and Bloomfield.

As the first step toward this "regional park" this plan strongly recommends that a corridor along the Blue Blazed Mattabessett Trail be preserved permanently as open space. This corridor should run from the southern to the northern extreme of the study area and traverse the Chauncey Peak and Lamentation Mountain ridgelines. This will ensure permanent access to the ridgeline for hikers, preserve the beauty of the ridgeline from below, and protect the rare species identified in the Natural Resource Inventory. To accomplish this objective, the State and each municipality should direct open space preservation funds towards this area. Furthermore, consideration must be given to creative strategies that allow for formal conservation easement and/or the purchase or transfer of development rights to lower elevations. Access points to the trails should be formalized and publicized so as to attract more visitors to this precious resource. Until a permanent corridor is formed, each municipality should work cooperatively with landowners and the Connecticut Forest and Parks Association to insure the long term existence and accessibility of the many formal and informal trails on the mountain. The following findings and recommendations outline the actions necessary to implement this plan and create the Tri-Town Open Space Corridor/Regional Park.

X. FINDINGS AND RECOMMENDATIONS

1.) State, Regional and Local Plans of Development must all clearly articulate the findings and recommendations established in this study and local commissions need to incorporate this plan in their decision making in order to set consistent land use policy for the entire area.

2.) The Tri-Town Committee must strive to keep open clear lines of communication with property owners to promote the implementation of this plan.

3.) Local Plans of Development should encourage extensions of public infrastructure as needed to implement the proposed land use plan and should discourage extensions of public infrastructure to higher elevations.

4.) There is a complete absence of permanently preserved open space in Middletown. Therefore, local and state open space acquisition monies should be targeted to this area.

5.) Meriden should focus efforts toward acquiring the scattered and isolated inholdings which are surrounded by state and city property.

6.) As the envisioned "regional park" increases in area, the municipalities may consider establishing a jointly funded regional budget to promote the park, hire conservation officers to patrol the park, and establish routine maintenance of the park. Additionally, a system of land care volunteers could assist in the protection of the resource while increasing citizen interest in land use issues.

7.) Zoning among the three towns is not well coordinated. The three towns should work in concert to develop unified zoning and development regulations that will:

- Allow for compatible land uses on the mountain;

- Allow for density bonuses and other incentives that promote cluster development at lower elevations in order to protect higher elevations as open space;

- Allow for control over the placement of dwelling units and driveways to limit the disturbance of steeply sloping areas and to locate building silhouettes below the ridgeline.

- Incorporate very specific and uniform land development and erosion and sedimentation control regulations that minimize disturbance if steeply sloping and other sensitive lands are altered.

- Ensure that during the review of development applications, very careful and creative site planning is employed to avoid disturbance of sensitive lands and so that homes are located in the pockets of more developable land.

8.) The Middletown Zoning should be modified to eliminate natural resource extraction.

9.) The industrial zoning in Meriden allows a number of inappropriate and incompatible uses. A more appropriate zone should be considered to gradually guide this area toward more compatible land uses.

10.) Landowners should be encouraged to participate in the Chapter 490 Preferential Tax Assessment Program.

11.) Quarrying activities in Meriden have led to significant degradation of this area. These activities should be carefully regulated and limited.

12.) The automotive salvage yard in Meriden could contribute to the environmental degradation of the area. Therefore, ongoing careful monitoring of this use is required.

13.) Large stands of Hemlock occur in the study area. A plan to address the eventual die off of these Hemlock due to wooly adelgid should be created, particularly in the public watershed area.

14.) The existence of approximately twelve (12) abandoned cars, litter, numerous informal campsites and significant trail erosion was noted in the study area. Maintenance of the trail system with periodic-clean up days should be promoted and access to the trail system should be limited to non-motorized forms of transportation by securing access points.

15.) Evidence of the irresponsible use of firearms was noted in numerous locations. Efforts should be made to curb the irresponsible use of firearms.

16.) It is presumed that the abandoned cars, the abundant use of firearms and irresponsible social activities that occur within the study area create an unsafe feeling for many property owners and visitors to the area. This situation must be addressed. Controlling access to non-motorized vehicles will help greatly and the promotion of the area, which will attract more people, and will certainly foster a greater feeling of security.

APPENDIX I

LAMENTATION MOUNTAIN

NATURAL RESOURCE INVENTORY REPORT

ACKNOWLEDGMENTS

This project was supported by financial assistance from the City of Middletown (with a partial grant from the Rockfall Foundation), the City of Meriden, and the Town of Berlin. I also gratefully acknowledge contributions from the following: Juliana Barrett (TNC), Glen Dreyer (CONN College), Wendy Dreyer, Bob Dubos (UCONN), Larry Gall (Peabody Museum) Alison Guinness, Barry Hastings, Marcy Klattenberg, Ron Klattenberg, Ken Metzler (DEP), Nancy Murray (DEP), Leslie Starr, and Jim Steele (Midstate Regional Planning).

INTRODUCTION

Lamentation Mountain is a traprock ridge located in the towns of Middletown, Meriden and Berlin, in the counties of Middlesex, Hartford and New Haven (see Figure 1). It is comprised of over 1,000 acres surrounded by highway I-91 on the east and U.S. 5/15 on the west. Lamentation Mountain is one of a series of Connecticut traprock ridges that are found within the Central Valley from New Haven north to the Massachusetts border.

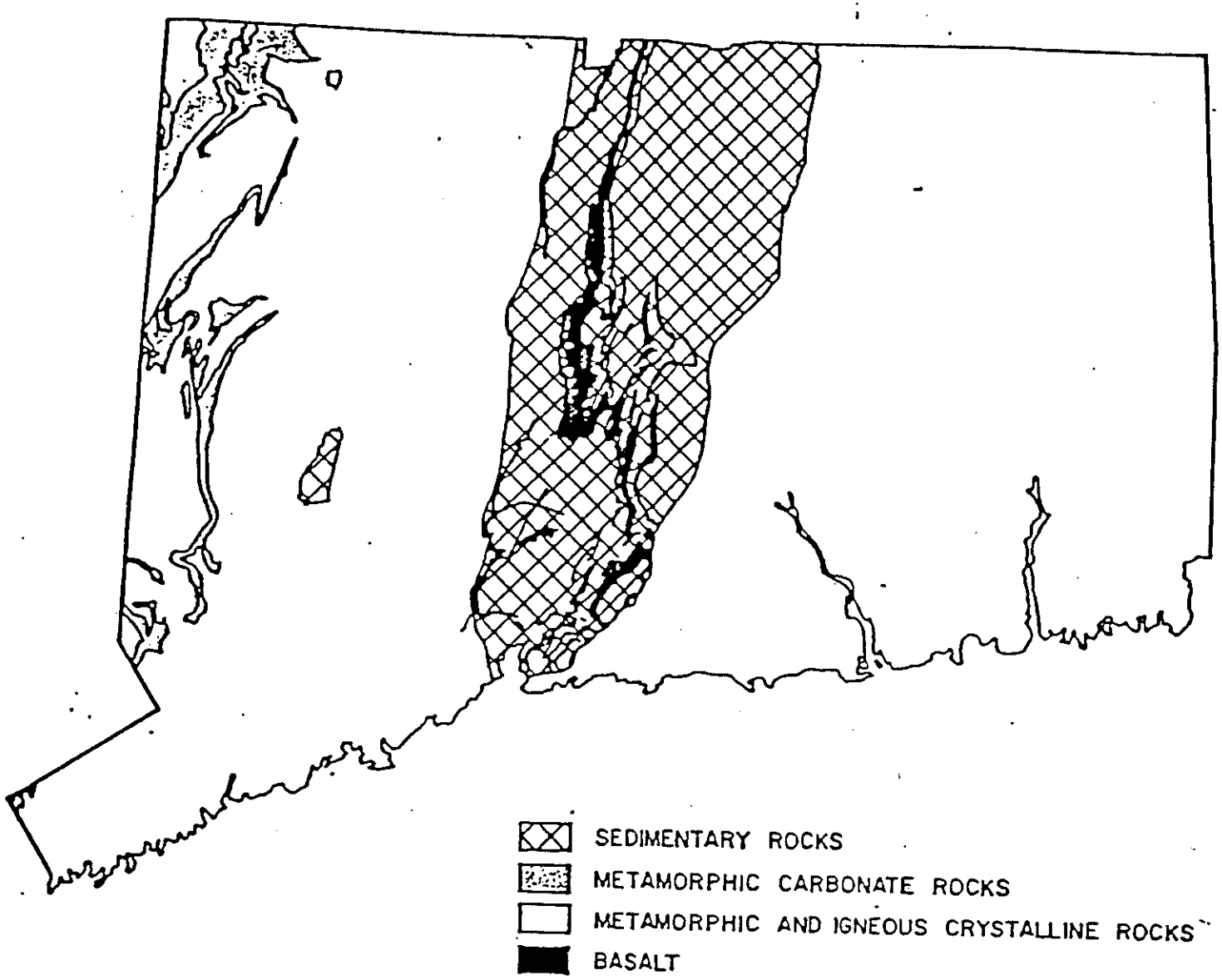
TRAPROCK RIDGES-GENERAL

"Traprock" is a word derived from the Swedish "trappa" meaning step. This term is used for these basalt outcrops because the rocks tend to fracture in regular, block-like sections. As these sections crack and fall away from the main part of the cliff, the remaining rock resembles a series of steps.

Traprock is a fine-grained, grey-green igneous rock called basalt. Its color is due to the presence of the mineral pyroxene. After exposure to air, however, the traprock appears yellow to brownish due to oxidation of iron in the basalt, which produces the minerals geothite and limonite.

In Connecticut, traprock ridges are found in the Central Lowland area of the state, extending from the southern coast near New Haven to the Massachusetts border, where they continue northward (see Figure 2). In some areas, the ridges form a continuous belt, such as the Metacomet

Figure 2. Distribution of basalt in Connecticut



Range. Other portions of the ridges, such as Hanging Hills in Meriden and Higby Mountain in Middletown, are found in disjunct sections across the valley.

Traprock was formed as lava flows during the Triassic and Jurassic periods about 205 million years ago. At the same time, erosion from the eastern and western highlands on either side of valley deposited coarse rocks near the valley sides and finer sands in the center of the area. This deposition caused the formation of shales, sandstones, and conglomerates. Three different volcanic events occurred during this time period, as streams of lava bubbled through these sediments and spread across the valley. The most visible of these volcanic events is the second, which deposited a 250 to 500 foot thick layer of Holyoke lava, which forms the most prominent of Connecticut's traprock ridges. This geologic history produced a valley filled with alternating sedimentary and volcanic rocks, resembling a giant layer cake. Subsequent subsidence of the valley to the east tilted the western edges of these layers. Erosion has removed many of the sedimentary features, exposing the basalt or volcanic outcrops. Because of this history of their formation, the ridges generally have a steep western cliff and a gentle eastern flank. Lee (1985) and Nichols (1982) present excellent non-technical descriptions of the formation of the ridges and their components.

Over time, the exposed cliff faces erode away, resulting in an accumulation of rock debris at the base. This pile, called talus or scree, typically develops as 30 degree slopes of graded material, with the largest at the bottom. Since glacial activity cleared away existing talus deposits during the Ice Age, all present talus has accumulated in the last 15,000 years.

Traprock ridges are prominent features, rising 500 to 1,000 feet above the valley floor, provide a striking visual image while one drives along Route I-91 or I-84 in central Connecticut. The string of these basalt ridges are in distinct contrast from the flat, moist valleys that run between them. Because of their location, topography, and history, these ridges also are critical habitat for many plant and animal species that are found nowhere else in the state. Because the ridges are west-facing, very arid with shallow soils, and have large areas of exposed rock, they provide a warmer micro-climate that resembles areas in southern United States. This allows some species to reach the northern extent of their range on the traprock ridges of Connecticut. In addition, the structure of the talus slopes at the base of the cliffs also produces unusually cool and moist conditions for some species, such as striped maple (*Acer pensylvanicum*) that are more

typically found north of our state. Warm air rising up from the talus slopes provide the thermal air currents utilized by many raptor species such as red-tailed hawks. Thus, ecologically the traprock ridges are very interesting areas.

Because of the steepness of the rock formations and shallow soils, many of Connecticut's ridges remain unaltered by human activities. However several are heavily quarried, since traprock is often crushed for road-building purposes. In general, the expanse of ridges running through the center of the state provides a relatively undisturbed wildlife corridor for many animal species. These ridges are also popular hiking trails, due to the vistas from the peaks, the lack of development on them, and the length of trail available.

LAMENTATION MOUNTAIN

This ridge, running approximately 3.5 miles north to south, has a maximum elevation of 720 feet and includes Lamentation and Chauncey Peaks. It is typical of many ridges in Connecticut with its steep west-facing cliff and much more gradually sloping east side. The ridge runs on a slight southwest to northeast direction. The southeast corner of the ridge near Chauncey Peak is an active quarry, with extensive removal of the traprock material. The northern and eastern slopes are being encroached by housing developments. The remainder of the area is undisturbed, except for numerous dirt roads, trails, and selective timbering on some tracts.

One of the distinguishing characteristics of Lamentation Mountain is the presence of one state threatened plant species and the historical record of another species. Records of both of these plants are available through the efforts of the staff of the Natural Diversity Data Base (NDDB), a component of the Natural Resources Center, Connecticut Department of Environmental Protection. A complete discussion of these unique plant species can be found on page 10.

NATURAL COMMUNITIES - ESTABLISHMENT

Nichols (1914) described the general succession of plants and plant associations on traprock ridges, from which the following summary is derived. Traprock ridges provide severe environmental conditions that challenge the advent of vegetation. Intense solar radiation, extreme

temperature changes, scarcity of water for long time periods, and the difficulty in securing a foothold in the rock all contribute to these difficult conditions.

Pioneer species which inhabit freshly exposed trap rock are crustose lichens, which give a black or grayish color to the surface. These lichens secrete acids which help dissolve the rock. This helps create a micro-habitat that allows the establishment of the next plant pioneers, foliose and fruticose lichens and mosses.

Crevice vegetation becomes established as dust and sand collect in the numerous fissures in the traprock. Small pockets of substrate allow the establishment of xerophytic (dry-loving) grasses, such as little blue stem (*Andropogon scoparius*), ferns, and forbs, such as wild columbine (*Aquilegia canadensis*). These herbaceous plants produces shade that eliminate the original pioneer species.

As vegetation takes root, there is an increase trapping of the associate sand and soil. Soil also begins to accumulate in shallow depressions which allows an increase in the amount of plant cover. As this occurs, roots, rhizomes and soil bind together to form sod. This allows shrubs such as staghorn sumac (*Rhus typhina*) and blueberries (*Vaccinium* sp.) to grow. Eventually trees, such as red cedar (*Juniperus virginiana*) and scrub oak (*Quercus ilicifolia*), take root. These species are very intolerant of shade. As these trees and shrubs arrive, their shade provides a more humid environment for more shade tolerant species such as chestnut oak (*Quercus prinus*). These shade-tolerant species eventually eliminate the original trees and grow into a woodland with scattered patches of herbaceous plants. Over time, a continuous canopy develops and the ensuing forest has a very different understory of shade tolerant species.

Succession also occurs along the talus slopes. Rich soil is washed down to the bottom of the slope, where water accumulates. Here a forest can quickly develop, due to the rich mineral input and available water. Often a forested belt develops mid-slope under the overhang of the basalt outcrop, where shade provides a less harsh environment. Eventually the forested belt and bottom forest meet and the entire talus slope becomes forested. Pioneer plants in the open talus are again lichens and crevice plants, such as poison ivy (*Toxicodendron radicans*). Shrubs (sumacs) and mesophytic (water-loving) trees such as black birch (*Betula lenta*), American basswood (*Tilia americana*), and Eastern hemlock (*Tsuga canadensis*) follow.

NATURAL COMMUNITIES - DESCRIPTIONS

The natural communities found on Lamentation Mountain are typical of those found in the traprock system. The following descriptions of the communities are derived from unpublished documents of the Natural Resources Center, Department of Natural Resources (Metzler 1990, no date). They are delineated on the overlay entitled "Natural Resources of Lamentation Mountain." These demarkations were made through the use of aerial photographs and field observation May through September 1992. Because the bedrock at Lamentation is basalt, the communities are often termed "subacidic." This is a reflection of the pH of the rock, which tends to closer to 7.0. A general toposequence diagram of a traprock system can be found in Figure 3.

Red cedar ledges

Red cedar ledges or subacidic rock summits and outcrops are dry to xeric exposed summits and outcrops with a vegetation of low shrubs, grasses and herbs on basalt, diabase, and calcareous schists (Metzler 1990). These exposed bedrock areas may be quite extensive, with vegetation only in the cracks in the rocks. Other areas may be comprised of small exposures of rock, interspersed with vegetation. The vegetation generally is comprised of tall, perennial, warm-season grasses and small herbaceous plants, with occasional stunted shrubs or trees. Characteristic species include little bluestem (*Andropogon scoparium*), Canada bluegrass (*Poa compressa*), and red cedar (*Juniperus virginiana*). Bastard toadflax (*Comandra umbellata*), scrub oak (*Quercus ilicifolia*), black huckleberry (*Gaylussacia baccata*) and blueberry (*Vaccinium* sp.) are typical components of traprock summits and outcrops.

Running north to south along the ridgeline of Lamentation and Chauncey Peaks are such areas of outcrops of the basalt. These open areas may be kept in this successional stage by human-caused fires, exposed winds, and other harsh environmental conditions. The natural role of fire is unknown in the Northeast, although similar natural communities in the mid-west have historical evidence of regular fire activity.

Subacidic cliffs, Subacidic talus, and Subacidic talus forest/woodland

These three communities are delineated on the map as a group, mainly due to their close proximity and the difficulty in differentiating among them on the aerial photos and maps.

Subacidic cliffs are dry to xeric exposed and shaded cliffs and cliff faces with sparse vegetation in cracks, crevices, and other fissures (Metzler 1990). These vertical exposures of resistant bedrock have minimal soil development, which leads to the sparse vegetation. In New York, typical plants of this community are rock polypody (*Polypodium virginianum*), marginal wood fern (*Dryopteris marginalis*), and common hairgrass (*Deschampsia flexuosa*) (Reschke 1990).

At Lamentation Mountain and Chauncey Peak, there are numerous small cliff exposures. In general, the cliffs are 60 feet or less in height. Several of these cliffs are considered examples of challenging rock climbing in Connecticut (Nichols 1982).

Subacidic talus is dry, coarse-textured colluvial deposits of rocks and boulders below cliffs and ledges with an open vegetation of vines, scattered herbs, and lichens on basalt, diabase, and calcareous schists (Metzler 1990). At Lamentation Mountain, the western and southern edge of the traprock summit is constantly fracturing into chunks of basalt that fall to the base of the western and southern slope. As this rubble accumulates, it provides a slope covered with talus material. There are still pockets of open talus on Lamentation's slopes.

Subacidic talus forest/woodland is dry to moist open woodland or forest on coarse colluvial deposits with soil and humus in pockets between the rocks (Metzler 1990). THese forets develop over time on the previously open talus. Some of the characteristic species of this type of community in New York are sugar maple (*Acer saccharum*), white ash (*Fraxinus americana*), chestnut oak (*Quercus montana*), red oak (*Quercus rubra*), and white oak (*Q. alba*), with ground layer including ferns such as bulbet fern *(Cystopteris bulbifera*), fragile fern (*Cystopteris fragilis*), and christmas fern *(Polystichum acrostichoides*) (Reschke 1990). At Lamentation, the talus areas are predominantly forested, which indicates that the talus has been undisturbed for quite some time.

Sugar maple-white ash Association

Sugar maple-white ash forests are "moist to wet fertile forests that occur on lower slopes, on talus, in coves, or on the higher pars of alluvial floodplains. Sugar maple and white ash generally dominte the tree canopy.

Tulip poplar (*Liriodendron tulipifera*) and American basswood (*Tilia americana*) also occur in these forest types. The sugar maple-white ash forests are differentiated from other forests ... by the large number of nutrient-demanding species such as bloodroot (*Sanguinaria canadensis*), spring beauty (*Claytonia virginica*), silvery spleenwort (*Diplazium acrostichoides*), blue cohosh (*Caulophyllum thalictroides*), and wild leek (*Allium tricoccum*)" (Metzler no date). These areas are generally rich in nutrients due to the erosion by rain water from the upland slopes. The nutrients tend to accumulate at the base of the slopes, where this natural community develops.

At Lamentation Mountain, there probably are examples of this forest all along the base of the western slope; however this area was not included in the field work of this particular study. The slopes of Lamentation and Chauncey join together along the canal that feeds into Bradley Hubbard Reservoir; these slopes are good examples of this type of community.

Ash-Hickory Association/Oak-Ericaceous Shrub subassociation

The **ash-hickory association** "is a group of dry, poorly growing forests often dominated by pignut hickory (*Carya glabra*)and white ash with a mixture of other hickory species, white pine *Pinus strobus*) and oaks. Ash-hickory forest occur exclusively on dry, rocky summits where their low stature, sporadic shrub layer, and 'grass' ground cover give them a distinctive park-like appearance. Grasses and sedges often dominate the ground layer along with a number of herbaceous species indicative of dry, rocky conditions. Small ferns, such as woodsia (*Woodsia obtusa, W. ilvensis*) and ebondy spleenwort (*Asplenium platyneuron*), occur scattered on ledges and rock outcrops" (Metzler no date). The **oak-ericaceous shrub subassociation** (part of the mixed oak association) is "a dry-poorly-growing forest with a dominance of oak species. On the driest sites, scarlet and chestnut oak (*Quercus prinus*) predominate. On the less droughty sites the forets canopy is a mixture of oak, hickory, and conifers. This sub-association is distinguished by the dwarf shrub layer of black huckleberry (Gaylussacia baccata*) and/or low bush blueberry (*Vaccinium vacillans, V. angustifolia*) and the presence of species such as pink lady's-sliper (*Cypripedium acaule*), bracken (*Pteridium aquilinum), spotted wintergreen (*Chimaphila maculata*), pin-cushion moss (*Leucobryum glaucum*), and hair-cap moss (*Polytrichum commune*)* (Metzler no date).

At Lamentation Mountain, the vegetation east of and between the outcrops falls into these two communities. Ash and hickories are very common

along the forested edge contiguous with the outcrop. In the main portion of the forest, oaks and hickories dominate. On the accompanying overlay, this mixed community comprises the unmarked areas within 50' of the Blue Trail along the ridge line only.

There also are large patches of Eastern hemlock along the ridge line between the outcrops. Many of these trees are infected with hemlock woolly adelgids, an insect that often kills the hemlock trees.

According to the Natural Community Classification, red cedar ledges, subacidic cliffs, subacidic talus, and subacidic talus forest/woodland are all natural communities with limited examples within Connecticut. For that reason, occurrences of these communities are tracked by the NDDB.

RARE PLANT SPECIES

Two species of plants that are on the state threatened list are known from Lamentation Mountain, based on records from NDDB. It is important to note that these species are very sensitive; information about these species is restricted and must not be distributed.

ADDITIONAL PLANT AND ANIMAL SPECIES

During site visits on May 13, June 10, July 11, August 11, and September 10, 1992 a comprehensive list of vascular plants was compiled. This list contains species noted anywhere along the entire length of the Blue Trail from its intersection with Spruce Brook Road south to the junction with Country Club Road. Species were identified using standard field guides and plant manuals. During cases of uncertain identification, comparisons with specimens at the University of Connecticut Herbarium and Connecticut College Herbarium were made. A number of specimens were made available to the UCONN herbarium for inclusion in that collection. The list of vascular plants located during this study (Appendix I) certainly is not exhaustive and additional species undoubtably will be added by subsequent visits by botanists. Additional attention to grasses and sedges is particularly recommended. The common and scientific names were standardized by using those provided by Dowhan (1979) and are arranged in taxonomic order.

Although the predominant focus of the field work in this study was botanical, opportunistic observations of animal species, both vertebrate and invertebrate, were made. The list of such species observed during this study are in Appendix II. Standardized names and taxonomic order are from Connecticut DEP (1987) for vertebrates and Miller (1992) for butterflies.

APPENDIX I

VASCULAR PLANT LIST

LAMENTATION MOUNTAIN

SCIENTIFIC NAME	COMMON NAME
Lycopodium sp.	Club-moss
Asplenium platyneuron	Ebony Spleenwort
Cystopteris fragilis	Fragile fern ($)
Dryopteris marginalis	Marginal wood-fern ($)
Polypodium virginianum	Polpody
Polystichum acrostichoides	Christmas fern
Pteridium aquilinum	Bracken fern
Juniperus virginiana	Red cedar
Pinus rigida	Pitch pine
Pinus strobus	White pine
Tsuga canadensis	Eastern hemlock
Andropogon scoparius	Little bluestem
Aristida dichotoma	Poverty grass
Brachyelytrum erectum	Long-awned wood grass
Bromus purgans forma laevivaginatus	Brome-grass
Danthonia spicata	Poverty grass
Elymis sp.	Wild rye
Hystrix patula	Bottle-brush grass (s)

$: specimen provided to UCONN herbarium
?: identification uncertain
s: specimen available

Muhlenbergia sobolifera	
Oryzopsis racemosa	Rice-grass
Panicum clandestinum	Broad-leaved panic-grass (s)
Panicum lanuginosum	
Poa compressa	Canada bluegrass (s)
Setaria glauca	Yellow foxtail
Arisaema triphyllum	Jack-in-the-pulpit
Commelina communis	Common dayflower
Juncus tenuis	Path rush
Allium canadense/vineale	Wild garlic/field garlic
Erythronium americanum	Trout lily
Lilium philadelphicum	Wood lily [1]
Maianthemum canadense	Wild lily-of-the-valley
Medeola virginiana	Indian cucumber-root
Polygonatum biflorum	Small solomon's-seal
Smilacina racemosa	False solomon's-seal
Smilax rotundifolia	Common catbriar
Trillium erectum	Red trillium
Uvularia perfoliata	Bellwort
Cypripedium acaule	Pink lady's-slipper
Populus tremuloides	Quaking aspen
Myrica pensylvanica	Bayberry
Carya ovata	Shagbark hickory

[1] reported by M. Klattenberg, R. Klattenburg and A. Guinness 1991

$: specimen provided to UCONN herbarium
?: identification uncertain
s: specimen available

Carya tomentosa ?	Mockernut
Betula lenta	Black birch
Betula papyrifera	Paper birch
Ostrya virginiana	American Hop-hornbeam
Fagus grandifolia	American beech
Quercus alba	White oak
Quercis ilicifolia	Scrub oak
Quercus prinus	Chestnut oak
Quercus rubra	Northern red oak
Quercus velutina	Black oak
Celtis occidentalis ?	Hackberry (s)
Comandra umbellata	Bastard toadflax
Asarum canadense	Wild ginger
Polygonum lapathifolium	Pale smartweed
Polygonum persicaria?	Lady's-thumb
Polygonum scandens	Climbing false buckwheat
Rumex acetosella	Sheep-sorrel
Phytolacca americana	Pokeweed
Dianthus armeria	Deptford pink
Paronychia canadensis	Forked chickweed
Silene alba	White campion
Anemone quinquefolia	Wood anemone
Anemonella thalictroides	Rue-anemone
Aquilegia canadensis	Wild columbine
Hepatica americana	Round-lobed hepatica

$: specimen provided to UCONN herbarium
?: identification uncertain
s: specimen available

Ranunculus abortivus	Small-flowered crowfoot
Ranunculus bulbosus	Bulbous buttercup
Ranunculus fascicularis	Early buttercup
Thalictrum polygamum	Tall meadow-rue ($)
Berberis thunbergii	Japanese barberry
Caulophyllum thalictroides	Blue cohosh
Lindera benzoin	Spice bush
Sassafras albidum	Sassafras
Corydalis flavula	Yellow corydalis
Corydalis sempervirens	Pale corydalis
Dicentra cucullaria	Dutchman's-breeches
Sanguinaria canadensis	Bloodroot
Arabis canadensis	Sicklepod ($)
Arabis laevigata	Smooth rock-cress
Arabis lyrata	Low rock-cress
Brassica sp.	Mustard turnip
Cardamine parviflora	Narrow-leaved bitter cress
Mitella diphylla	Miterwort
Saxifraga virginiensis	Early saxifrage
Hamamelis virginiana	Witch-hazel
Agrimonia gryposepala	Hairy agrimony
Amelanchier stolonifera?	Thicket shadbush
Fragaria virginiana	Common strawberry
Pontentilla argentea	Silvery cinquefoil ($)
Potentilla arguta	Tall cinquefoil ($)

$: specimen provided to UCONN herbarium
?: identification uncertain
s: specimen available

Potentilla simplex	Common cinquefoil
Potentilla sp.	(s)
Prunus serotina	Black cherry
Prunus virginiana	Choke-cherry
Pyrus malus	Apple
Rosa carolina	Pasture rose ($
Rosa multiflora	Multiflora rose
Rosa virginiana	Wild rose
Rubus sp.	Bramble species
Amphicarpa bracteata	Hog-peanut
Desmodium glutinosum	Large tick-trefoil
Lespedeza capitata	Round-headed bush-clover
Lespedeza sp.	clover (s)
Lespedeza violacea	Violet bush-clover
Trifolium pratense	Red clover
Oxalis europaea	Yellow wood-sorrel
Geranium carolinianum	Carolina cranesbill
Geranium maculatum	Wild geranium
Geranium robertianum	Herb-robert
Rhus glabra	Smooth sumac
Rhus typhina	Staghorn sumac
Toxicodendron radicans	Common poison ivy
Staphylea trifolia	Bladdernut
Acer rubrum	Red maple
Acer saccharum	Sugar maple

$: specimen provided to UCONN herbarium
?: identification uncertain
s: specimen available

Impatiens capensis	Spotted jewelweed
Ceanothus americanus	New Jersey tea
Parthenocissus quinquefolia	Virginia creeper
Vitis sp.	Grape
Tilia americana	American basswood
Hypericum gentianoides	Orange-grass
Hypericum mutilum	Dwarf St. John's-wort
Hypericum perforatum	Common St. John's-wort
Viola latiuscula ?	Broad-leaved wood violet
Viola pedata	Birdfoot-violet
Viola pubescens	Downy yellow violet
Violoa renifolia ?	Kidney-leaved violet
Aralia racemosa	Spikenard
Sanicula canadensis	Black snakeroot
Cornus stolonifera	Red osier
Chimaphila maculata	Spotted wintergreen
Chimaphila umbellata	Pipsissewa
Monotropa uniflora	Indian-pipe
Gaylussacia baccata	Black huckleberry
Kalmia latifolia	Mountain-laurel
Vaccinium vacillans ?	Early sweet blueberry (s)
Lysimachia quadrifolia	Whorled loosestrife
Fraxinus americana	White ash
Apocynum androsaemifolium	Spreading dogbane
Asclepias quadrifolia	Four-leaved milkweed

$: specimen provided to UCONN herbarium
?: identification uncertain
s: specimen available

Verbena simplex	Narrow-leaved vervain
Clinopodium vulgare	Wild basil
Collinsonia canadensis	Horse-balm
Isanthus brachiatus ?	False pennyroyal
Lycopus uniflorus	Common bugleweed
Prunella vulgaris	Heal-all (s)
Pycnanthemum incanum	Hoary mountain-mint
Pycnanthemum tenuifolium	Narrow-leaved mountain-mint
Solanum dulcamara	Climbing nightshade
Agalinis tenuifolia	Slender gerardia
Aureolaria virginica	Downy false foxglove
Linaria vulgaris	Butter-and-eggs
Pedicularis canadensis	Common wood-betony
Penstemen digitalis	Foxglove beard-tongue
Verbascum thapsus	Common mullein
Plantago major	Common plantain
Galium pilosum	Hairy bedstraw
Galium triflorum	Sweet-scented bedstraw ($)
Mitchella repens	Partridge-berry
Diervilla lonicera	Bush-honeysuckle ($)
Lonicera sempervirens	Trumpet-honeysuckle
Lonicera tatarica	Tatarian honeysuckle
Triosteum sp.	Horse-gentian
Viburnum acerifolium	Maple-leaved viburnum
Viburnum rafinesquianum	Downy arrow-wood ($)

$: specimen provided to UCONN herbarium
?: identification uncertain
s: specimen available

Viburnum recognitum?	Northern arrow-wood ($)
Campanula rotundifolia	Harebell
Specularia perfoliata	Venus' looking-glass
Achillea millefolium	Common yarrow
Ambrosia artemisiifolia	Common ragweed
Anaphalis margaritacea	Pearly everlasting
Antennaria plantaginifolia	Plaintain-leaved pussytoes
Aster cordifolius	Heart-leaved wood aster
Aster divaricatus	White wood aster
Aster dumosus	Bushy aster
Aster laevis	Smooth blue aster
Aster linariifolius	Stiff-leaved aster
Aster macrophyllus	Large-leaved aster
Bidens frondosa	Common beggar's-ticks
Erigeron philadelphicus	Common fleabane
Erigeron strigosus	Daisy fleabane
Eupatorium rugosum	White snakeroot
Helianthus divaricatus	Woodland sunflower
Hieracium caespitosum/pretense	King devil ($)
Hieracium paniculatum	Panicled hawkweed
Krigia virginica	Dwarf dandelion
Lactuca canadensis	Wild lettuce
Prenanthes trifoliata ?	Gall-of-the-earth
Senecio vulgaris	Common grounsel
Solidago bicolor	Silver-rod ($)

$: specimen provided to UCONN herbarium
?: identification uncertain
s: specimen available

Solidago graminifolia ?	Bushy goldenrod
Solidago caesia ?	Blue-stemmed goldenrod
Taraxacum officinale	Common dandelion

$: specimen provided to UCONN herbarium
?: identification uncertain
s: specimen available

APPENDIX II

INVERTEBRATES AND VERTEBRATES

LAMENTATION MOUNTAIN

INVERTEBRATES

ORDER	SCIENTIFIC NAME	COMMON NAME
Coleoptera	*Cicindela sexguttata*	Six spotted green tiger beetle
Hemiptera	*Apiomerus sp.*	Bee assassin
Lepidoptera		
	Papilio polyxenes	Black swallowtail
	Pterourus glaucus	Tiger swallowtail
	Paramidea midea	Falcate orange tip
	?	Hairstreak on pearly everlasting
	Celastrina argiolus	Spring azure
	Nymphalis antiopa	Mourning cloak
	Satyrodes eurydice	Eyed brown

VERTEBRATES

Amphibia	*Rana catesbeiana*	Bullfrog
	Rana palustris	Pickerel frog
Reptilia	*Coluber contrictor*	Black racer
	Elaphe obsoleta ?	Black snake
Aves	*Cathartes aura*	Turkey vulture
	Accipiter striatus ?	Sharp-shinned hawk
	Buteo mamaicensis	Red-tailed hawk

	Falco sparverius	American kestrel
	Zenaida macroura	Mourning dove
	Colaptes auratus	Northern flicker
	Contopus virens	Eastern wood-pewee
	Cyanocitta cristata	Blue jay
	Parus atricapillus	Black-capped chickadee
	Hylocichla mustelina	Wood thrush
	Turdus migratorius	American robin
	Mniotilta varia	Black-and-white warbler
	Seiurus aurocapillus	Ovenbird
	Pipilo erythrophthalmus	Rufous-sided towhee
Mammalia	*Sciurus carolinensis*	Gray squirrel
	Canis latrans	Coyote
	Procyon lotor	Raccoon
	Odocoileus virginianus	White-tailed deer

radius of the property lines of the property a facility which sells used automobiles and\or rents automobiles to the general public.

8. In order to limit the intensity of this use, there shall be no more than eight (8) cars displayed for sale on the site at any given time.

(Revised effective 2\1\92)

44.08.34 VETERINARY HOSPITALS\PRACTICE

1.) The site shall have a minimum of five (5) acres.

2.) The facility shall be lighted in such a fashion that illumination is not directed onto abutting properties.

3.) The location of the facility shall be compatible with the neighborhood in terms of traffic, noise and number of animals cared for. The facility shall also be compatible with its setting in scale, material and design.

4.) Noise and other possible disturbing aspects connected with the operation of such use shall be enclosed, screened or otherwise controlled to the extent that the operation of any such use shall not unduly interfere with the use of properties or streets in the surrounding area.

(Added effective 7\11\90)

44.08.35 CLUSTER DESIGN TO PRODUCE OPEN SPACE SUBDIVISIONS

PURPOSE:
The purpose of the open space subdivision provision in the Zoning Code is to encourage and allow for creative and more flexible site planning and building placement and more efficient and economical land development. Furthermore, the provision is designed to provide for greater open space preservation and the preservation and\or conservation and enhancement of the sites existing natural features and resources.

As a means of achieving the above stated purpose, variations in the existing regulations may be allowed. The following regulations and requirements may be varied or reduced:

1.) lot frontage (max 50 % reduction);
2.) lot area (max 50 % reduction);
3.) lot shape requirements;
4.) yard and setback requirements (max 50 % reduction);
5.) max. length -dead end streets (no greater than 2000 ft);
6.) sidewalk requirements.

PROCEDURE:
Applicants proposing open space subdivisions are strongly encouraged to meet with the Director of Planning and\or the Environmental

planner to discuss which type of subdivision (open space or conventional) would be the most suitable for the area and consistent with the purposes of the city's regulations.

However, if the applicant proceeds with the open space subdivision option the Commission expressly retains the right to make the determination as to which type of subdivision would be the most suitable for the area and consistent with the purposes of these regulations.

Upon formal application to the Planning and Zoning Commission and a public hearing thereon, the Commission may grant special exception approval and subdivision approval of an open space subdivision.

In addition to the general special exception criteria in Section 44.04 of the Zoning Code, the Commission shall find, when applicable, the following:

1.) the specific purposes of the cluster design are being achieved;

2.) any and all impacts on natural environmental systems such as wetlands, aquifers, watercourses, and vegetative and wildlife communities have been minimized;

3.) there exists the presence of land characteristics which the commission considers favorable for development of an open space subdivision;

4.) the proposal will provide for future park and recreational areas including hiking trails;

5.) the proposal will not provide for buildings whose silhouettes interrupt the natural, unbroken flow and character of Middletown's ridgelines;

6.) To the maximum extent possible the proposal shall minimize excessive and poorly planned grading for streets and building sites; and

7.) the proposal will preserve and protect the city's natural environment by encouraging the permanent preservation of specific features and lands which, in turn, contribute to the stabilization and enhancement of residential amenities and values and the maintenance of the City's and the particular areas existing character.

REQUIREMENTS:
Plans and supporting materials shall be presented for the entire tract containing the information as specified in Section 4 of the Subdivision Regulations. The design of the open space subdivision shall be effectuated by a registered professional group of the following, but not limited to, Landscape Architects, Engineers, Land Surveyors, and environmental professionals. In addition to the requirements in the Subdivision Regulations formal submission of the proposal shall include the following:

EXAMPLE : A 20 lot open space subdivision with the required 33 % open space can derive 1 additional building lot (5 % of 20 lots) provided the required open space is increased to 38%.

7.) Where possible and in conformance with the Plan of Development public water and sanitary sewers are preferred. The applicant may use private well and septic systems or community septic systems if approved by the Health Director if it can be shown that the soils shall be suitable for long term disposal of sanitary waste effluent.

8.) Areas to be preserved and established as open space are to be in accordance with Section 5.17 of the Subdivision Regulations. In addition, land designated as "Open Space" in an open space subdivision shall a.) equal not less than thirty three (33%) percent of the total tract; b.) not include any stormwater detention or retention structures, and; c.) be linked with all building lots within the tract by pedestrian walks.

DESIGN CONSIDERATIONS:
The purpose of this section is to provide some guidelines for designing a open space subdivision over and above the regulations of the Zoning Code and the Subdivision Regulations.

The developer shall develop a design that portrays an interrelationship of the type of activity (residential and open space), the circulation (street and pedestrian paths), and the physical forms (residences and natural features) constituting the development.

The developer in order to produce an aesthetically pleasing design shall consider the following:

A. Eliminating constant front yard setbacks (staggering front yards instead) to avoid monotony; provide for a variegated character of the neighborhood;

B. Providing for scenic vista protection;

C. The provision of common driveways to reduce the amount of required site clearance and regrading

D. Utilizing open areas such as fields and meadows by integration of the same in the spatial design of the development;

E. Providing for artistically designed open space furniture and fixtures;

F. Providing for pedestrian paths, walking and exercising, with safety and handicapped accessibility in mind;

G. Providing for protection of water courses but designed as an integral part of the development;

H. Providing for effective buffering, but not obstructing scenic views;

1.) a city topography map for the area with the properties boundaries superimposed and highlighting areas exceeding 15 % slope, inland wetlands, flood zones, heavily wooded areas and other significant natural or man made features of the land;

2.) a concept plan on the "Topographic Maps of Middletown, Connecticut, Showing Drainage Systems and Inland Wetlands Superimposed" showing how the property could be realistically developed using the conventional method of subdivision design;

3.) A landscape plan for the entire development showing all features such as streets, sidewalks, trails, entrance structures, recreational facilities, etc. and sealed by a registered Landscape Architect as defined in Section 20-367 of the Connecticut General Statutes, Paragraph (3);

4.) A statement outlining the reasons why the developer believes that the intent of this regulation would be, or not be, satisfied by development as an open space subdivision.

STANDARDS:

1. The tract to be developed shall be not less than ten (10) contiguous acres and must be in a zone having an R prefix.

2. The tract shall be in a single ownership or consolidated into a single tract by a number of different owners by means of a binding agreement which will ensure the uniform treatment and implementation of an overall open space subdivision for the entire tract from the time of application and continuing thereafter.

3.) Rear lot frontage dimensions shall not be reduced and front yards shall not be less than 25 feet. The frontage of the entire tract on an existing street must be at least one hundred (100) feet.

4.) To provide a buffer between a open space subdivision and surrounding properties, no structure shall be located within 30 feet of the overall perimeter boundary. The buffer area shall adhere to the standards in the Subdivision Regulations.

5.) Proposed buildings shall be related harmoniously to each other, the terrain and to the use, scale and proportions of existing buildings in the vicinity that have a functional or visual relationship to the proposed buildings. The Planning and Zoning Commission may require that buildings be located at the edges of existing fields and open areas and within wooded areas so as to preserve the open character of a site.

6.) The total number of building lots in a open space subdivision shall be no greater than the number displayed on the concept plan (as required in Standards #2) displaying how the property could be developed with a conventional subdivision. The Commission retains the right to exclude lots from the concept plan which they feel are undevelopable. However, the commission <u>may permit</u> a reasonable density bonus equal to a percentage (5 % minimum) of the amount of lots derived in the lot credit calculation provided the required open space is increased by the same percentage.

I. Providing for maximum use of natural light and solar capabilities;

J. Providing for the maintenance of the visual integrity of hilltops and ridgelines by siting development so that building silhouettes will be below the ridgeline or hilltop or if the area is heavily wooded, the building silhouette will be at least 10 feet lower than the average canopy height of trees on the ridge or hilltop;

K. Create and maintain the concept of a New England green or "commons" area within the site.

This is an informative list only. The effective designer can produce much more.

(Added effective 6\1\92)

44.08.36 LARGE LOT ENVIRONMENTALLY SENSITIVE SUBDIVISIONS WHICH ALLOW PRIVATE ROADS

DEFINITION:
A Large Lot Environmentally Sensitive Subdivision (LLESS) is a subdivision with private roads in the R-45 and R-60 zones which consists of not more than 20 lots all of which meet all zoning and subdivision regulations with the exception of the specific provisions as articulated in this section.

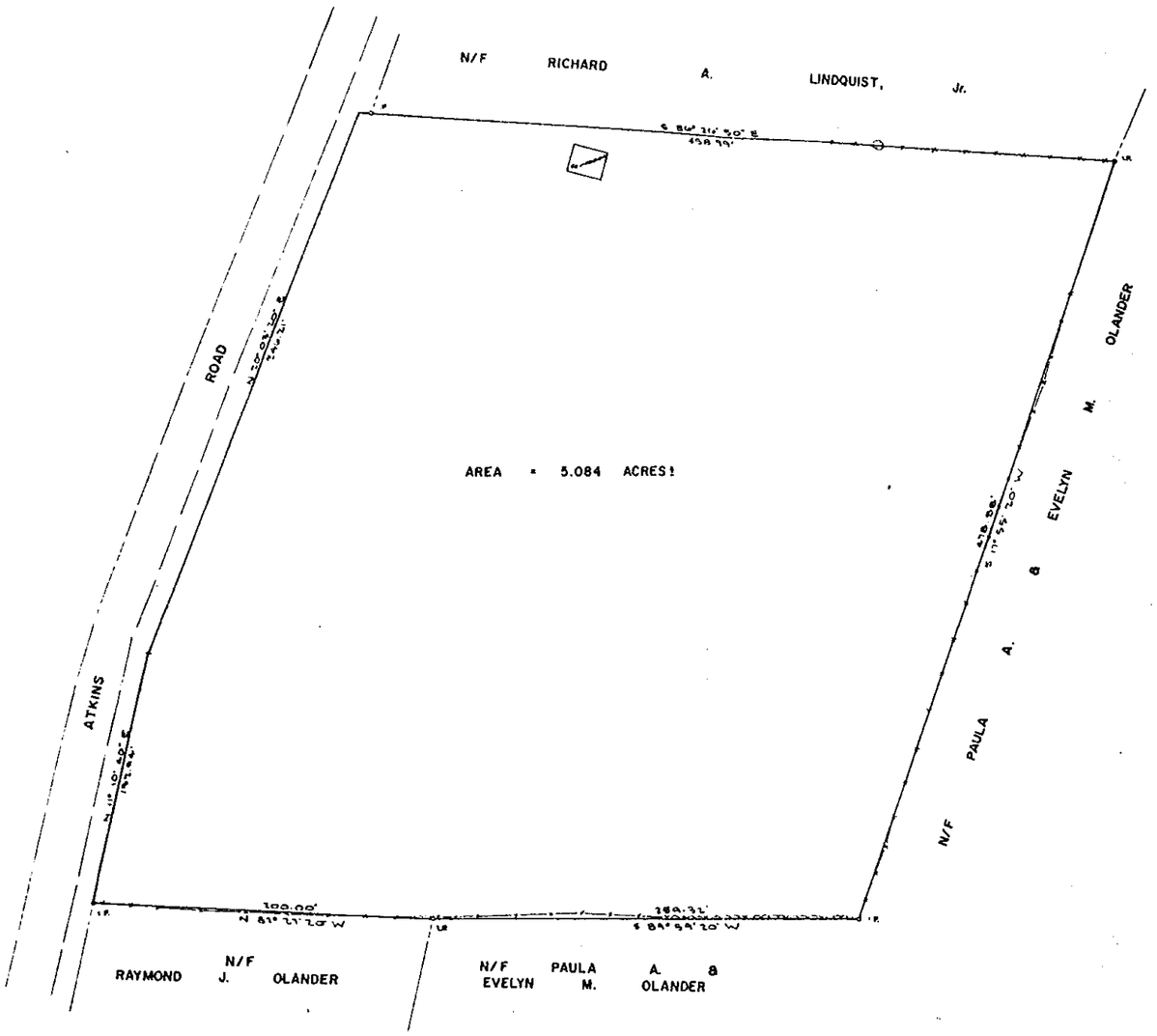
PURPOSE:
The purpose of the LLESS provision in the Zoning Code is to encourage and allow for creative and more flexible site planning and building placement and more efficient and economical land development. Furthermore, the provision is designed to provide for greater open space preservation and the preservation and\or conservation and enhancement of the sites existing natural features and resources.

As a means of achieving the above stated purpose, variations in the existing regulations may be allowed. The following regulations and requirements may be varied or reduced:

1.) lot frontage (max 50 % reduction);
2.) lot shape requirements;
3.) rear yard setback requirements (max 50 % reduction);
4.) max. length -dead end streets (no greater than 2000 ft);

The primary objective of the LLESS is to allow a more environmentally sensitive approach to conventional land subdivision by allowing for the provision of private roads in the outlying rural sections of the city.

PROCEDURE:
The applicant shall follow the procedure as outlined in Section 44.08.35 of this Code. In addition to the general special exception criteria in Section 44.04 the Commission shall find that the proposal satisfies the criteria as listed in Section 44.08.35 Procedure with the exception of #1. In addition the Commission shall find that the specific purpose and design objectives of the LLESS are being achieved.



I hereby certify that this map and survey were prepared in accordance with the standards of a Class A-2 survey as defined in the existing Code of Practice for Standards of Accuracy of Surveys and Maps, adopted by the Connecticut Association of Land Surveyors, Inc.

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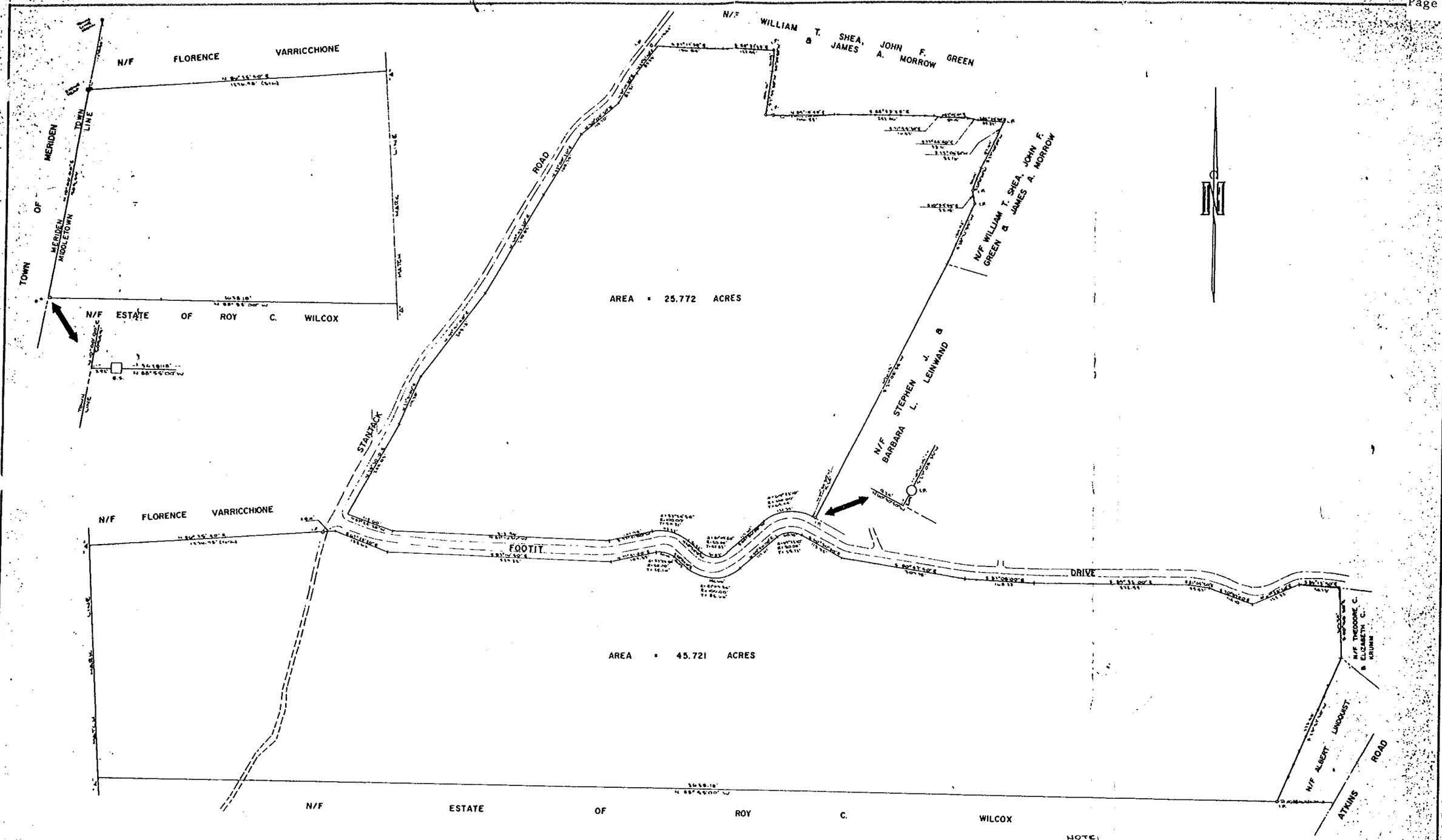
SCALE 1" = 40' DATE 10-13-80 MAP NO. 77-18



NOTE:
STREET LINES HELD 25' FROM CENTERLINE OF TRAVELED WAY

I hereby certify that this map and survey were prepared in accordance with the standards of a Class A 2 survey as defined in the existing Code of Practice for Standards of Accuracy of Surveys and Maps, adopted by the Connecticut Association of Land Surveyors, Inc.

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SCALE 1" = 100' DATE 10-13-80 MAP NO. 1-77-1A