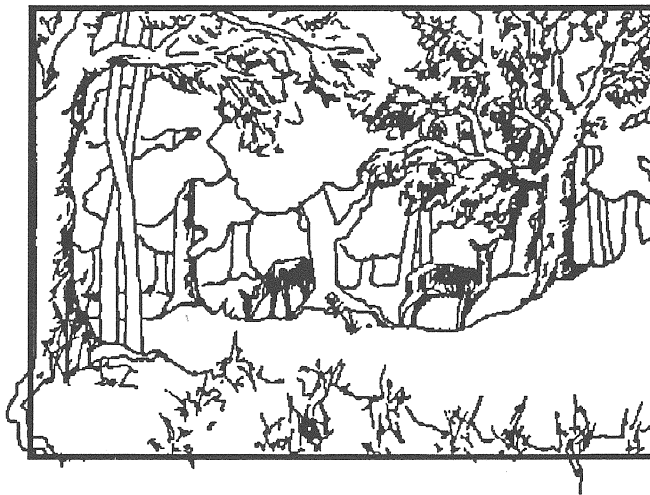


Eastern Connecticut Resource Conservation and Development Area, Inc.

**Eastern Connecticut
Environmental Review Team
Report**

"The Woods"

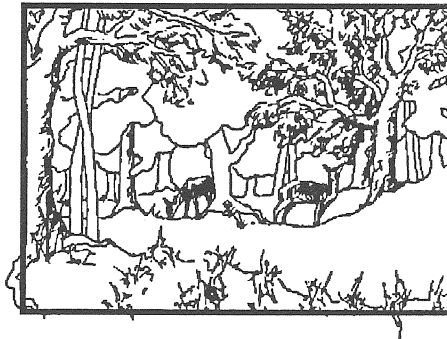


Ames Property Subdivision
Old Lyme, Connecticut

"The Woods"

Ames Property Subdivision

Old Lyme, Connecticut



Environmental Review Team Report

**Prepared by the
Eastern Connecticut Environmental Review Team
of the Eastern Connecticut
Resource Conservation and Development Area, Inc.**

**for the
Planning Commission
Old Lyme, Connecticut**

August 2000

**CT Environmental Review Teams
1066 Saybrook Road, P.O. Box 70
Haddam, CT 06442
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ACKNOWLEDGMENTS

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

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

The field review took place on Thursday, May 18, 2000.

| | |
|-----------------------|---|
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I would also like to thank Bob Pierson, chairman, Old Lyme Planning Commission, Steven Ames, the applicant/landowner, and Anthony Hendricks, the land surveyor, for their cooperation and assistance during this environmental review.

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

This report represents the Team's findings. It is not meant to compete with private consultants by providing site plans or detailed solutions to development problems. The Team does not recommend what final action should be taken on a proposed project - all final decisions rest with the town and landowner. This report identifies the existing resource base and evaluates its significance to the proposed development, and also suggests considerations that should be of concern to the town. 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 reviewing this proposed residential subdivision.

If you require additional information please contact:

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INTRODUCTION

Introduction

The Old Lyme Planning Commission has requested assistance from the Eastern Connecticut Environmental Review Team in conducting a review of a proposed residential subdivision. The application is in the preliminary conceptual stage and has not been submitted for any formal regulatory review.

The ±240 acre site is located on Whippoorwill road north of Interstate 95. Preliminary plans have been prepared for this re-subdivision. Nineteen single family lots are shown on the concept plan that range in size from four to seven acres. The site is zoned for 2 acre minimum lots. The owner/applicant plans to have two gravel cul-de-sac roads that would be private roads not built to town standards. One road would access 5 lots at the southern end, while 11 lots would be accessed from the northern end. The concept plans show a through road but the applicant indicated during the field review that he prefers two cul-de-sacs. Three frontage lots would be accessed directly from Whippoorwill Road. Open space and walking trails are shown on the preliminary plans. Frontage lots (+20) along Whippoorwill Road were created in the 1980's from the original parcel.

Objectives of the ERT Study

The Commission has asked for assistance and guidance in reviewing this subdivision because they regard the area as environmentally sensitive due to ledge, wetlands, steep slopes and known areas of archaeological significance. Their major concerns include: topographic and geologic limitations to development, wetland impacts and mitigation, potential impacts to wildlife, open space design, traffic and access and archaeological significance and protection.

The ERT Process

Through the efforts of the planning and zoning commission this environmental review and report was prepared for the Town of Old Lyme.

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

The review process consisted of four phases:

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

The data collection phase involved both literature and field research. The field review was conducted on Thursday, May 18, 2000. Some Team members made additional site visits. The emphasis of the field review was on the exchange of ideas, concerns and recommendations. Being on site allowed Team members to verify information and to identify other resources.

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

Figure 1.



Location and Topographic Map

Scale 1" = 1000'

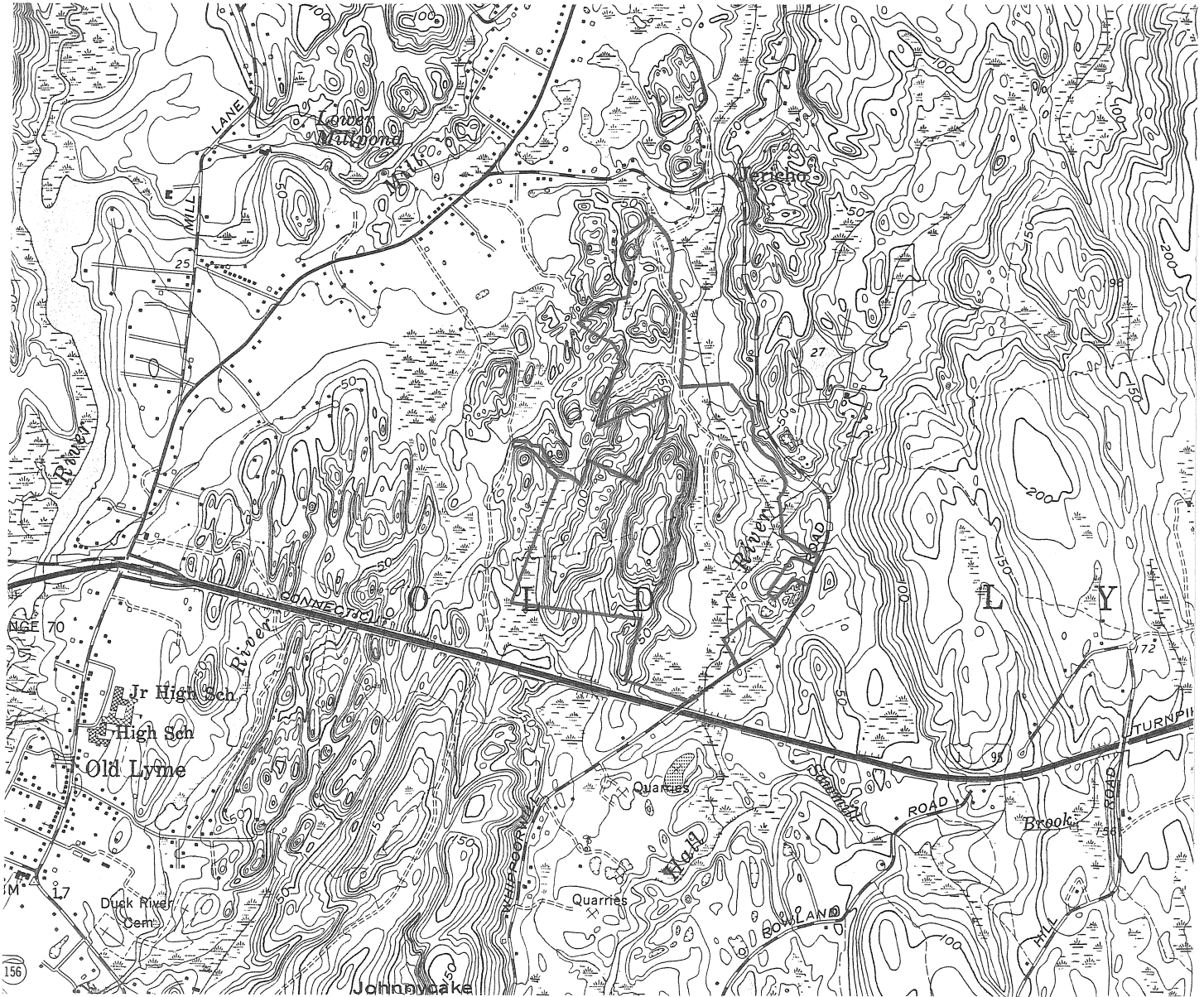


Figure 2.



Soils Map

Scale 1" = 1320'



Preliminary Plan

Figure 3.
Site Plan
Not to Scale



Topography and Geology

Topography

The topography of this region of Connecticut is controlled to a large extent by the underlying bedrock. Areas with poorly foliated granitic rocks lacking preferred fracture directions support broad topped hills with even slopes. Areas, such as the Ames property, underlain by strongly foliated or fractured rocks are characterized by narrow elongate-hills with varying slopes, some which are cliff-like. On the Ames property, the elongate hills are oriented roughly north-south, reflecting the orientation of foliation of the underlying metamorphic rocks. Glacial melt-water streams carved valleys of varying width at the boundaries of regions of contrasting topography. The Woods Subdivision is at one such boundary: the Hall River separates. The low-lying property along the Hall River is part of a glacial melt-water valley that is filled with sand and gravel. It is mostly low lying with the water table near the surface. A terrace along the south-eastern side of the valley is underlain by sand and gravel and contains several kettle-like depressions. Relatively narrow hills (less than 1/4 mile in width) along the western part of the valley that rise up to elevations up to 120 feet above sea level have steep north-south oriented slopes, many of which are bedrock cliffs.

Geology

Bedrock Geology

According to the State Geologic Map (Rodgers, 1985) the geologic formations in the area include parts of the Potter Hill Granite Gneiss and the Plainfield Gneiss of pre-Cambrian age, and the Westerly Granite which is late Paleozoic

age. To date, the formations have not been mapped separately in the area, perhaps because of their complex distribution. The Potter Hill Granite Gneiss and the Plainfield Gneiss are interfoliated in outcrops west of the trail (proposed road) leading through the proposed development. Westerly Granite underlies most of a valley center hill in the central part of the area.

The Potter Hill Granite Gneiss is a potassium feldspar granite that is flesh pink in color. It is visibly foliated but rather massive at the hand specimen scale. It is medium grained and composed mostly of potassium-feldspar, and quartz, with minor amounts of biotite mica and sodium feldspar.

The Plainfield Gneiss in this area consists of biotite, quartz, albite feldspar, and possibly small amounts of hornblende. Quartzite, which is characteristic of the formation in adjacent areas, was not observed.

The Westerly Granite is also a potassium feldspar granite. It is unfoliated and consists of coarse crystals of potassium feldspar with lesser amounts of the sodium feldspar and quartz with traces of muscovite mica. Numerous pegmatite veins of the same composition cut the granite.

The granite rocks hold up the major hills. Biotite gneiss was found at lower elevations and may be the major rock type in the valleys. Other than the control of topography and possibly being close to the surface, the bedrock geology should not hinder development.

Surficial Geology

Thin soils that cover most of the uplands are composed of glacial till. Stratified sand and gravel fill the glacial melt-water stream valley. The gravel observed at several locations at the surface is a potential resource when present in appropriate quantities. Some of the gravel on site may be useful in

construction of the access road and other fill as needed. This resource should be evaluated before trucking material into the site. Appropriate reclamation measures and erosion/sedimentation controls should be implemented if this option is adopted.

The sand and gravel valley-fill likely has good porosity and permeability. Thus, the sand and gravel is a potential shallow aquifer and should produce wells of high yield. Some homes may be located such that the sand and gravel is a repository of septic tank effluent. Although it is well-drained, the possible exceptional permeability may not be desirable, in that effluent may not be properly renovated prior to entering the aquifer and may flow considerable distances down gradient before becoming completely renovated.

Wetland Review

As the subdivision proposal is currently in a conceptual phase, these comments will be similarly general in nature.

The proposal calls for 19 single-family homes on +200 acres. A primary access road is shown on the concept plan bisecting the site in a north-south direction. Clearing limit lines indicate that removal of the forest cover will be restricted to those areas immediately around the homes, drives and access road. Also planned is a series of footpaths, some utilizing existing woods roads and others not.

The primary wetland impacts appear to be in the form of wetland/watercourse crossings. There are a total of five crossings proposed. Three of those crossings will be over the Black Hall River ("the river"). The southern most crossing of the river will be an expansion of an existing crossing of an unimproved woods road currently utilizing a 24-inch reinforced concrete pipe. The other two northerly crossings on the river will be for driveways. In addition, there will be two crossings over smaller tributaries of the river. There may also be incidental wetland impacts at several points where the main woods road is proposed to be enhanced or widened for the proposed access drive as it currently skirts wetland areas. Finally, it is questionable that there may be some impact in the vicinity of the two proposed lots off of Whippoorwill Road south of existing lot 79. This area was not inspected, however, according to the conceptual plan, there is not much relief between the houses and the nearby river.

There is a mapped 100-year FEMA floodplain encompassing much of the river on this property. This should be placed on any future site plans and proposed development adjusted accordingly (see Figure 4).

In general, as advised by the DEP Fisheries Division, it is recommended that the developer should strive to maintain at least a 100-foot undeveloped buffer on either side of the river or associated wetlands.



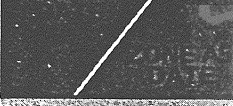


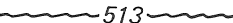

Any crossings of the river should be done utilizing Best Management Practice's which will preserve fish passage. Contact the DEP Fisheries Division for further information on this topic (860) 295-9523 Eastern District Office.

It appears that there may be alternatives to the two northern crossings of the river proposed for driveways. One alternative is to place the structures on the west side of the river and the other is utilizing the secondary woods road that lies between Whippoorwill Road and the primary woods road.

If this project will impact between 5,000 square feet and one (1) acre, project review is required by both the U.S. Army Corp of Engineers (A.C.O.E.) and Inland Water Resources Division of the CT DEP. If this project will impact more than 1 acre of inland wetlands, an individual 404 application to the A.C.O.E. will be required. However, these are basic guidelines. A.C.O.E. or CT-DEP action may be required for other specific activities proposed for wetland areas. For questions regarding these regulatory programs contact the A.C.O.E. at 617-647-8338 / 800-343-4789 or Melissa Toni of the CT-DEP at 424-3019.

Be advised that inasmuch as the proposed crossings may cause the alteration, modification, or diminution of the instantaneous flow of the waters of the state, may require a permit from this division as called for in the Connecticut Water Diversion Policy Act (sections 22a-365 through 22a-378 of the Connecticut General Statutes). It is recommended that the applicant call Bob Gilmore of this division at (860) 424-3019 to determine the need for such a permit.

KEY TO MAP

| | | |
|--|---|---|
| 500-Year Flood Boundary | → |  |
| 100-Year Flood Boundary | → |  |
| Zone Designations* With Date of Identification e.g., 12/2/74 | |  |
| 100-Year Flood Boundary | → |  |
| 500-Year Flood Boundary | → |  |
| Base Flood Elevation Line With Elevation In Feet** | |  |
| Base Flood Elevation in Feet Where Uniform Within Zone** | | (EL 987) |
| Elevation Reference Mark | | RM7X |
| Zone D Boundary | → |  |
| River Mile | | •M1.5 |

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

| ZONE | EXPLANATION |
|--------|--|
| A | Areas of 100-year flood; base flood elevations and flood hazard factors not determined. |
| A0 | Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined. |
| AH | Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined. |
| A1-A30 | Areas of 100-year flood; base flood elevations and flood hazard factors determined. |
| A99 | Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined. |
| B | Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading) |
| C | Areas of minimal flooding. (No shading) |
| D | Areas of undetermined, but possible, flood hazards. |
| V | Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined. |
| V1-V30 | Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined. |

NOTES TO USER

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

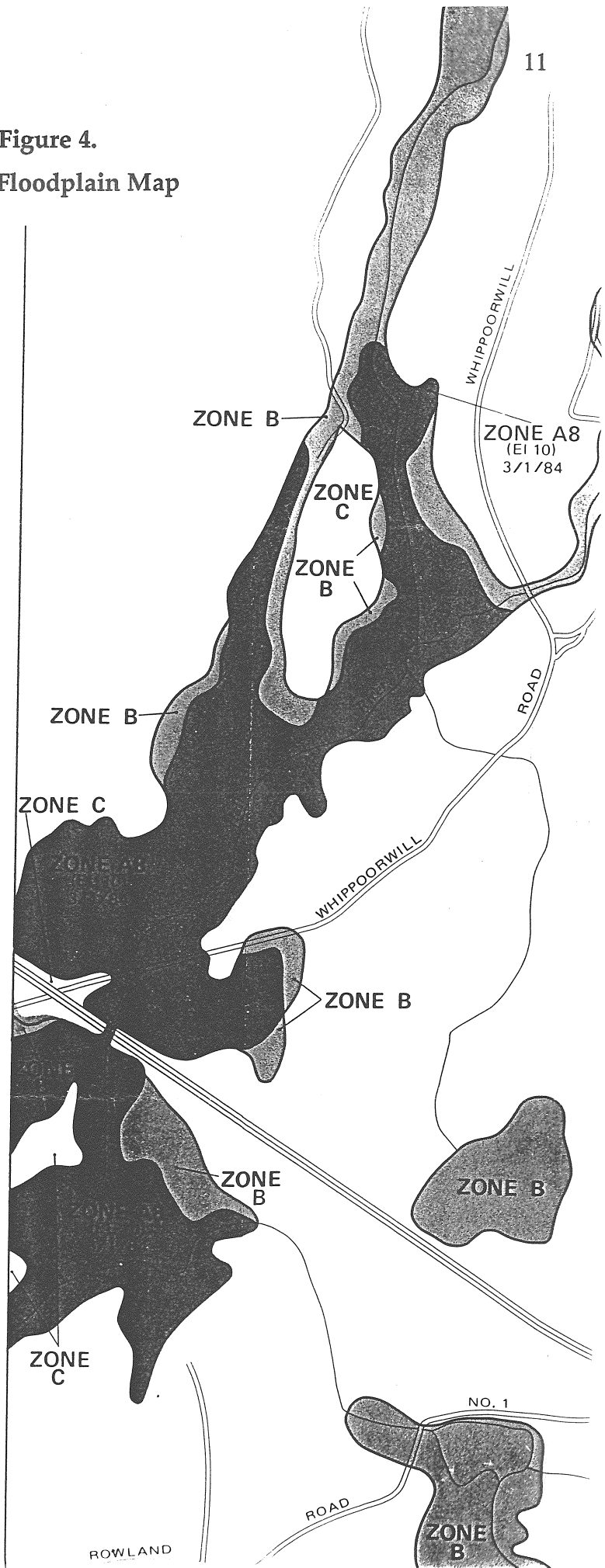
This map is for flood insurance and flood plain management purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas. The coastal flooding elevations shown may differ significantly from those developed by the National Weather Service for hurricane evacuation planning.

For adjoining map panels, see separately printed Index To Map Panels.

Coastal base flood elevations shown on this map include the effects of wave action.

Coastal base flood elevations apply only landward of the shoreline

Figure 4.
FEMA Floodplain Map



The Natural Diversity Data Base

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

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

Also be advised that this is a preliminary review and not a final determination. A more detailed review may be conducted as part of any subsequent environmental perrnit applications submitted to DEP for the proposed site.

Wildlife Resources

Wildlife Habitat Values

Uplands

A mixed-hardwood forest comprised of oak, hickory, and maple with a well-developed understory of saplings, shrubs, and herbaceous ground vegetation dominates the Ames property. A small component of softwoods is present, including scattered clumps of pine and hemlock. Acorns produced by oaks are a valuable food for a wide variety of birds and mammals including eastern wild turkeys, wood ducks, blue jays, white-tailed deer, gray squirrels, southern flying squirrels, eastern chipmunks and white-footed mice. Other mammals that are likely occupying the property include coyote, red fox, eastern cottontail rabbit, raccoon, short-tailed weasel and star-nosed mole. The patches of softwoods contribute to forest diversity and provide additional cover for wildlife throughout the year. Wildlife species described as "area sensitive" are likely using the remaining forest on the property given that adjacent properties contain forest habitat that is largely unfragmented. Included on this list would be a number of forest birds that require relatively large tracts of continuous forest for successful breeding (e.g., veery, yellow-throated vireo, scarlet tanager, sharp-shinned hawk and barred owl), and mammals that have large home ranges, e.g., fishers and bobcats.

Wetlands

The most significant habitat feature on the property is Hall River and its associated riparian zone (zone of vegetation immediately adjacent to the bank of a stream or other water body). A diversity of wildlife is attracted to wetlands due to the complex vegetative structure and abundance of food present in the form of

insects, berries, and seeds. Hall River likely provides food and den sites for aquatic mammals such as mink and river otter and breeding habitat for amphibians. Forested riparian zones aid in the survival of aquatic invertebrates and plants by removing excess nutrients and sediment; provide shade for optimum light and temperature conditions necessary for the survival of fish; and provide a source of leaf matter and woody debris which provide both food and shelter for aquatic insects, fish and amphibians. In addition, forested riparian areas serve as travel corridors for wildlife.

Potential Impacts

As forests become replaced or fragmented by roads and development, wildlife habitat is lost and the potential for wetland and water quality degradation increases. It has been documented that isolated patches of forest smaller than 100 acres are characterized by a low density and diversity of birds that breed within the forest interior. High rates of nest parasitism by cowbirds and nest predation by small mammals such as raccoons, skunks and domestic cats have been reported where small patches of forest are surrounded by open habitat. Similarly, mammalian predators that have large home ranges, such as bobcats and fishers, tend to avoid areas where large permanent openings exist.

One group of species that are especially sensitive to wetland alterations, water quality degradation and habitat fragmentation are the amphibians because they have small home ranges, relatively limited dispersal capabilities and high site fidelity. The uplands surrounding vernal pools and other temporary wetlands are an integral part of the wetlands systems that amphibians require for survival. For example, studies have shown that salamanders may move up to a half mile or more from their breeding pools into adjoining uplands to access feeding and wintering habitat. Road systems as well as driveways can serve as barriers to this movement and can significantly impact amphibian populations through direct

mortality (i.e., road kills) where roads intersect major migration and dispersal routes. Other barriers, such as curbing, berms, drainage ditches, can trap amphibians or cause them to divert from their normal migration routes. These barriers can similarly affect reptiles and small mammals.

Recommendations

In general, the proposed subdivision design and open space plans should serve to protect the integrity of Hall River and maintain an effective travel corridor for wildlife. Although some habitat fragmentation will occur, adequate forest habitat should remain on and adjacent to the property to support breeding populations of forest birds. The following recommendations are suggested to minimize impacts to wildlife:

- 1) Avoid creating small isolated islands of habitat. Preserve travelways for wildlife by maintaining wide corridors of natural vegetation (100'+) between islands of habitat, particularly those that link wetlands to undeveloped uplands.
- 2) Maintain certain forest wildlife requirements/habitat features whenever possible during land clearing:
 - Avoid cutting during the peak nesting period from mid-April through mid-July.
 - Retain the larger mast-producing trees i.e., oaks, hickories, beech (a minimum of five mast-producing trees per acre, 14 inches dbh or larger) as a food source.
 - Leave a minimum of 3 to 5 snags per acre (preferably 12 inches dbh or larger) to provide nesting and feeding sites for various birds and mammals.

- Retain exceptionally tall trees which are used by raptors for perching and nesting sites.
- Retain structural diversity in the understory by maintaining various “levels” of vegetation, i.e., from ground cover to shrubs, sapling and pole-sized trees. Leaf litter and woody debris, e.g., logs, stumps and downed limbs, also should be left undisturbed; they contribute to a healthy forest ecosystem by returning nutrients to the soil and provide cover for small mammals, birds, reptiles and amphibians.

3) Use natural landscaping techniques which avoid or minimize the creation of manicured grass:

- Designate “low maintenance areas” where grasses and wildflowers will be allowed to grow tall such as along forest and stream edges. This will provide habitat for beneficial insect populations, reduce maintenance costs and help protect water quality. If keeping shrubs from invading these areas is desired, it will be necessary to mow once every two years, preferably outside of the bird nesting period (mid-April through mid-July).
- Implement “backyard” habitat management practices around buildings to enhance wildlife habitat, aesthetics and wildlife viewing opportunities. Landscaping these areas with a diversity of wildflowers and berry-producing trees, shrubs and vines will attract numerous species of songbirds, small mammals and butterflies. Nest boxes placed on posts in semi-open habitat with scattered trees and short ground cover may provide nest sites for species such as bluebirds and tree swallows. Nest boxes should be monitored and maintained. *(Information on native wildlife plantings and nest box design, habitat selection and monitoring may be obtained by contacting the CT DEP*

Wildlife Division (Sessions Woods Wildlife Management, Burlington, CT at 860-675-8130).

- 4) Limit the amount of chemicals used in the maintenance of lawns and landscaping. If water quality and insect populations are negatively effected, the entire species complex using the property, including birds, mammals, amphibians and reptiles, can be negatively impacted, both on and off site

- 5) Avoid extensive cutting in and adjacent to the wetlands to minimize impacts to reptiles and amphibians and to maintain travel corridors for wildlife. A minimum of 100 feet of undisturbed vegetation left between any stream/wetland and any development or disturbance is recommended. Although this is a minimum standard recommendation, the buffer will preserve at least some measure of habitat value, help to filter sediments and excess nutrients and reduce disturbance within the wetlands.

Trails

The property lends itself well to providing a variety of recreational opportunities such as hiking and mountain biking. Properly designed trails can provide excellent opportunities to increase public appreciation for wildlife and the ecological values of various habitats. Trails should be designed to enhance the learning and aesthetic aspect of outdoor recreation while minimizing damage to the landscape. They should be laid out to pass by or through the various cover types, terrain and other special features represented on the property while avoiding those areas prone to erosion. Some guidelines to follow when developing a trail system include:

- Know the characteristics of the property and plan the layout so that the trail passes by or through a variety of habitat types;
- Make the trail an exciting and safe as possible; follow a closed loop design and avoid long straight stretches of >100'; trails with curves and bends add an element of surprise and anticipation and seem more natural.
- The trail should be well-marked and accompanied by an informational leaflet; the major wildlife topics that could be emphasized for this particular property include the value of wetlands and unfragmented forest habitat to wildlife.

The Appalachian Mountain Club or National Audubon Society could be contacted for more specific guidance on trail design and construction.

Archaeological Review

A review of the State of Connecticut archaeological site files and maps shows two (2) known archaeological sites listed on the project area. In addition to that, eight (8) prehistoric Native American archaeological sites are located in the immediate proximity of the project area. The two sites located in the project area include the Ames Rock Shelter which is a Late Archaic and Woodland campsite that has been destroyed and previously excavated. The geological feature of the rock shelter is still in place, and numerous Native American artifacts going back 4,000 years ago have been recovered. The second site is referred to as the Indian Tunnel Site. It is a Woodland site dating to about 2,000 years ago. Another rock shelter site, it is located along the ledge on the Ames property. This site appears to still have good integrity. Prehistoric ceramics and stone tool material have been found there.

Review of the project area in the proposed plans seems to indicate that these particular sites will be avoided, however, where some of the houses will be constructed are near ledge areas not far from the Hall River that may in fact have undiscovered archaeological sites. The Office of State Archaeology (OSA) strongly recommends an archaeological survey for the project area concentrating on those areas to be affected by house construction that have a high probability of yielding prehistoric Native American materials. The OSA would be very pleased to work with the applicant in conducting the archaeological survey in a timely fashion to identify and to avoid, if possible, archaeological components or have them removed prior to any construction activities.

Planning Review

The Woods Subdivision development is in the early stages of design and, as a result, this review is based upon the ERT team site walk conducted on Thursday, May 18, 2000 and a conceptual layout map provided by the owner/developer at the time of the site walk.

Introduction

Given the preliminary level of design of the subject development, these comments will be restricted to more general issues where there may be concern when an application is ultimately submitted to the Town. It is our understanding that areas of concern with respect to development of this 200+ acre parcel have been identified as including topographic and geologic limitations, wetland impacts, impacts to wildlife, open space design, traffic and access, historic and archaeological significance and protection.

Access Concerns

The proposed site is located within the RU-80 Rural Residential District off Whippoorwill Road in Old Lyme, a winding and relatively narrow country road. Much of the subject site is separated from Whippoorwill Road by lots that have been subdivided, one lot deep, along the Whippoorwill Road frontage at an elevation equal to that of the Whippoorwill Road, but higher than the subject property. As a result, two points of access exist to the proposed site, one at the northern end and one at the southern end of the property. The tentative plan apparently includes the development of two separate "private" roadways that terminate in "hammer head" cul-de-sacs. The northernmost will access eleven interior lots while the southernmost will access the southernmost five lots. The two sections of the overall development will be separated

by what appears to be a sizable open space dedication which will serve to preserve the substantial and significant ledge outcroppings located within the center of the property.

(a) **Proposed Road Construction to "Private Road" Standards** - Through discussion during the site walk, it is apparent that the owner/developer may ask for relief from the requirements of building roadways to recently-adopted Town standards. Specifically, the developer would like to construct narrower roads which will create less intrusion into the area, a commendable goal from an environmental and aesthetic point of view. Although minimizing overall site impact may seem appropriate in many cases and at this location as well, it is understood that recent revisions to the Old Lyme Subdivision Regulations and Town Road Standards have removed the lesser "private road" design standard from consideration. This, we understand, is due to practical considerations with respect to Town liability and responsibility for the upkeep of such roads. As a result, it would appear that the developer has no choice but to propose a roadway built to the standards recently adopted by the Town. As the Commission is no doubt aware, where subdivision regulations can be waived under appropriate circumstances, the Town road standards found in ordinance cannot be "waived" nor is there any process for the granting of a "variance" from or an exception to such standards.

(b) **Cul-de sac Length/Safety Considerations** - Concern is raised with respect to the length of the northern cul-de-sac, if ultimately proposed. Specifically, its length totals approximately 2600 feet, and as a result, is not consistent with the regulations for the Town of Old Lyme, which allow for a maximum cul-de-sac length of approximately 1200 feet (depending upon the final design and measuring accuracy, the southernmost cul-de-sac may exceed the 1200 foot length guideline as well). In addition, concern is raised over the restricted nature of the area and the restricted access in the event of emergencies requiring access by larger emergency vehicles. Unlike the overall roadway construction standards discussed above, the cul-de-sac provision of the Subdivision Regulations can be waived if the Commission feels that it is warranted and makes the appropriate findings during the record of the application proceeding. It must be

cautioned that a design which includes a cul-de-sac length in excess of that allowed in regulation may be looked at by the Commission as potentially having an excessive density for the property, given the limited accessibility of the site.

An alternative that would appear to eliminate or reduce concern over excessive cul-de-sac length would be to connect the proposed access roadways through the center of the property so that one through-road exists. From a traffic access point of view, this would appear to be a viable solution. Based upon the preliminary nature of the application, however, little information is available which would suggest whether or not such an alternative would create unacceptable environmental impacts or fragment the proposed open space dedication, thereby rendering it less effective or usable. Such an alternative would seem inappropriate if adverse impacts to the substantial and archaeologically-significant ledge outcroppings would potentially result. The impacts of such an access alternative should be explored by the owner/developer and the Commission during the subdivision application process.

The southernmost five lots are tentatively proposed for a parcel of land that exists between the substantial ledge outcroppings and a wetlands belt crossing the southern quadrant of the property. In order to access this parcel, a wetland crossing will have to be constructed in an area where an old logging road crossing currently exists, thereby connecting Whippoorwill Road to the parcel. Although such crossing will likely have to be completely reconstructed, it seems like that crossing location would be best as any to accomplish access to the developable portion of this area of the site.

Archaeological and Wetland Resources

The owner/developer is tentatively planning to subdivide the property into sixteen(16) building lots and dedicating a substantial portion of the property as open space, this to protect the extensive and significant ledge outcroppings that exist on the site as well as further protect an existing and significant wetlands areas (three other frontage lots are

shown along Whippoorwill Road on the plans). Known archaeological evidence suggests that caves within the outcroppings on the site were previously used by Native Americans that inhabited the area during the millennium. The owner also envisions including an extensive nature walk trail throughout the site. Based upon the site walk, review of the preliminary plan submitted to this office and discussion with the developer and his engineer, such open space dedications would likely be viewed as positive by the Town of Old Lyme and would be consistent with the Town's recently adopted Open Space Plan. The Town should make every effort to encourage such dedications.

Impacts to Wildlife

With little information presented with the preliminary application, it is difficult to ascertain whether or not such a development would adversely impact any wildlife, or whether or not wildlife is abundant on the subject property at all. Discussion with the owner/developer indicates that the more typical wildlife assemblages including deer and inland wetlands bird species can be found on-site, although they are not overly abundant. We would suggest that the Old Lyme Planning Commission ask for a wildlife survey as a part of a subdivision application so that determinations on how best to minimize wildlife disruption can be accomplished, if necessary.

Topographic and Geologic Limitations to Development

Through the preliminary design of the development, the owner/developer has apparently achieved a balance between development and preservation. Although one major and several minor wetlands crossings may be necessary in order to access all sixteen of the interior proposed lots, as currently designed, it appears that disruption of the site has been minimized to a great extent. This preliminary design would appear to maximize efforts to avoid adverse impacts to the significant topographic and geologic

features of the site, features which include significant ridge lines with their ledge outcroppings and steep slopes. Limiting such impacts and, at the same time preserving the site's valuable resources, would be achieved through the dedication of open space which apparently includes those portions of the property. In this manner, the flatter areas of the site are tentatively being proposed for the residential development of the site.

Summary

With the exception of concern over issues surrounding vehicular access to the sixteen potential home sites, it would appear that the development has been designed to effectively use the buildable portions of the property while at the same time preserving the more valuable resources that are present on the site. In addition, it appears to be the owner/developer's wish to provide a nature trail system throughout the development. Such a trail system, which would provide the public access to the unique resources present on the site, should be encouraged by the Town.

ABOUT THE TEAM

The Eastern Connecticut Environmental Review Team (ERT) is a group of professionals in environmental fields drawn together from a variety of federal, state and regional agencies. Specialists on the Team include geologists, biologists, foresters, soil specialists, 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: 860-345-3977, Eastern Connecticut RC&D Area, P.O. Box 70, Haddam, Connecticut 06438.