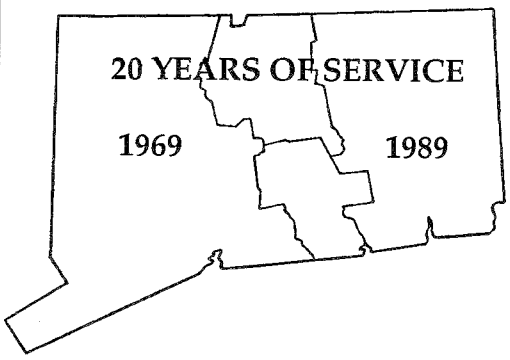
LAUREL HILL SUBDIVISION

HADDAM, CONNECTICUT
MARCH 1989

EASTERN CONNECTICUT ENVIRONMENTAL REVIEW TEAM REPORT



EASTERN CONNECTICUT

RESOURCE CONSERVATION

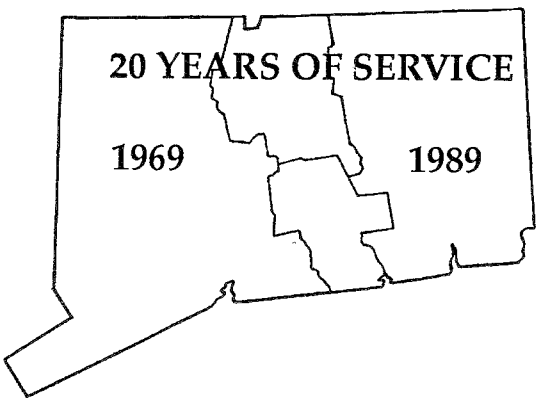
AND DEVELOPMENT AREA, INC.

LAUREL HILL SUBDIVISION

HADDAM, CONNECTICUT

REVIEW DATE: FEBRUARY 14, 1989

REPORT DATE: MARCH 1989



EASTERN CONNECTICUT RESOURCE CONSERVATION AND DEVELOPMENT AREA, INC.
Eastern Connecticut Environmental Review Team
P.O. Box 70, Route 154
Haddam, Connecticut 06438
(203) 345-3977

ENVIRONMENTAL REVIEW TEAM REPORT
ON
LAUREL HILL SUBDIVISION
HADDAM, CONNECTICUT

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

The ERT met and field checked the site on Tuesday, February 14, 1989. Team members participating on this review included:

Geoffrey Colgrove	Planning Director	Midstate Regional Planning Agency
Kevin DesRoberts	Wildlife Assistant	DEP - Eastern District
Jim Dunn	Asst. Planning Director	Midstate Regional Planning Agency
Tom Gilligan	Regional Planner	Midstate Regional Planning Agency
Steve Gladczuk	Regional Planner	Midstate Regional Planning Agency
Steve Hill	Wildlife Biologist	DEP - Eastern District
Tom Ladny	Soil Conservationist	USDA - Soil Conservation Service
Nancy Murray	Biologist	DEP - Natural Diversity Data Base
Rob Rocks	Forester	DEP - Cockaponsett Forest Headquarter
Tony Sullivan	Planning Specialist	CT Office of Policy and Management
Elaine Sych	ERT Coordinator	Eastern CT RC& D Area
Bill Warzecha	Geologist	DEP - Natural Resources Center

Prior to the review day, each Team member received a summary of the proposed project, a list of the town's concerns, a location map, a topographic map, and a soils map. During the field review the Team members were given subdivision plans, a hydrological study and a traffic study. The Team

met with, and were accompanied by the Town Planner, a sanitarian from the State Department of Health, a conservation technician and the applicant's engineers. Following the review, reports from each Team member were submitted to the ERT Coordinator for compilation and editing into this final report.

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

The Eastern Connecticut RC&D Executive Council hopes you will find this report of value and assistance in making your decisions on this proposed subdivision.

If you require additional information, please contact:

Elaine A. Sych
ERT Coordinator
Eastern Connecticut RC&D Area
P.O. Box 70
Haddam, Connecticut 06438
(203)345-3977

TABLE OF CONTENTS

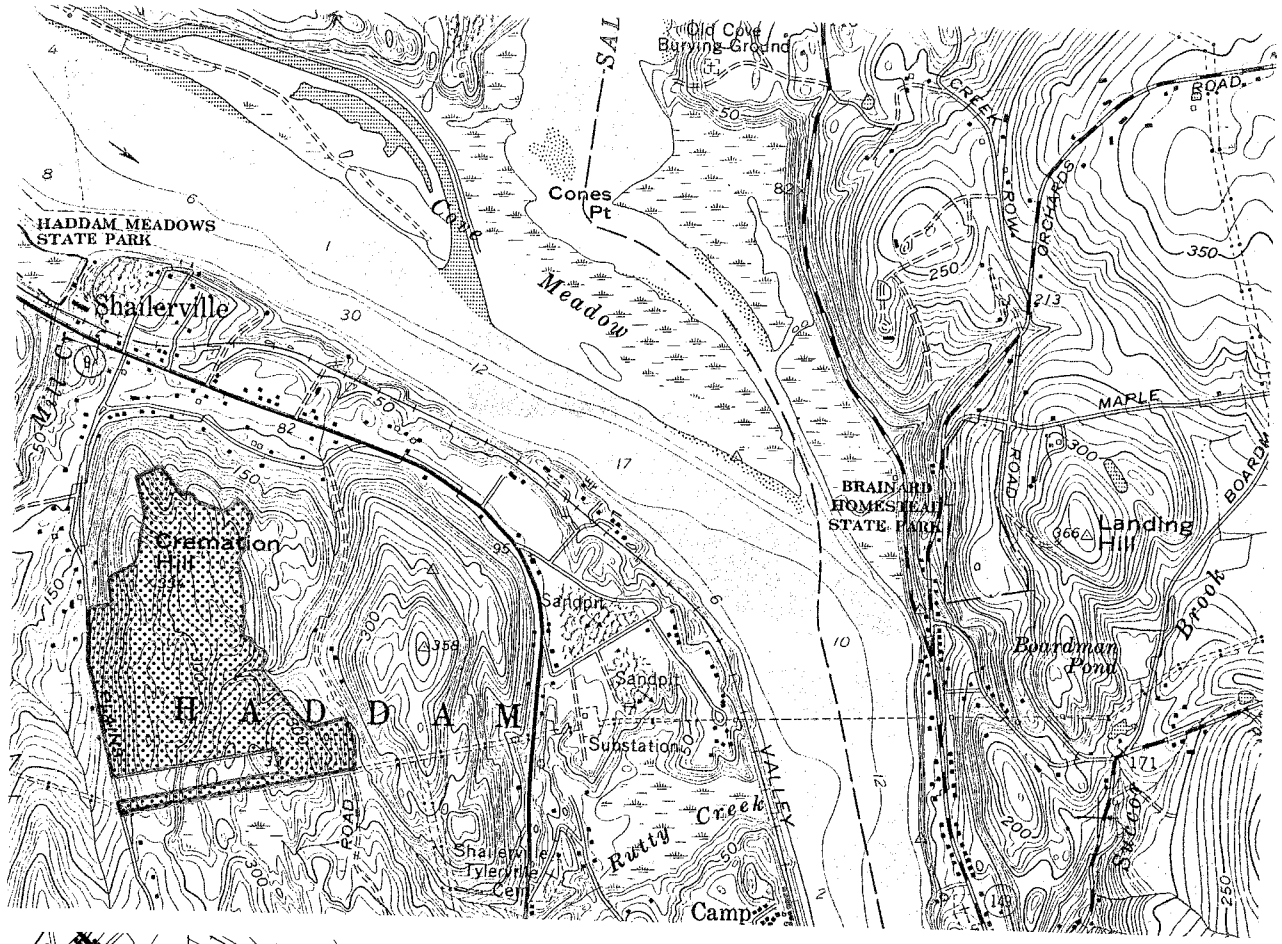
1. LOCATION AND ZONING

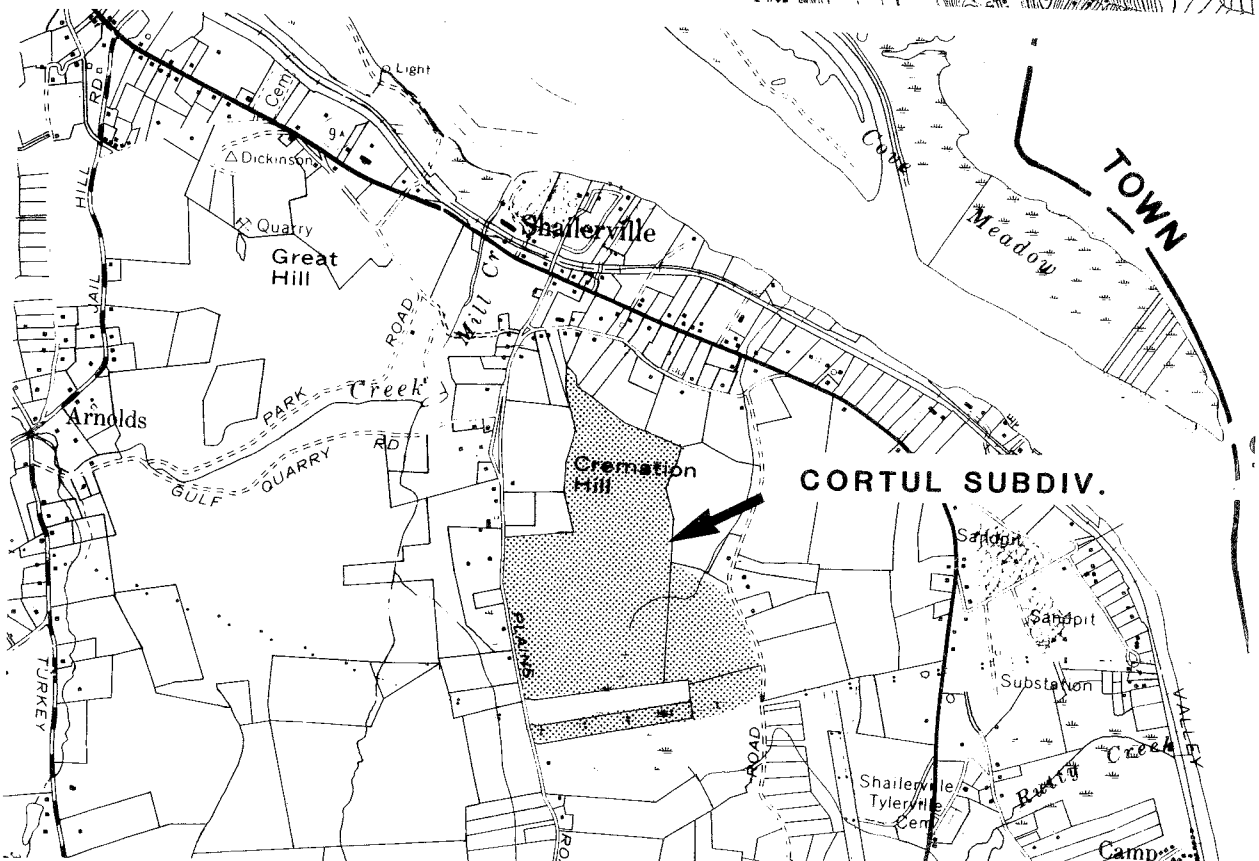
The site, about 108 acres in size, is located on Cremation Hill in eastern Haddam. The site abuts Plains Road on the west; Connecticut Light and Power high tension lines on the south; Old Cart Road on the east and private, undeveloped land on the north. An access road to serve the subdivision is proposed to extend from Plains Road to Old Cart Road and will include two cul-de-sacs.

According to town officials, the site is located in an area which requires residential building lots be a minimum of two acres. The proposed lots will range in size from 2.1 acres to 4 acres, and would be served by individual on-site wells and septic systems. The site, which is entirely wooded is located in a low density residential land-use area.

LOCATION MAPS

Scale 1" = 2000'





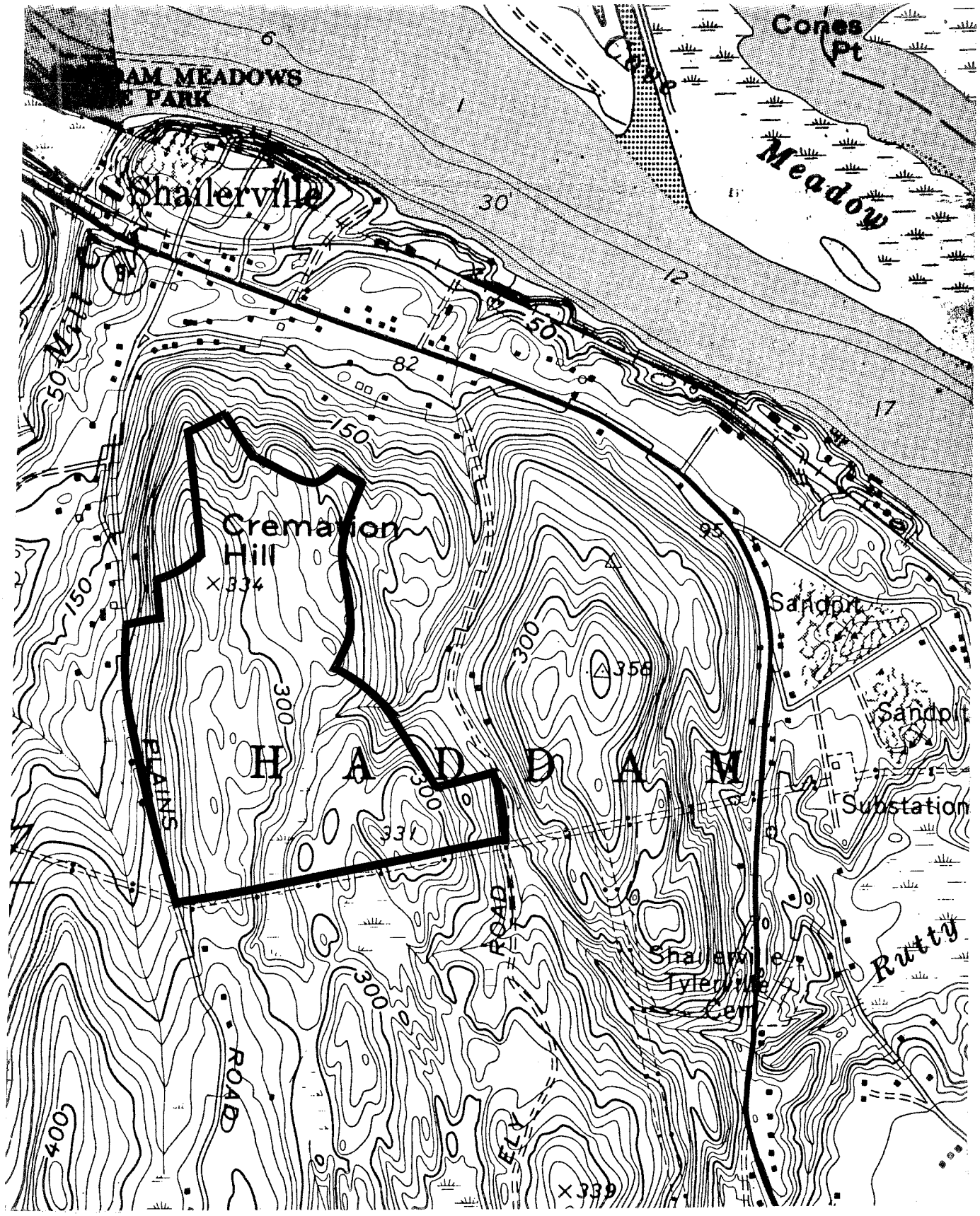
2. TOPOGRAPHY

As mentioned earlier, the site is located on Cremation Hill. The topography of the site which ranges from flat to very steep is controlled entirely by the underlying bedrock. The gentlest slopes occur at the central parts of the site and form the tableland of Cremation Hill. Steepest slopes are concentrated at the eastern and western limits of the site. Site elevations range from 334 feet above mean sea level to 180 feet above mean sea level.

Bedrock exposures were observed on the crests and flanks of the steeper hills within the site. The largest bedrock exposure is located at the southeastern part of the site.

TOPOGRAPHY

Scale 1" = 1000' Approximate Site Boundary



3. BEDROCK AND SURFICIAL GEOLOGY

The subdivision site is located entirely within the Deep River topographic quadrangle. A bedrock geologic map (QR-13 by L. Lundgren, Jr. 1963) and a surficial geologic map (GQ-1370, by D.W. O'Leary, 1977) have been published for the quadrangle to date.

The bedrock underlying the entire site is metamorphic; that is, it has been geologically altered by great heat and pressure within the earth's crust. Generally speaking, the bedrock underlying the site consists of three north-south trending belts of rock called the Hebron Gneiss, Middletown Formation and Brimfield Schist.

The western half of the site is underlain by the Middletown Formation. These rocks are described as dark-to-light gray gneisses and gnanofels, hornblende gneisses and amphibolites. The central parts of the site are comprised of the Brimfield Schist, a gray, rusty-weathering, medium to coarse grained interlayered schists and gneisses. Finally, the eastern limits of the site are underlain by the Hebron Gneiss. These rocks are described as dark-gray schist and greenish gray, fine to medium grained calesilicate gneisses. (Source: Bedrock Geological Map of Connecticut. Rodgers 1985).

The site lies west of the Chester syncline, an area of folded rock. In addition, the Bedrock Geologic Map of the Moodus Seismic Area, Connecticut, D. London, 1989, identifies north-south trending fault zones in the vicinity of the site. They are aligned with Plain Road and Old Cart Road near the site. The presence of these fault suggests that the underlying bedrock may be fractured and slightly to moderately weathered.

The fault zones recognized by geologists are considered structural features that formed during the geologic past and are no longer experiencing active movement.

The underlying bedrock is a source of water to many homes in Haddam and will be the likely source of domestic water to homes in the proposed subdivision.

The bedrock surface is close to the ground surface throughout the site. It probably does not exceed 10 feet in most places. Deep test hole data supplied to Team members confirms this condition.

The entire site is covered by a thin blanket of glacial sediment called till. It consists of a dusty yellow to light olive gray mixture of sediments that range in size from clay sized particles to large boulders, but it is typically sandy and friable. The till varies greatly in texture and compaction and may include thin lenses of sand and gravel. Deep test hole information confirms the above.

A long, narrow pocket of swamp deposits (organic soil) overlie till in the central parts of the site. The outlet stream for this wetland is the major streamcourse on the site. The streamcourse, which is unnamed, is tributary to Connecticut River.

BEDROCK GEOLOGY

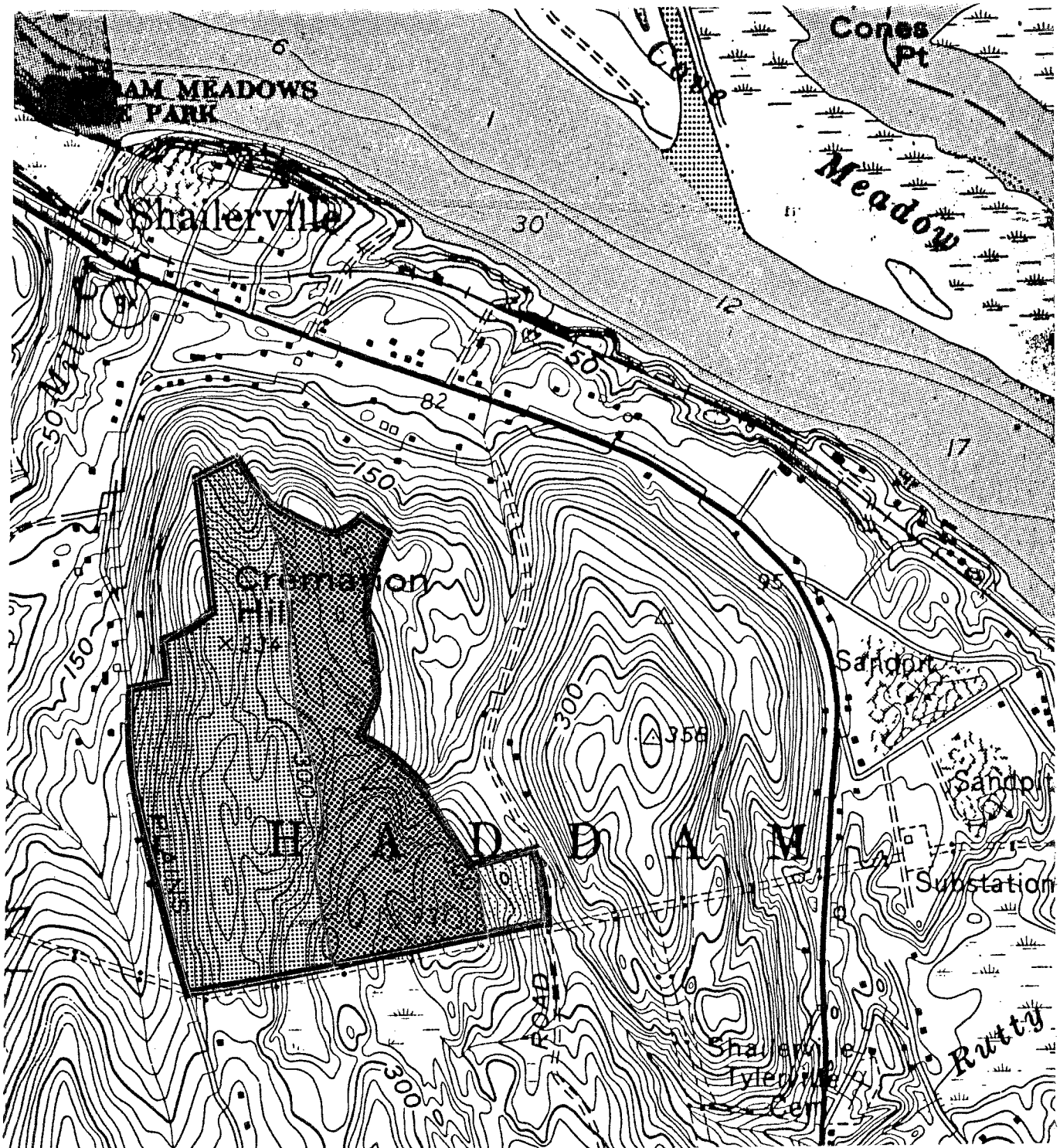
Scale 1" = 1000'

Hebron Gneiss - interlayered dark gray schist and greenish-gray fine to medium-grained calc-silicate gneiss.

Middletown Formation - dark to light gray gneiss and granofels, horneblende gneiss and amphibolite.

Brimfield Schist - gray, rusty-weathering medium to coarse grained interlayered schist and gneisses.

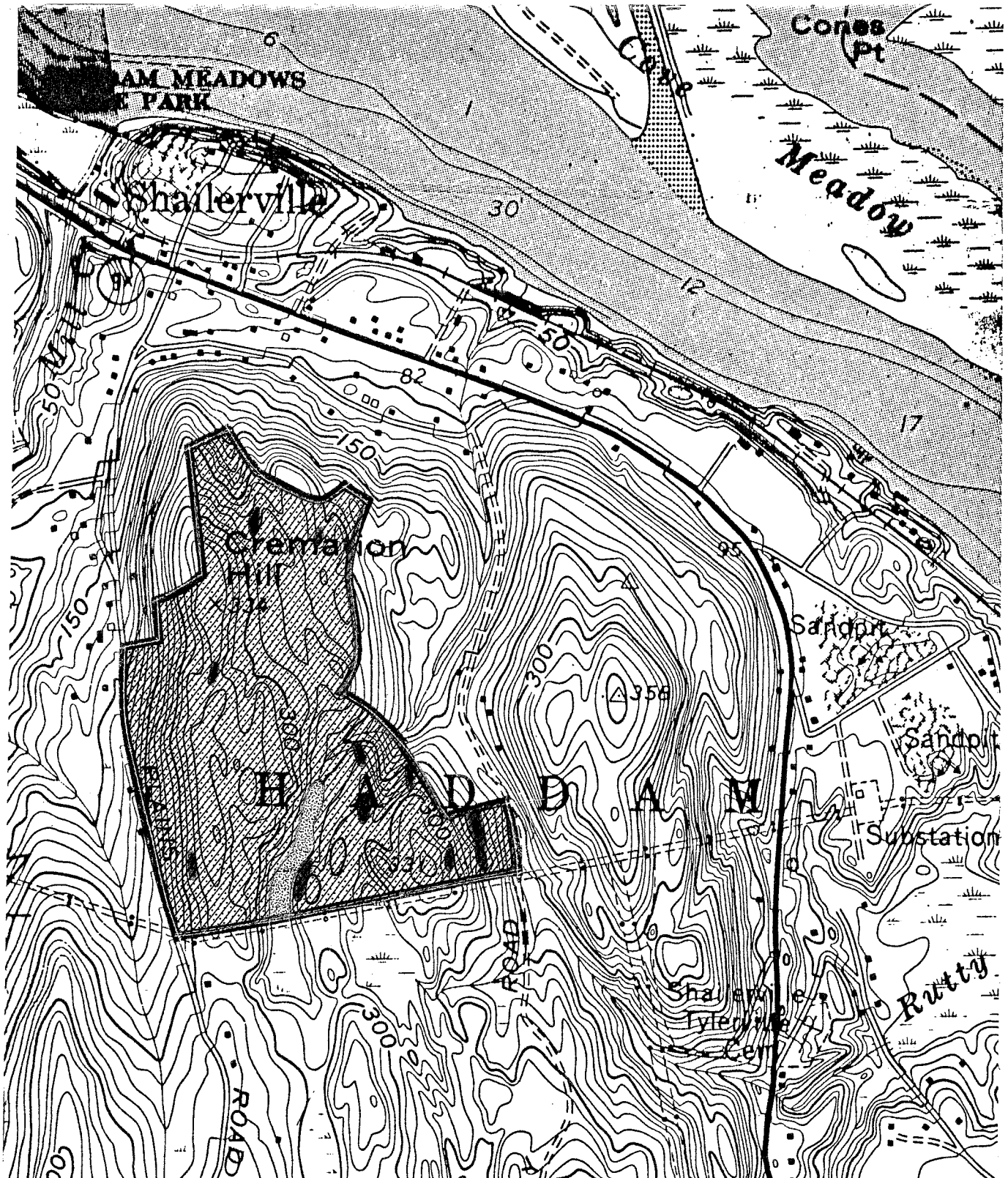
Source: Bedrock Geologic Map of Connecticut, Rodgers, 1985.



SURFICIAL GEOLOGY

Scale 1" = 1000'

Till
Shallow Till
Swamp Deposits
Outcrop Areas



4. SOIL RESOURCES

The proposed subdivision site covers a formation identified as Cremation Hill, which overlooks the Connecticut River. The predominant soils are CrC-Charlton-Hollis very stony fine sandy loam, 3-15% slopes and HpE-Hollis-Charlton extremely stony fine sandy loams, 15-40% slopes. The western border is PeD-Paxton and Montauk extremely stony fine sandy loams, 15-35% slopes.

The CrC and HpE soil complexes are well drained to somewhat excessively drained soils where the relief is affected by the underlying bedrock on upland glacial till plains. The area would commonly have a rough surface with bedrock outcrops, narrow, intermittent drainage ways, and small, wet depressions. In most areas 3-5 percent of the surface is covered with stones and boulders.

These two soil complexes have poor potential for community development. The natural soil limitations are shallowness to bedrock, steep slopes, and stoniness. The-CrC complex, which has a higher proportion of Charlton soil, makes up the central portion of the development and is more likely to have deep pockets of soil mixed in with shallow to bedrock areas. These areas of deep soil have the best potential for development, although slope and stoniness will have an effect, as will its proximity to bedrock.

Severe road cuts and installation of septic systems, foundations, and underground utilities will commonly require blasting and/or deep fills. The amount of disturbance may contribute significantly to erosion and sedimentation potential. Deep cuts down to or below bedrock surface could intercept and redirect subsurface water flows.

A few wetland areas exist on-the property and the largest wetland.flows across the lower portion in a northeast direction. An artificial pond has formed due to construction of a stone dam. This wetland and pond are proposed for preservation by open space designation. Wetland easements across.two lots are proposed and they may not fully protect the integrity of the

stream. Open space designation of the entire stream through the parcel would help to preserve the streambelt in one contiguous unit.

A small wetland is identified as LC-Leicester Ridgbury-Whitman soils on the soil map along the southeast border with Old Cart Road. Field review has confirmed its presence. Impact to this wetland may occur as a result from the construction of the entrance road from Old Cart Road and the drainage system outlet. The culvert under Old Cart Road may be inadequate for additional flow.

Additional wetlands pockets have been identified near the top of Cremation Hill and would receive.adequate protection from open space designation and proper erosion and sediment control measures.

SOILS

Middlesex County USDA-SCS
Middlesex County Agricultural Center
Route 154
Haddam, Connecticut 06438
345-3219

Scale 1" = 1320'

5. EROSION AND SEDIMENT CONTROL

At the request of Haddam's Planning and Zoning Commission, a review of the subdivision plans for Erosion and Sediment Control and related concerns was conducted. Copies of the completed Erosion and Sediment Control Plan Worksheet and comment letter of February 15, 1989 were supplied to the appropriate town commissions, officials, and the developers' engineer. (Copies follow this section)

The pre-ERT site investigation and review identified several areas of concern which pose potential problems either from erosion and sedimentation, large cuts and fills, or stabilization and maintenance. Those identified areas include:

1. the two entrance roads
2. the stream crossing
3. the entire road system
4. access to and maintenance of detention basin; and
5. location of septic systems in several lots.

These concerns are discussed in the review letter of February 15, 1989, and ways to alleviate potential problems have been suggested.

This parcel has several inherent limitations which will make development difficult. As such, special attention and efforts will be needed to provide proper erosion and sediment control. Timely restabilization efforts are necessary to quickly heal and protect the land. Ordinary erosion and sediment control measures, as outlined in the subdivision plans, would not provide adequate protection in the extraordinary situation. Thus, the plans would have to be revised to address all concerns of the installation, maintenance, and enforcement activities, and they will have to be fully implemented to complete the chain of protection.

United States Department of Agriculture
Soil Conservation Service

EXTENSION CENTER
HADDAM, CT 06438-0070
345-3219

February 15, 1989

TO: Robert Rothstein, ZEO
Planning and Zoning Commission
Town Office Building
30 Field Park Road
Haddam, CT 06438

RE: Laurel Hill Subdivision - Preliminary ERT Plan Review

Location: Plains and Old Cart Roads, Haddam
Size: ± 108.4 acres
Lots: 28
Site Visit: January 23, 1989
Engineer: Gary Sharpe of Angus McDonald/Gary Sharpe and Associates
Materials Received:
Subdivision Plan Sheets 1 - 3 of 3, dated Oct. 14, 1988, revised Nov. 28, 1988
Drainage Plan Sheet 1 of 1, dated Oct. 14, 1988, revised Nov. 28, 1988
Plan and Profile Plan Sheets 1 - 7 of 7 (includes Detail sheet #7), dated Oct. 14, 1988, revised Nov. 28, 1988
Site Development and Grading Plan Sheets 1 - 10 of 10, dated Oct. 14, 1988, revised Nov. 28, 1988 and Dec. 29, 1988

COMMENTS:

1) Erosion and Sediment Control Plan Worksheet has been completed and is attached. Refer to worksheet and town regulatory requirements for erosion and sediment control. Worksheet does not necessarily pinpoint all deficiencies in Erosion and Control measures design, layout or other potential problems.

2) It is recommended that the drainage easement in lots 13 and 14 be changed to Open Space to preserve the natural stream belt and to retain the contiguous integrity along the stream.

3) Because of the total amount of disturbance that will occur during road construction, it is recommmended that the roads be constructed and stabilized in small manageable sections.

4) Three areas of potential severe impact are the entrance roads from Plains and Old Cart Roads (for a distance of ± 850') and the stream crossing by Cherry Creek Road located adjacent to lots 13 and 14 and "open space" on the west. The two entrances entail considerable cuts and fills and the proposed erosion and sediment controls would not be sufficient to contain the erosion and sedimentation. The entrances should be constructed and stabilized at different periods, preferably during the spring through early fall period.

The stream crossing also entails a large fill area, and its location on the stream presents the greatest danger to the wetlands. In all three of the mentioned areas, more aggressive and detailed sediment erosion control plan

is needed, and it needs to be fully implemented and properly maintained.

5) It is recommended that all of the larger slopes with 3:1 side slopes or steeper be protected with erosion control blankets, while these areas are becoming re-established. Naturally, the three critical areas identified in comment #5 will require erosion control blankets. The manufacturer and product name should be identified on the plan along with the manufacturer's installation recommendations. Manufacturers or distributors can recommend the product most suitable for the application.

6) A formal narrative section along with proposed scheduling for grading, construction and Erosion and Sediment Control measures needs to be developed and included on the plan sheets. Limits of disturbance should also be indicated on plan sheets and in the field with flagging. Clearing for house sites should be kept to an absolute minimum.

7) Disposal sites for cleared material should be indicated on plan sheets to evaluate possible impacts on wetlands.

8) Designation of person responsible for installing and maintaining E & S measures needs to be included on E & S Control Plan. Owner and/or general contractor bear ultimate responsibility.

9) Sediment and Erosion Control measures for individual lot development should be addressed on individual lot plans as a building permit is applied for. A generic E & S Control Plan for the typical lot could be developed and included in the subdivision plan sheets.

10) Incorrect dates for seeding and recommended seed mixtures are inappropriate for this site. Reed's canary grass and the meadow mix should be replaced by other mixtures recommended in Chapter 6 of the "Guidelines for Soil Erosion and Sediment Control".

11) The location of the proposed septic fields in lots 8 and 14 will be prone to erosion due to their location in drainage drains.

12) The proposed septic field for lot 25 is located directly uphill of the proposed detention basin, and the septic field for lot 26 is very close to the edge of cut for Mountain Laurel Drive. Slope failure or side hill seeps may occur as a result of their location.

13) An unmarked wetland exists in the west side of Old Cart Road.

14) The long-term maintenance of the propsed detention basins, most of which will be relatively inaccessible, has not been addressed.

15) The detention basins located in lot 25 and the open space adjacent to Plains Road, outlet onto steep slopes thus presenting a potentially erosive situation down those slopes. Cross sections for those basins to the edge of Plains Road would be helpful.

16) Incorrect lot numbers are given on the drainage details.

17) The dikes for the basins exceed 3 feet in height and should be forwarded for review by DEP Dam Safety Unit.

THOMAS F. LADNY
Soil Conservationist

Assisting the Middlesex County Soil and Water Conservation District, Inc.

TFL/bd

cc: Tom Gilligan, Town Planner, Haddam
Bob Tommell, Town Engineer, Haddam
Steve Hitchcock, P&Z Chairman, Haddam
Dennis Unites, IWC, Haddam
John Hoyt, Project Coordinator, Angus McDonald/Gary Sharpe and Assoc.

Middlesex County Soil and Water Conservation District, Inc.
Extension Center - Route 154 - Haddam, Connecticut 06438 - Phone (203) 345-3219

EROSION AND SEDIMENT CONTROL PLAN WORKSHEET

This is a guide for the development and review of erosion and sediment control plans. Local commissions should be consulted for regulatory requirements concerning erosion and sediment control planning.

Checked (✔) items are those that have been provided on the current erosion and sediment control plan. Items identified with a star (*) should be incorporated into final plans.

Name of development Laurel Hill Subdivision
Materials received Subdiv Plans 1-3, Drainage Plan-1, PLAN & PROFILE PLANS 1-7, (Includes Detail sheet #7) Site Development & Grading Plans 1-10, revised 11/28/88 and 12/29/88

Total Area 108.4 AC Location E/T OLD CART Rd. and PLAINS RD
Engineer ~~John Hoyt of~~ Angus McDonald / Gary Sharpe & ASSOC. O.S.
Date Received 1/17/89 Site Visit 1/23/89 Reviewed by Tom Hadny, SC
Submitted by Haddam Planning & Zoning

** NARRATIVE SECTION DESCRIBING: FORMAL NARRATIVE NOT PROVIDED AND IS REQUIRED

- ☆ The development
- ☆ Purpose of activity ✓
- ___ The number of total acres and acres ☆ to be disturbed in the project
- ☆ The schedule of grading and construction activities, including:
  - ☆ Start and completion dates
  - ☆ Sequence of grading and construction activities
  - ☆ Application sequence of all E & S control measures
- ☆ The design criteria for all proposed E & S control measures
- ☆ Construction details for all proposed E & S control measures
- ☆ Installation procedures for all proposed E & S control measures
- ☆ The operations and maintenance program for all proposed E & S control measures
- ☆ The name of the person or organization that will be responsible for the installation and maintenance of the E & S control measures
- ☆☆ Organization or person responsible for maintenance of permanent measures when project is completed.

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A SITE PLAN AT A SUFFICIENT SCALE SHOWING:

Natural Features

- ✓ Existing topography
- ✓ Soils information, including test pit data if available
- ✓ Identification of wetlands, watercourses and water bodies on the site
- ✓ Name of soil scientist who performed wetlands delineation and flag numbers
- ✓ Major drainageways and drainage areas
- ✓ Rock outcrop areas
- ___ Seeps, springs
- ___ Major aquifers
- ✓ Floodplains (100 yr.) and floodways
- ___ Channel encroachment line (DEP permit)
- ✓ Existing vegetation
- ___ Coastal zone boundary
- ☆ Gateway or Connecticut River Assembly zone — not shown if applicable

Project Features

- ✓ The location of the proposed development
- ✓ Adjacent properties
- ☆ Major land uses of adjoining areas
- ✓ Property lines
- ✓ Lot lines and setback lines
- ✓ Lot and/or building numbers
- ✓ Planned and existing roads
- ☆ Location of existing and planned utilities
- ✓ Location of wells and septic systems.
- ✓ Proposed topography
- ✓ North arrow
- ✓ A plan legend

Clearing, Grading, Vegetative Stabilization

- ☆ The sequence for installation and application of all E & S control measures
- ☆ The sequence of grading and construction activities
- ☆ The location of and construction details for all proposed E & S control measures
  Measures needed are: must conform to installation recommendations in Guidelines for Soil Erosion & Sediment Control
- ☆☆ Limits of disturbed areas - important for this proposal
- ☆ Extent of areas to be graded
- ✓ All proposed structures
- ☆ Disposal sites for cleared material
- ☆ Location of stockpiled topsoil and subsoil
- ✓ Temporary erosion protection for stockpiles
- ☆ Areas to be vegetatively stabilized
- ✓ Temporary erosion control protection of disturbed and/or cleared areas
- ☆ Temporary erosion protection when time of year or weather prohibit establishment of permanent vegetative cover needs expansion
- ☆ The sequence for final stabilization of disturbed areas
- ✓ Amount of topsoil to be spread (depth in inches)
- ✓ Seedbed preparation
- ☆ Seeding mixture, rates, and seeding dates - incorrect dates, some mixtures not recommended
- ✓ Fertilizer and lime application rates
- ✓ Mulch application rate
- ✓ Mulch anchoring measures - erosion control blankets recommended for cuts + fills, 3:1 or steeper slopes

Drainage System

- ✓ Existing and planned drainage pattern
- ✓ Size and location of culverts and storm sewers — potential erosion, septic system failure, undersizing of existing road culverts
- ___ Drainage calculations for review by town engineer
- ✓ Stormwater management measures and construction details
- ☆ Groundwater control measures (footing drains, curtain drains)
- ✓ Planned water diversions and dams (DEP permit)

House Site Development

- ✓☆ Sediment and erosion control measures for individual lot development

Additional Comments

See cover letter

6. HYDROLOGY

The site can be divided into four drainage areas. Surface runoff arising in the interior sections of the site drain to the long, narrow wetland (open space area) located in the southern parts or to its unnamed outlet stream. The latter stream flows in a northerly direction enroute to Connecticut River. It is piped under Old Turnpike Road and Route 9A before its reaches the river. Surface drainage in the northern limits drains northward where it is intercepted by storm drainage at Old Turnpike Road and Route 9A and ultimately routed to the Connecticut River. The western limits of the site drains westward towards Plains Road. Water is than piped under the road and routed to Mill Creek, a Connecticut River tributary. Finally, surface runoff arising in the southeast corner of the site drains to a wetland area just south of the site. The outlet stream for the wetland transports the water under Old Cart Road and ultimately discharges to Rutty Creek.

The subdivision of the property as planned, followed by the construction of new homes, driveways, roads, and cul-de-sacs can be expected to lead to increases in the amount of runoff shed from the site. The wetland pocket in the southern part, which drains most of the subdivision site serves as a natural runoff detention area. The proposed Cherry Creek Road crossing at the wetlands north end will be designed to increase the stormwater detention capabilities of the wetland. The construction of the road at this crossing may require a dam permit from DEP's Dam Safety Unit. They can be reached at 566-7245. Several more manmade detention basins are also proposed throughout the site for the purpose of controlling post-development runoff increases. The CT Guidelines for Soil Erosion and Sediment Control as well as local ordinances should be followed closely with respect to storm water management and detention basin design.

As mentioned earlier, most of the site is characterized by shallow to bedrock soils. As a result, there is a chance that the bottom of the detention basins would be found on the bedrock surface. The concern here is that stormwater laden with salt, hydrocarbons, silt, etc. may infiltrate fractures (if they exist) in the underlying bedrock. Since most homes in the area and the proposed subdivision rely on bedrock wells for domestic purposes, every

effort should be to protect the bedrock aquifer from the potential contaminants associated with stormwater. Every effort should be made not to excavate the detention basins to the bedrock surface but to maintain an adequate soil cover.

The outlet for the two detention basins at the western limits will discharge to a rip-rap apron and be allowed to flow overland to the existing stormwater drainage system on Plains Road. Because of the steep slopes and the presence of silty and shallow soils in these areas, it would probably be wise to pipe the outlet to the existing stormwater drainage system. Careful examination of all culverts on Plains Road in the area is warranted. Culverts along Old Cart Road and Old Turnpike Road should also be evaluated to ensure that they can handle post-development flows. Since detention basins may accumulate with sediment and other debris (road sand), they will need to be maintained on a regular basis. Therefore, access to the detention basin areas for maintenance vehicles is necessary and should be shown on the subdivision plan.

Another concern with increased runoff is the potential for streambank erosion and gulleying. Also, in view of the sloping areas and presence of silty soils, there is the potential for siltation related problems unless a comprehensive erosion and sediment control plan is developed and enforced for the subdivision. Disturbed areas should be kept to a minimum.

WATERSHED BOUNDARY

Scale 1" = 1000'

Portion of site that drains to Old Turnpike Road and ultimately the Connecticut River.

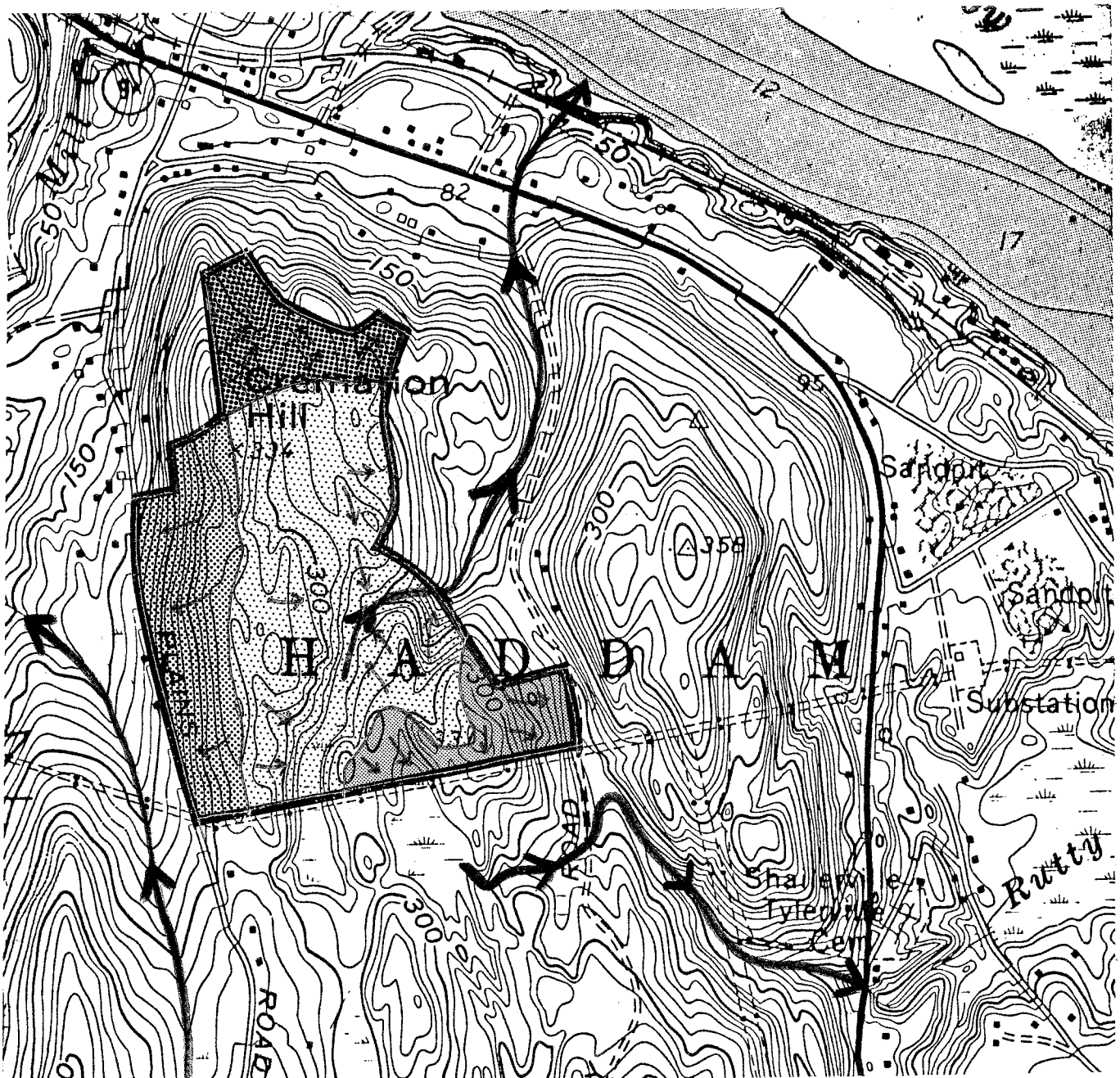
Portion of site that drains westward to an unnamed tributary to Mill Creek.

Interior section of site that drains to an unnamed tributary to the Connecticut River.

Southeast corner of the site that drains to Rutty Creek

Direction of surface flow

Major watercourses showing direction of flow



7. BEDROCK AND BLASTING

The presence of rock outurops and shallow soils throughout the site will undoubtedly pose problems for the construction of roads especially at the eastern and western limits where extensive cuts will be required in order to meet town grade standards for roads. Additionally, it will pose a problem for underground utility lines and septic tanks.

Consolidated, crystalline bedrock encountered at shallow depths on the site will necessitate blasting in most cases. Any blasting that takes place on the site should be done very carefully and under the strict supervision of people with experience in the newest technology in blasting techniques. This will hopefully help to reduce the chance for undue seismic shock and air blast, which may result in potential damage claims from nearby residents. In this regard it is usually wise to consider a pre-blast survey of the surrounding area.

Borings, especially in the area of the major road cuts, are important to determine depth to the bedrock and its texture i.e., friable versus solid. Once this is completed, the blasting requirements and blasting method of the site can be determined. There are certain blasting methods which can be employed that reduces blasting shock impacts to insignificant proportions. The borings will also be helpful to determine the dip and direction of foliation planes in the rock. For example, if the bedrock is friable and slabby, it may not support steep cuts.

If the blasted bedrock on the site is to be used for fill material on or off the site, consideration should be given to analyzing it for the presence of iron sulfide minerals. Rock induced water chemistry change (acid mine drainage) may occur in areas where the blasted rock is in contact with surface or groundwater. The pH of the water can change as well as its appearance. The latter may have adverse impacts on aquatic habitats, groundwater quality, and fisheries to receiving streamcourses.

Present plans indicate that primary and/or reserve leaching areas for a couple of lots appear to be located too close to the proposed road cuts. The

main concern here is the potential for sewage effluent, which is not completely renovated to breakout at the road cut embankment. In order to ensure that this potential problem does not occur, it is suggested that the leaching system in these areas be setback a minimum of 75 feet from the road cut. This should allow sufficient time for adequate treatment of the effluent so that a public health hazard concern does not arise.

8. WATER SUPPLY

Present plans indicate that the proposed house lots would be served by individual on-site wells. The underlying bedrock will be the likely source of water to the wells. Although not prolific aquifers, the crystalline bedrock beneath the site is generally capable of yielding quantities of water adequate for most domestic uses. A yield of 3-5 gallons per minute is generally desired for residential use. The site lies within the lower Connecticut River Basin, and according to Water Resources Bulletin No. 31, 80 percent of the crystalline metamorphic bedrock wells (314 surveyed) had yields of 3 gallons per minute or more and 60 percent had yields of 5 gallons per minute or more.

The presence of former faults in the vicinity of the site suggests that at least the upper few hundred feet of the bedrock surface in the area may be fractured and weathered. Fractured and weathered zones in the bedrock provides storage for groundwater, which the drilled wells will hopefully intersect. It has been shown that the probability of increasing the yield of a well decreases with depth below 300 feet.

It is most desirable to locate private wells on the high side of lots with the proper separating distance from on-site sewage disposal systems and other potential sources of pollution such as storm drainage, water impoundments, watercourses and drains.

Properly constructed drilled wells will generally afford the greatest level of protection against possible sources of pollution. Also, drilled wells usually allow for more flexibility in actual site placement. They should all be cased with steel pipe into the underlying, metamorphic rock. All wells are to be constructed by persons who are state licensed for drilled wells. The town sanitarian needs to inspect the proposed well sites and issue a permit for each well in the subdivision.

The sanitarian must ensure that all sections of the State Public Health Code, State Well Drilling Board Rules and Regulations and local ordinances

have been followed. Provided this is done, there should be little chance of water quality or quantity problems, except perhaps those that occur naturally.

In view of the geologic setting of the site (permeable soils over shallow bedrock) every effort should be made to separate wells and septic systems as conservatively as possible. Where feasible, the minimum separating distance of 75' between well and septic system should be increased.

The natural quality of groundwater in this area should be good. However, there may be a chance that elevated iron and manganese levels could affect well water quality, especially in those areas underlain by Brimfield Schist and Middletown Formation. As a result, it may be necessary to install an appropriate water treatment system.

9. SEWAGE DISPOSAL

In an attempt to determine the suitability for on-site sewage disposal for each of the proposed lots, a number of deep test pits and percolation tests were performed by the project engineer.

The main areas of concern with on-site sewage disposal are lots which have shallow soil covers above bedrock and areas of moderately steep to steep slopes. Additionally, the presence of soil mottling (stain), an indicator of groundwater levels was noted in numerous deep test holes. However, groundwater was not observed in most of these holes. The reason for this may have been due to the time of year the soil testing was conducted; summer and fall. The water table level is commonly lowest during these periods.

Based on the review of soil test data supplied to Team members, there appears to be numerous test pits where there was less than 4 feet of soil cover above the bedrock surface. Based on the State Public Health Code these soil conditions are not recommended for on-site sewage disposal at such time. Lots characterized by these conditions indicate that there may not be sufficient soil cover above bedrock in which to construct sewage disposal systems capable of functioning adequately without creating adverse effects. The feeling is that the ledge rock may interfere with the operation of the system and not provide adequate treatment and dispersal of the effluent. For this reason, the depth of soil overlying ledge rock for the distance downslope from the actual leaching system should also be taken into account. Generally there should be no ledge outurops within a distance of fifty feet downslope of the leaching area. In this regard, large areas of bedrock outcrops should be shown on the plan.

The main concern for those areas characterized by an elevated water table is to determine whether or not the naturally occurring soil in the vicinity of the leaching system can adequately absorb or disperse the expected volume of sewage effluent without overflow, breakout or detrimental effects on ground or surface waters. In general, suitable well-drained fill material is used to raise the bottom of the system above the high water table so that it

does not hydraulically interfere with the proper functioning of the septic system.

Depending upon soil conditions and topographic conditions, curtain drains may also be used to protect the leaching system from the high ground water table. Consideration should be given to monitoring the site through the wet time of year (late winter - spring) so that the seasonally high water table can be accurately determined.

The final concern, steep slopes and/or vertical cuts, will have to be considered for those lots located along the interior road system, where extensive cuts are necessary. In order to obtain a reasonably level road at the eastern and western limits, it is likely that extensive cutting along the roadway will be performed. The creation of these cut embankments plus the additional cut embankments necessary for driveways to reach the proposed dwelling sites in the area could significantly affect the suitability of the lot for on-site sewage disposal, especially where the system is close (less than 75 feet) to the cut areas. Partially treated effluent, traveling on the bedrock surface or "hardpan" layer may bleed out of the ground at the face of these cut embankments, resulting in a public health nuisance condition.

It should be pointed out that there are a few lots (Lots 11, 16, 17) whose septic systems are located close to or within topographic swales. Although subsurface conditions may be satisfactory for on-site sewage disposal in these areas, the concern is to make sure that surface water does not impair the leaching system by flooding it or eroding parts of it during the wet period.

Before subdivision approval, the applicant's engineering firm must show that each of the proposed lots in the subdivision meets the minimum soil standards set forth in Section 19-13 B103e(a)(3) of the State's Public Health Code.

The process should be a coordinated effort between the design engineer and the town sanitarian. Because most of the lots will be deemed of "special concern" by the State Public Health Code, plans for the design of the subsurface sewage disposal facilities (along with the placement of each on-site

well water supply) must be prepared by a professional engineer and submitted to the Health Department for review and approval by their certified staff.

The final configuration of lots should not be approved until the Health Department is assured of the feasibility of each lot meeting all of the State Health Code Requirements and above listed concerns.

10. NATURAL DIVERSITY DATA BASE

The Data Base maps and files regarding the area delineated as the Laurel Hill subdivision have been reviewed. According to the Data Base information there are no Federal Endangered and Threatened Species or Connecticut "Species of Special Concern" that occur at or adjacent to the area in question.

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

11. VEGETATION

The Laurel Hill subdivision which totals approximately 108 acres may be divided into five distinct vegetation types (please see the vegetation type map). These vegetation types include two mixed hardwood stands which total approximately 96 acres, a hardwood swamp which totals approximately 4 acres, a shrub swamp which totals 1 acre and a utility right-of-way which totals about 7 acres.

Many large healthy trees and flowering shrubs are present throughout this tract. Not only do these trees and shrubs have high aesthetic value, but they also provide a positive and protective influence on water quality, soil stability and air quality.

Impact on vegetation resulting from road crossing of the wetlands should be minimal, providing culverts are properly sized and placed.

Improvement thinnings throughout the forested portion of this tract would reduce crowding and result in healthier more stable trees over time.

Trees which are removed for development purposes should be utilized as fuelwood and where feasible sawlogs.

Vegetation Type Description

Type A: Mixed Hardwoods. This area which totals approximately 60 acres is made up of a large variety of tree species predominantly in the sawtimber size class which are becoming crowded, but are otherwise healthy. Included are red oak, black oak, scarlet oak, white oak, hemlock, red maple, hickory, black birch and American beech. The understory throughout this area is dominated by Mountain Laurel with scattered highbush blueberry, maple leaved viburnum, blue beech, azalea and witch hazel intermixed. Ground cover and herbaceous vegetation consists of Pennsylvania sedge, Christmas fern, wood aster and club mosses.

Type B: Mixed Hardwoods. Crowded pole size chestnut oak, white oak, scarlet oak, black oak, hickory, hemlock, American beech, black birch, sassafras and red maple are present on the droughty shallow soiled knolls which comprise approximately 36 acres of this tract. Understory vegetation consists of mountain laurel, American chestnut, lowbush blueberry, huckleberry and other hardwood tree seedlings. Pennsylvania sedge, striped pipsissewa and club mosses are scattered throughout this area.

Type C: Utility Right-of-way. Approximately 7 acres of this tract is utility right-of-way where tall tree species have been controlled or eliminated in the past. Plant species which are present include hardwood tree seedlings, eastern red cedar, flowering dogwood, shad bush, mountain laurel, highbush blueberry, maleberry, staghorn sumac, witch hazel, sweet fern, green briar, steeple bush, raspberry, poison ivy, grasses, and assorted wildflowers.

Type D: Hardwood Swamp. The hardwood swamp and stream belt area which totals approximately 4 acres is made up predominantly of red maple with scattered black gum and yellow birch. Understory vegetation consists of sweet pepperbush, highbush blueberry, witch hazel and mountain laurel. Herbaceous ground cover and vines include tussock sedge, sphagnum moss, skunk cabbage, sensitive fern, cinnamon fern, poison ivy, greenbriar, grape vine and club moss.

Type E: Shrub Swamp. One acre of shrub swamp in located along the utility right-of-way and is dominated by red maple seedlings, highbush blueberry, sweet pepperbush, deciduous holly, pussy willow, swamp rose, swamp azalea and steeple bush. The herbaceous vegetation which is present includes phragmities, cattail, sensitive fern, cinnamon fern, skunk cabbage, sphagnum moss and blue flag.

Aesthetic Considerations

At this time a majority of the forest covering this tract is made up of large crowned healthy trees which have the potential to have high aesthetic and shade value.

Healthy, high quality trees should be selected for retention and worked into the final site plans for individual house lots.

It should be noted that trees are very sensitive to the condition of the soil within the entire area under their crowns. Development practices near trees such as excavation, filling and grading for construction of roadways and buildings may disturb the balance between soil aeration, soil moisture level and soil composition. These disturbances may cause a decline in tree health and vigor, potentially resulting in tree mortality within three to five years. Mechanical injury to trees may cause the same results. Dead trees reduce the aesthetic quality of an area and may become hazardous and expensive to remove if near roadways, buildings or utility lines.

Care should be taken during the construction period not to disturb the trees that are to be retained. Special care should be taken near hemlock trees because of their shallow root systems. In general, healthy and high vigor trees should be favored for protection over unhealthy trees because they are usually more resistant to the environmental stresses brought about by construction.

Where feasible, trees should be retained in small groups or "islands". This practice lowers the possibility of soil disturbance and mechanical injury. Individual trees and "islands" of trees should be temporarily, but clearly marked so they may be avoided during construction.

Mountain laurel is present throughout almost all of this entire tract. This flowering specie should be retained where feasible for it's aesthetic value. The flowering of this species can be stimulated by allowing increased direct sunlight to reach it. This can be accomplished by removing the trees in the overstory which are blocking the sunlight.

Limiting Conditions and Potential Hazards

The Hemlock Wooly Adelgid, a scale insect which may cause mortality in hemlock, was observed on the hemlock throughout this tract.

This insect feeds mainly on young branches and does so by piercing the bark and sucking the tree's sap. This retards or prevents the growth and development of the tree and causes needles to turn color and drop prematurely. Eventually this kills the infested branches and ultimately the whole tree. This process, from infestation to tree death, may occur within one year. This insect can be controlled in ornamental settings using several pesticides which are relatively safe in the environment. Annual spraying may be necessary to control this insect.

Windthrow is a potential hazard throughout the hardwood swamp areas and also along the streams which pass through this property. Tree root depth is restricted by saturated soils in these areas. Under these conditions trees are unable to become securely anchored and are susceptible to windthrow. Trees which are crowded and rely on each other for stability have an even greater potential for windthrow problems and top breakage. These conditions may be intensified if linear openings, which allow wind to pass through rather than over these areas, are made. Openings and clearings in and along side these wetland areas should be avoided if at all possible. Undisturbed buffer zones of at least 25 feet deep around the wetlands should help to reduce the windthrow potential.

Alterations in wetland areas which permanently raise the water table such as restricting natural drainage and stream flows, may eventually have a negative impact on the vegetation in these areas. Raising the water table may drown roots causing widespread mortality in the trees, shrubs and herbaceous vegetation which are now present. The impact on vegetation created by construction of the proposed road crossing of the wetlands area will be minimal providing that the culverts that are utilized are adequately sized and properly placed.

Management Considerations

Trees which are unhealthy and not growing vigorously due to crowded conditions are most susceptible to further degradation from environmental stresses brought about by development, disease, insect infestation and adverse weather conditions. Improvement thinnings, which remove undersirable

trees and reduce competition for space, sunlight, nutrients and water between the high quality residual trees will, over time, allow trees to improve in health, vigor and stability. These thinnings when implemented properly can improve the aesthetic value of an area, improve wildlife conditions and provide wood products.

The trees which are present in vegetation types A & B are declining in health and vigor as a result of their crowded conditions. Under these circumstances the trees are under stress and major disturbances in their environment such as changes in soil conditions and mechanical injury caused by construction in these areas, may rapidly lower their health. Sawtimber thinnings which remove approximately one third of the total volume per acre would help to reduce the crowded condition. Only poor quality and damaged trees should be removed for this thinning. The healthy high quality trees should be left to form the residual forest. Fuelwood thinnings in type B, following the "crop tree selection method" would help to reduce the crowded condition and improve tree health and vigor. Following the "crop tree selection", 100 of the highest quality trees in each acre should be identified (trees spaced about 20' x 20' will equal 100 trees per acre), and one, two, or three trees that are in direct competition with each of those identified should be removed. The 100 trees per acre that are selected as crop trees should be healthy, large crowned, and show little or no signs of damage. Trees which are not competing with the 100 selected trees should not be removed, unless they are severely damaged. These thinnings, if implemented, will provide approximately 1500 board feet of sawtimber per acre and between 4 and 5 cords of fuelwood per acre.

Ideally, the above proposed improvement thinnings should take place prior to the development of this property. This will allow uniform quality of the thinning operations and uniform removal of hazards throughout the tract. If, however, this is not desirable or feasible, these thinnings could take place on an individual lot basis after subdivision has taken place. Regardless, all suitable trees removed during clearing operations should be utilized as sawtimber and fuelwood.

A public service forester or private forester should be contacted to help with the implementation of the suggested thinnings.

VEGETATION

Legend

Road

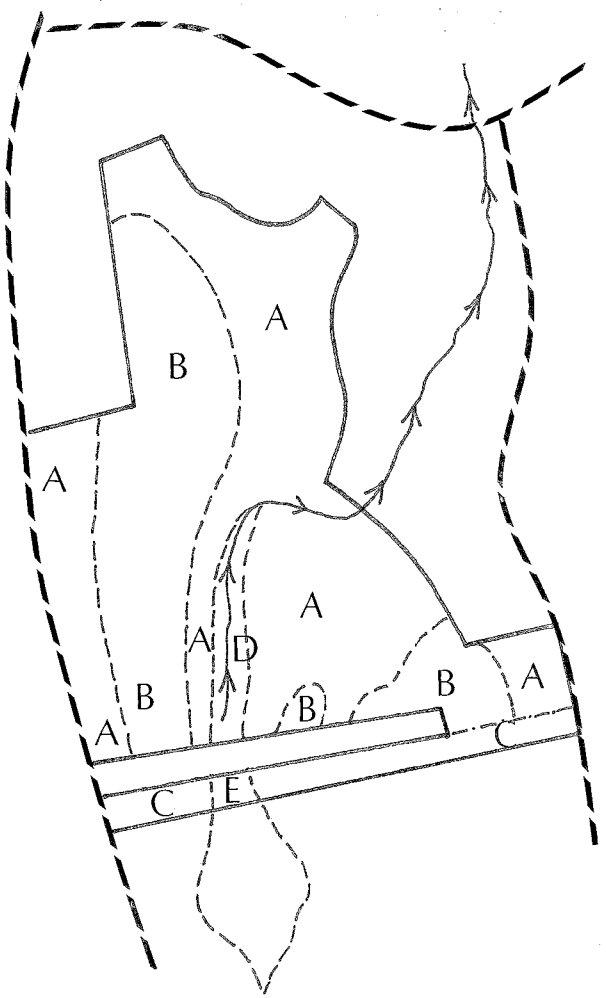
Property Boundary

Vegetation Type Boundary

Utility R.O.W.

Stream

Scale 1" = 1000'



VEGETATION TYPES

A. Mixed hardwoods. 60± acres. Sawtimber size, fully stocked.

B. Mixed hardwoods. 36± acres. Pole-size, crowded, over-stocked.

C. Utility Right of Way. 7± acres. Seedling and sapling size class.

D. Hardwood Swamp. 4± acres. Variable size classes.

E. Shrub Swamp. 1± acre.

SIZE CLASSIFICATIONS

Seedling size = trees less than 1" in diameter at 4 1/2' above the ground (D.B.H.)

Sapling size = trees 1 to 5 inches in D.B.H.

Pole size = trees 5 to 11 inches in D.B.H.

Sawtimber size = trees 11 inches and greater in D.B.H.

12. WILDLIFE RESOURCES

Wildlife Habitat Description

The area of the proposed Laurel Hill subdivision is composed primarily of mixed hardwoods. Within this habitat type exists a seasonal brook and several small wetland depressions. The southern edge of the property borders a powerline.

The overstory is dominated by red oak and hemlock. Understory vegetation consists of dense mountain laurel and hemlock growth, high bush blueberry, beech seedlings, and low bush blueberry. Princess pine occupies the area at ground level. An abundance of dead wood (snags and fallen trees) which is important for a number of birds, small mammals, and reptiles occurs on hill top areas.

The seasonal brook and wetland depressions are dominated by laurel and hemlock. Wetland depressions provide critical spring breeding pools for a number of amphibian and reptilian species.

The powerline vegetation consists of staghorn sumac, red cedar, mountain laurel, and a variety of grasses and sedges.

Wildlife Species

Bird species observed inhabiting the area included mixed flocks of foraging songbirds (chickadees, sparrows, etc.). The remains of a raptor nest was also discovered.

Mammalian species consist of white-tailed deer, grey squirrels, raccoons, and a variety of other small mammals. A large number of squirrel nests were sited.

This area also supports a number of amphibian and reptilian species.

Effects of Development on Wildlife

As the preliminary plans indicate 80 percent of the property will be composed of building lots. This will result in fragmentation of the mixed hardwood habitat which will in turn reduce species diversity and richness. Species that are intolerable to human disturbance will be forced to emigrate into adjacent habitat. Species dispersion into adjacent habitats may result in competition with species already occupying the area. Many species will also be forced to inhabit less desirable habitat; decreasing survivability. Species more tolerant of man such as starlings, robins, house sparrows, and raccoons may increase in number and become a nuisance.

Since many of the proposed building lots contain wetlands there will be a negative impact on these areas if there is any clearing or removal of vegetation. Vegetation removal in wetlands would have severe impacts on wildlife, especially reptiles and amphibians. Soil and water types, cover, food, breeding grounds, and hibernation areas may be altered so that species dependent on specialized habitats are eliminated and more adaptable species reduced (Campbell 1973). Barriers to seasonal movement and population dispersal, such as roads are also serious threats (Campbell 1973). The proposed road network crosses wetlands in one location.

The proposed excavating of one of the wetland depressions into a small pond (50 foot radius, 10 feet deep) will destroy important amphibian and reptilian habitat. Once constructed the pond will offer limited wildlife use because of its location within a subdivision.

Mitigation of Impacts on Wildlife

Several measures can be taken to minimize the impacts of development on wildlife. The excavation of the small pond is highly discouraged. Instead there should be at least a **100 foot buffer** surrounding all wetland areas in which no vegetation removal should take place. Owners of lots containing wetlands should be discouraged from any removal of vegetation within this buffer. These buffer strips will help limit disturbance to wetlands and provide important corridors for a number of wildlife species.

Erosion control measures (i.e. silt fences, hay bales) should be implemented during and prior excavation to limit siltation to wetland areas.

The construction of the road should be designed to avoid crossing of the seasonal brook and wetland depressions.

Careful consideration must be taken when devising a stormwater management plan. The discharge of stormwater into wetlands has negative impacts on invertebrates, amphibians, and reptiles due to increased pollution, sedimentation, and water levels (Campbell 1973).

Since the average lot size is 2 - 4 acres, as much of each lot as possible should be left wooded. This would reduce vegetation removal, habitat destruction, and be more aesthetically pleasing for the residents of the development. Owners of lots should also discouraged from removal of dead wood. The existence of many wildlife species depends on the presence of dead trees. Removal of snags will reduce potential nest sites for both primary (cavity excavating) and secondary cavity nesting birds (i.e. black-capped chickadees, downy woodpeckers, whitebreasted nuthatches) (Best et al. 1978). Fallen trees are also a necessity for many species (i.e. salamanders, snakes, mice, shrews, insects) (Hassinger 1986) and should not be removed.

It would also be beneficial to wildlife if the proposed open space (21 acres) was one contiguous parcel.

Literature Cited

Best, L. B., D. F. Stauffer, and A.R. Geier. 1978. Evaluating the effects of habitat alteration on birds and small mammals occupying riparian communities. Pages 117-124. in (Strategies For Protection and Management of Floodplain and Other Riparian Communities). Proc. symp. Dec. 11-13, 1978, Gallaway, GA. Gen. Tech. Rep. W0-12, Forest Serv., U.S. Dep. Agric., Wash. D.C. 410pp.

Campbell, C. A. 1973. Survival of reptiles and amphibians in urban environments. Pages 61-66. in (Wildlife In An Urbanizing Environment). Proc. symp. Nov. 27-29, 1973, Springfield, Mass. Coop. Extn. Serv., Univ. of Mass., U.S. Dep. Agric., Cnty. Extn. Serv. 182pp.

Hassinger, J. 1986. Dead wood for wildlife. Pennsylvania Woodlands. Penn. State Univ., Col. of Agric., Coop. Exten. Serv. 7 : 1-6.

13. PLANNING REVIEW

Midstate Regional Planning Agency Comments

The subject proposal consists of 28 lots and approximately 6,300 lineal feet of roadway on 108 acres of land. The property contains frontage on Old Cart and Plains Roads. The fringe area of the property consists of steep terrain, while the inner portion is relatively flat to moderately sloped. The majority of the site is covered with mature mountain laurel groves. There is one watercourse, with adjacent wetlands, entering from the middle of the southern boundary of the site, running northeasterly, and exiting at the site,s eastern boundary.

The proposal's open space areas consist of land abutting the existing roadway and all undevelopable land within the site. The southern open space area contains a utility right-of-way and is bordered, northerly by utility owned vacant property.

Items of consideration in the proposal's open space dedication seem to revolve around legitimate concerns on maintaining a buffer between the subdivision and existing roadways, to preserve wetlands and flood areas and a necessity to provide areas for stormwater detention.

An evaluation of the proposed open space areas indicates a lack of continuity. Some portions of the areas will be disturbed or altered (e.g. regrading, construction of detention basins). One area of concern is the wetland crossing on proposed Cherry Creek Road. In that the existing land characteristics in the area of the proposed crossing are unique to the entire parcel, efforts should be made to preserve the area as much as possible. An alternate form of bridging the road should be investigated. Details and landscape plans of all proposed activities in this area should be made part of the application.

The Commission should evaluate the open space proposal as to its conformance with the intent of open space dedication and as to whether the proposal includes the most appropriate land areas for such dedication.

The proposed entrance road from Old Cart Road introduces questionable slope and curve designs. Such a design may be unsafe. It is suggested an evaluation of the design, or alternatives to it, be introduced to the Commission. Because of the large lots sizes, it is likely that the same lot yield can be achieved. Also, implementation of the subject proposal will result in a possible connector route being established between Old Cart and Plains Roads. The Commission may want to consider a road design that allows more fluid traffic movement through the site. Modifications to the Mountain Laurel and Cherry Creek Roads intersection would be necessary.

Other Planning Comments

The access for this subdivision on Plains Road will require extensive excavation to construct the road bed and provide site lines. As a result, some redesign and reconstruction of Plains Road may be required and a design for that should be sought from the developer. The access at Old Cart Road appears to be more reasonable, but no topographic plans showed either intersection. The developer is to be commended for providing a through access from one road to another as that helps with emergency vehicles and deliveries.

Within the property of this subdivision are many examples of New England stonewalls and the applicant should be requested to preserve as many of them as is possible. Between lots 18 and 19 there is an old stone dam which creates a small pond. This should be rebuilt at an elevation that will preserve the pond and the appearance of the area within the open space that is outlined on the subdivision map.

Other areas to be dedicated as open space are of limited value and any home owners association agreement or bylaws that might involve the Town should be referred to the Town's Attorney.

ABOUT THE TEAM

The Eastern Connecticut Environmental Review Team (ERT) is a group of professionals in environmental fields drawn together from a varety of federal, state and regional agencies. Specialists on the Team include geologists, biologists, foresters, soil specialsits, engineers and planners. The ERT operates with state funding under the supervision of the Eastern Connecticut Resource Conservation and Development (RC&D) Area --- an 86 town region.

The services of the Team are available as a public service at no cost to Connecticut towns.

PURPOSE OF THE TEAM

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

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

REQUESTING A REVIEW

Environmental reviews may be requested by the chief elected official of a municipality or the chairman of town commissions such as planning and zoning, conservation, inland wetlands, parks and recreation or economic development. Requests should be directed to the chairman of your local Soil and Water Conservation District and the ERT Coordinator. A request form should be completely filled out and should include the required materials. When this request is approved by the local Soil and Water Conservation District and the Eastern Connecticut RC&D Executive Council, the Team will undertake the review on a priority basis.

For additional information and request forms regarding the Environmental Review Team please contact the ERT Coordinator: **203-345-3977, Eastern Connecticut RC&D Area, P.O. Box 70, Haddam, Connecticut 06438.**