

Environmental Review Team Report

Leary Property

Hebron, Connecticut



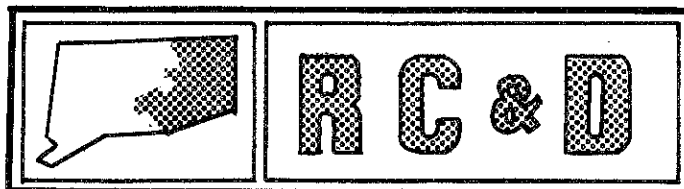
EASTERN CONNECTICUT RESOURCE CONSERVATION AND DEVELOPMENT AREA, INC.

Environmental Review Team
Report

on

Leary Property
Hebron, Connecticut

August 1980

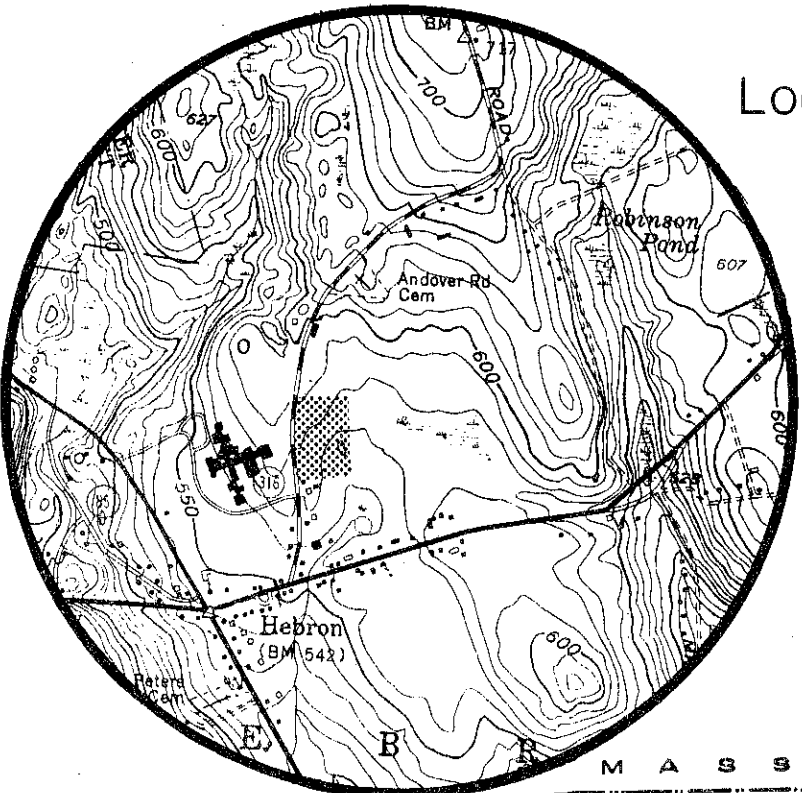


eastern connecticut resource conservation & development area

environmental review team
139 boswell avenue
norwich, connecticut 06360

Location of Study Site

Leary Property
Hebron, Connecticut



ENVIRONMENTAL REVIEW TEAM REPORT
ON
LEARY PROPERTY
HEBRON, CONNECTICUT

This report is an outgrowth of a request from the First Selectman of Hebron to the Tolland County Soil and Water Conservation District (S&WCD). The S&WCD referred this request to the Eastern Connecticut Resource, Conservation and Development (RC&D) Area Executive Committee for their consideration and approval. The request was approved and the measure was reviewed by the Eastern Connecticut Environmental Review Team (ERT).

The soils of the site were mapped by a soil scientist from the United States Department of Agriculture, Soil Conservation Service (SCS). Reproductions of the soil survey map, a table of soils limitations for certain land uses and a topographic map showing property boundaries were distributed to all Team members prior to their review of the site.

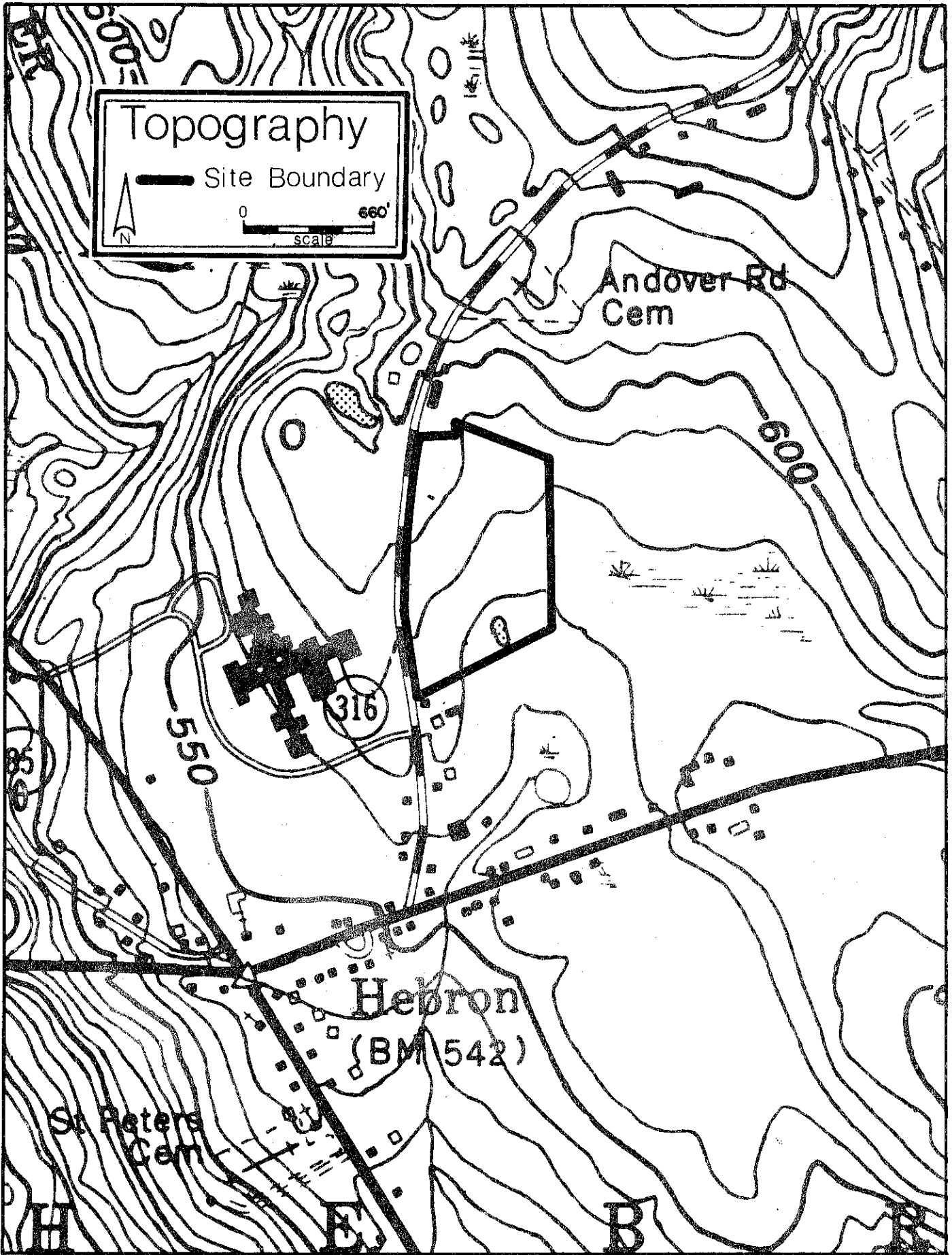
The ERT that field-checked the site consisted of the following personnel: Joseph Neafsey, District Conservationist, SCS; Rob Rocks, Forester, Connecticut Department of Environmental Protection (DEP); Michael Zizka, Geologist, DEP; Andy Petracco, Recreation Specialist, DEP; Chuck Phillips, Fisheries Biologist, DEP; and Jeanne Shelburn, ERT Coordinator, Eastern Connecticut RC&D Area.

The Team met and field checked the site on Thursday, May 15, 1980. Reports from each contributing Team member were sent to the ERT Coordinator for review and summarization for the final report.

This report is not meant to compete with private consultants. As requested by the Town, this report, which identifies the existing resource base of the Leary Property, shall constitute the environmental assessment portion of the Town's open space application for Federal Department of the Interior, Heritage Conservation and Recreation Service funds to assist in the development of this property.

The Eastern Connecticut RC&D Area Committee hopes that this report will be of value and assistance in making any decisions regarding this particular site.

If you require any additional information, please contact: Ms. Jeanne Shelburn, Environmental Review Team Coordinator, Eastern Connecticut RC&D Area, 139 Boswell Avenue, Norwich, Connecticut, 889-2324.



DESCRIPTION OF THE PROPOSAL

The Eastern Connecticut Environmental Review Team was asked to review an 11± acre site proposed for recreational development in the town of Hebron. The town is applying for financial assistance to help develop the parcel from the Heritage Conservation and Recreation Service (HCRS). The site is located on Route 316, north of its intersection with Route 66, to the east of RHAM high school.

The site is fairly flat, but gradually slopes to a wetland area on the eastern property boundary. A small pond is found in the southeast portion of the site. Grasses are the dominant vegetation type on the site, however, a small forested area exists along the eastern boundary.

The town plans to develop the area with several ballfields, a picnic area, nature study and trails. Sanitary facilities are also planned.

A seven acre parcel to the north of the site will be used for development of elderly housing in the future.

DESCRIPTION OF THE ENVIRONMENT

PAST/PRESENT LAND USE

This site is presently undeveloped. It was at one time used for hay production and is used on a yearly basis for community fairs.

SOCIO-ECONOMIC CONDITIONS

Hebron is expected to experience a moderate rate of growth during the next 20 years. Population projections range from 7,250 in 1995 to 7,500 in the year 2000. Numbers of dwelling units will grow from 2,408 in 1995 to 2,500 in the year 2000. Most residents are employed in the city of Hartford, as industrial and retail employment opportunities within the town are limited.

TRANSPORTATION ROUTES

This site is located on Route 316, just north of its intersection with Route 66. It is centrally located near town offices, town commercial activities and high density residential areas. Roads leading to the parcel are direct and in good repair. Access by walking and bicycling would also be feasible.

SURFACE/SUBSURFACE GEOLOGIC CONDITIONS

In the following description of the geology of the parcel, the geologic terms "till," "alluvium," "schist," and "gneiss" are used. Till is a glacial sediment composed of rock particles and fragments of widely varying sizes and shapes. The rock materials were accumulated by an ice sheet as it overrode preexisting soils.

and bedrock outcrops, scraping and scouring the surface. The sediment was redeposited directly from the ice by being either plastered onto the glaciated surface or let down gently as the ice wasted. Till is variable in texture, ranging from stony, sandy, and gravelly to silty and tightly compact.

Alluvium is a sediment deposited by modern streams in channels or on floodplains. The floodplain sediment is usually thinly layered, reflecting different periods of deposition during successive floods. Textures vary from coarse to fine, depending upon the energy of the stream at a particular area and during a particular flood. Sand and silt are the predominant components, with gravel occasionally being found in and near the stream channel. Organic material (partially decayed vegetation) is also found in some parts of these deposits.

Schist is a crystalline rock in which platy, flaky, or elongate minerals have become aligned to form distinct layers. This structure gives the rock a slabby appearance and often allows the rock to be easily split along the layers.

Gneiss is a crystalline rock in which thin layers of elongate minerals, which are often dark-colored, alternate with layers of rounder or blockier minerals, which are usually light-colored. This structure gives the rock a banded appearance and does not produce the distinct parting surfaces that are typical of schists.

Till forms the predominant surficial deposit on this tract. Although no test pit information was available to the Team, records of wells in the vicinity of the site suggest that the depth to bedrock is between 10-20 feet. The texture of the till appears to be primarily sandy, but a more compact till probably exists at depths of 2 feet or more. Bedrock underlying the site is interpreted to be a medium-grained, gray to white gneiss composed of the minerals oligoclase, orthoclase, quartz, biotite, and several other minor mineral constituents. No bedrock outcrops were observed on the site. No economically valuable mineral deposits are present.

SOILS

Soils typical of this site include the Paxton series, the Woodbridge series, the Sutton series and the Leicester-Ridgebury-Whitman series. Woodbridge and Paxton soils are considered prime agricultural land as defined by USDA, SCS.

Paxton fine sandy loam, 3-8% slopes (PbB) is a gently sloping, well drained soil. A compact fragipan exists at a depth of about 2 feet. The pan is slowly permeable and interferes with internal drainage. Moisture holding capacity is high and surface runoff is medium to rapid. The risk of erosion is moderate on unprotected slopes. The soil fertility level is moderate, grasses and legumes will require applications of lime and fertilizer.

Woodbridge fine sandy loam, 3-8% slopes (WxB) is a gently sloping, moderately well drained soil with a seasonal high water table. The soil developed on friable to firm glacial till. A compact fragipan exists at a depth of about 2 feet. The pan is slowly permeable and interferes with internal drainage. Surface runoff is slow to rapid. Permeability is moderate and moisture holding capacity is high. Soils have moderate limitations for playground development due to slope, wetness and slow permeability. The risk of erosion on unprotected slopes is moderate. The soil has a moderate natural fertility, requiring applications of lime and fertilizer.

Sutton, very stony fine sandy loam, 0-3% slope (SxA) is a very stony soil which developed on deep gravel till. It is moderately well drained, has a seasonal high water table, and a high moisture holding capacity. Surface runoff is slow to medium and internal drainage is slow to medium. Permeability is moderate or moderately rapid. The risk of erosion is slight on unprotected slopes. These soils have slight limitations for trail development and severe limitations for septic tank absorption fields due to wetness.

Leicester, Ridgebury, Whitman very stony complex (Lg) is a poorly drained, nearly level to gently sloping series. Stones and wetness are its major limitations to development. Surface runoff is slow to medium and internal drainage is slow. A perched fluctuating water table above the fragipan is at or near the surface for 7 to 9 months of the year. The soil has low erosion potential and low fertility in an undrained condition. Activities in this soil type are regulated under P.A. 155.

WATER RESOURCES

No well-defined stream exists on this site, but a narrow strip of wetlands carries seasonal flows from the north-central boundary to the east-central boundary. The wetlands form part of the headwater system of Raymond Brook, a tributary of Salmon River. A small, shallow, man-made pond is located along the southern boundary of the parcel. The pond is almost entirely fed by groundwater, having been dug below the level of the local water table. In other parts of the site, groundwater periodically rises to within 2 feet of the surface.

No significant sand and gravel deposits are present on the site. Bedrock would be the most likely source of on-site water supplies. The bedrock aquifer is generally suitable for providing small groundwater yields, such as those needed by an average household (about 2-3 gallons per minute), but it is not a promising source for public water supplies. Drinking-water for the proposed recreational facilities should be easily provided by a bedrock-based well on this site. The water quality would also be expected to be satisfactory.

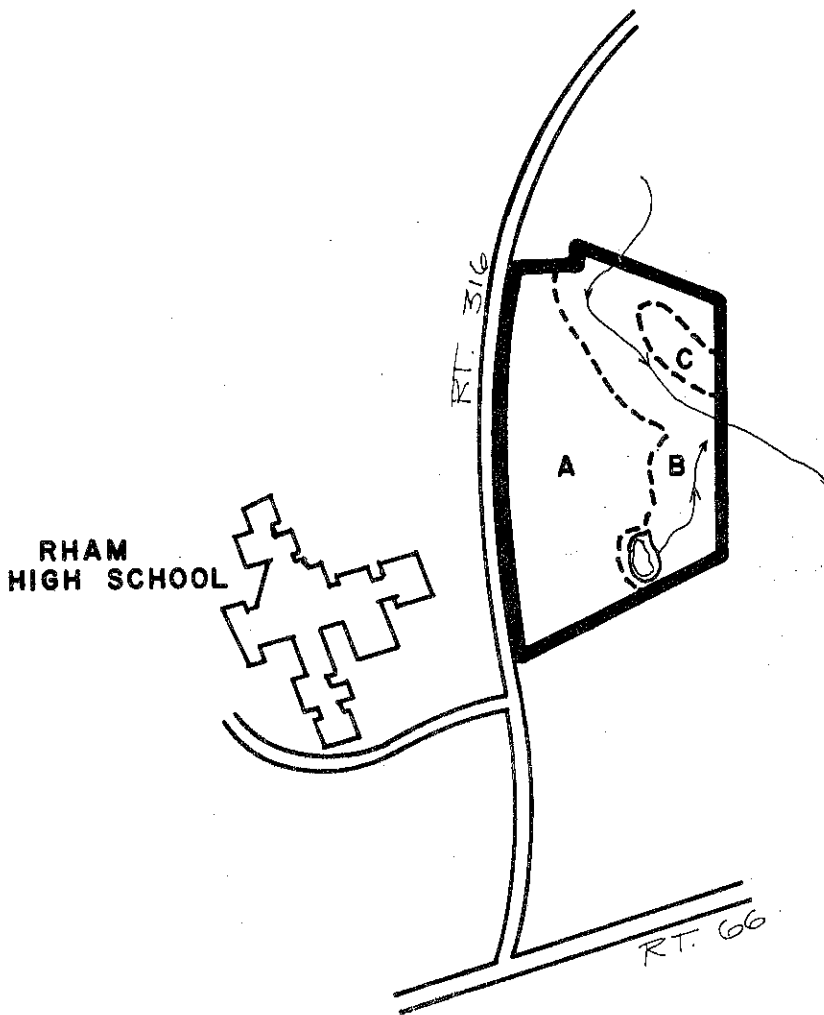
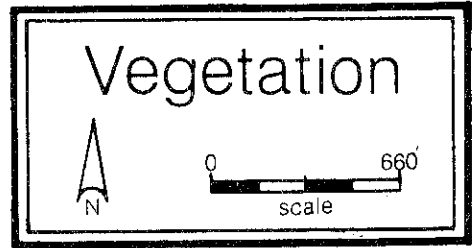
WILDLIFE

The area has a good mix of open fields, edge areas (brushy growth and sapling) and wooded uplands and wetlands. The parcel is adjacent to a large wooded area. Birds, small mammals and smaller numbers of reptiles (turtles and snakes) and amphibians (frogs, salamanders) probably utilize the area for food, cover, water and breeding sites. Insects, grasses and legumes, seeds, nuts and berries provide food. The small shallow pond provides elements of habitat for fish, amphibians and reptiles.

No rare or endangered species noted.

FISH

The existing pond has little value for town use as a recreational fishing area due to its small size. Enlarging the pond would not greatly enhance it as a fishery resource unless it were enlarged to over two (2) acres.



LEGEND

- Road
- Abandoned Railroad
- Stream
- River
- Property Boundary
- Vegetation Type Boundary
- Pond
- Parking Area

VEGETATION TYPE DESCRIPTIONS*

- TYPE A. Open Fields,
- TYPE B. Hardwood Swamp.
- TYPE C. Mixed hardwoods.

* Seedling Size = trees less than 1 inch in diameter at 4 1/2 feet 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.

Presently the pond is best suited to reptiles and amphibians, but a few sunfish were present in it at the time of the review. The pond is presently overgrown with aquatic vegetation (American elodea) and can ill afford the introduction of added nutrient which might be anticipated from liming and fertilizing activities on ballfields or poorly drained septic facilities in a high water table area.

VEGETATION

Descriptions of existing vegetation on this parcel are as follows:

Type A. (Open Fields.) Grasses are the dominant form of vegetation. Wild flower and weed species are also present, they include: goldenrod, clover, cinquefoil, violets, buttercup, wild strawberry, bluets, wild parsnip and woodbetony.

Type B. (Hardwood Swamp.) Sapling to pole size red maple in clumps are present along with scattered white ash and yellow birch in these stands. The dense understory present is made up of highbush blueberry, maleberry, spice-bush, swamp azalea and arrowwood. A dense grove of speckled alder and gray stemmed dogwood is located around the pond. Ground cover is made up of skunk cabbage, false hellebore, sensitive fern, cinnamon fern, Christmas fern, trout lily, Solomon's seal, violets, trillium, Jack-in-the-pulpit, horse-tails, mosses, tall meadow-rue, tussock sedge and sphagnum moss.

Type C. (Mixed Hardwoods.) This fully-stocked stand is made up of medium quality pole to sawtimber size red oak, white oak and red maple, with scattered sugar maple and white ash. Highbush blueberry, witch hazel, blue beech, arrowwood and hardwood tree seedlings are present in the understory. Club moss, Canada Mayflower, hayscented fern and grasses dominate the ground cover in this stand.

Locations of these vegetation types on the parcel are shown on the accompanying vegetation map.

ENVIRONMENTAL IMPACT

EFFECT ON LAND USE

This proposal should have no appreciable effect on land use in the area.

EFFECT ON SOCIO-ECONOMIC CONDITIONS

This proposal should not significantly effect socio-economic conditions within the town or the region. There may be a slight rise in taxes to allow for the maintenance of the property, however, this could be reduced or eliminated by a slight fee charged to park users.

EFFECT ON TRANSPORTATION ROUTES

This proposal should not significantly effect traffic conditions on Routes 66 and 316. Both are well maintained and could handle any additional traffic generated by this proposal.

EFFECT ON WATER RESOURCES

Usage for the suggested recreational activities should not noticeably affect the quality or quantity of surface waters or of groundwater. The greatest potential for problems would arise if septic systems were to be established. This site is subject to seasonally high groundwater conditions. Improperly designed or installed septic systems may be occasionally flooded, allowing inadequately purified leachate to enter the groundwater or possibly to be discharged to the surface downgradient of the leaching field.

The potential problems cited are by no means restricted to recreational uses; indeed, other types of development on the site might be expected to generate substantially greater risks to local water quality. In addition, proper engineering of septic systems and allowance for appropriate separating distances between leaching fields and wells would reduce the probability of significant water-quality deterioration or well contamination to a negligible level.

EFFECT ON WILDLIFE

Development of ballfields as proposed will eliminate habitat for some of the local wildlife. The quality of the area as a food supply will also diminish due to the elimination of the variety of grasses and legumes and management of the area (frequent cutting). Presence of humans will also have a negative impact.

EFFECT ON FISH

If the property is developed as proposed for recreation, it will be difficult to maintain the pond in an aesthetically pleasing state, due to the potential for nutrient overload.

EFFECT ON VEGETATION

Development of the proposed ballfields should have little impact on the surrounding vegetation, as long as development is restricted to the open fields. Areas which are disturbed for development should be revegetated as soon as possible to minimize erosion and sediment transport. High soil moisture in the open fields may cause severe limitations for buildings with basements and also septic systems. These soils, however, are among Connecticut's finest for growing trees.

The small pond and the hardwood swamp areas should remain as is, if at all possible. These areas provide wildlife with high quality food and cover along with ample water. As a result of this parcel's close proximity to RHAM High School, these areas also have great value for nature and ecological study by biology and ecology classes. Development of these wetland areas would be costly, destroy

vegetation and valuable wildlife habitat as well as sacrifice potential educational opportunities. Raising the water table in this area by restricting out-flows may result in mortality of woody and herbaceous vegetation. Such practices should be avoided.

MITIGATING MEASURES

Retaining a buffer area and the wetlands as open space will minimize adverse effects of recreational development. Trail development, pond development and heavy use of the open space area for recreation will have adverse impacts.

A landscape plan that includes plantings of grasses and legumes that benefit wildlife, as well as fruiting shrubs and trees and managing the area as a wildlife area, will minimize adverse affects.

IRREVERSIBLE COMMITMENTS OF RESOURCES

No unavoidable adverse effects on geological or hydrological resources are involved in this proposal. No irreversible or irretrievable commitments of such resources would be made.

RECREATION POTENTIAL

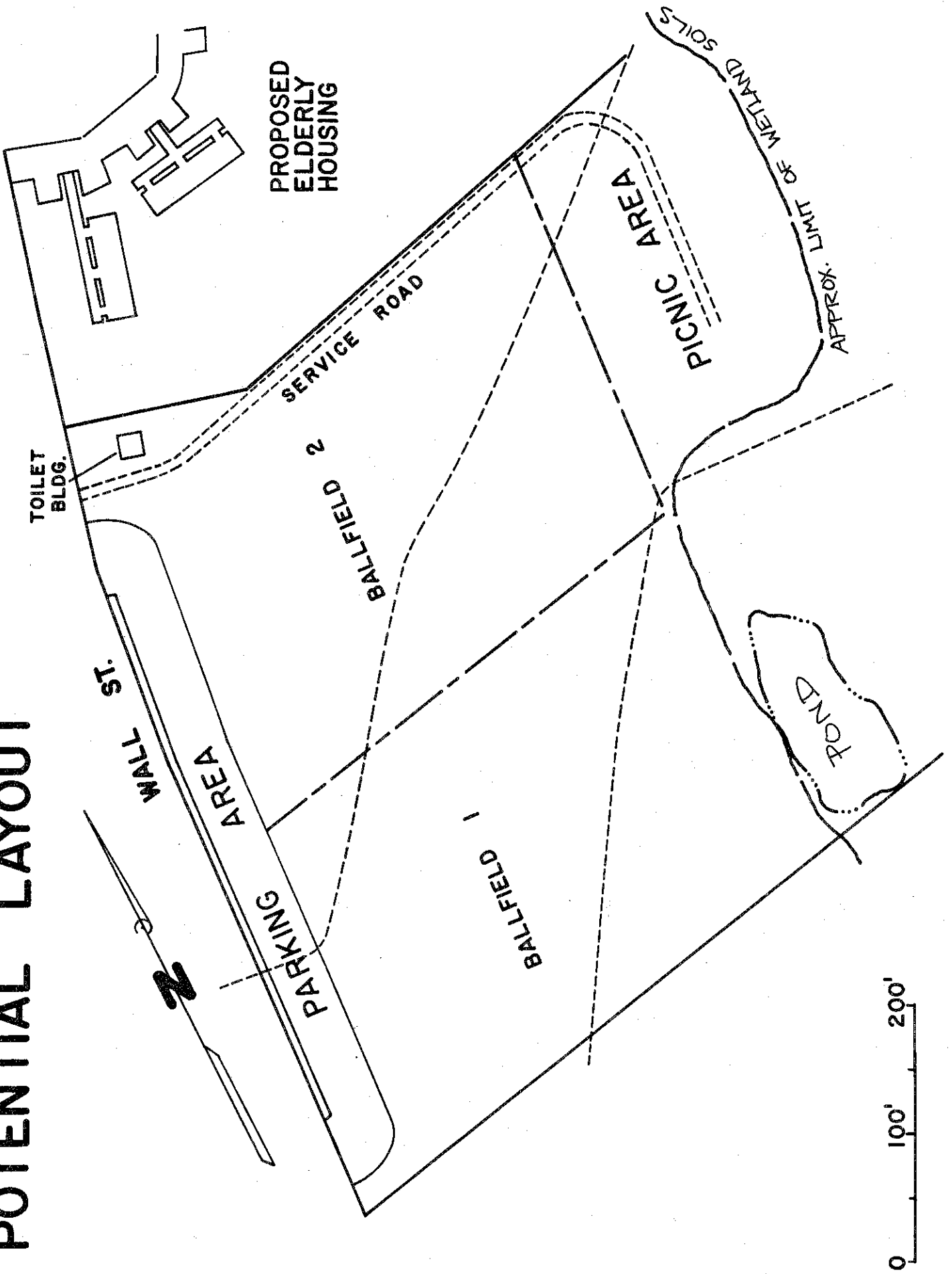
The Leary tract which lies across the street from RHAM High School, is to be developed for recreational use. The tract may be characterized as primarily open, mowed field along Wall Street (Route 316) with a lesser amount of wooded wetland to the rear.

Ballfields are the major development objective. A tentative layout is offered whereby two ballfields and a picnic area along with a parking lot and toilet building are provided. In this layout, parking is provided in a lot adjacent to Wall Street on the front portion of the tract. An alternative location for parking would be the northern portion of the recreation land where it meets the neighboring elderly housing.

The usable (dry) land in the recreational component is of irregular configuration and because of this the rear portion of the dry land has been selected as a possible picnic area. This site is adjacent to the wetland and so configured that its use for picnicking would not detract from ballfield space. An alternative layout might be to stagger the ballfields, moving one to the rear and moving the picnic area to the front of the tract adjacent to the parking lot along the street. Advantages to locating the picnic area near the road and parking lot would be reduced walking distance and the elimination of the need for a service road to a picnic area in the rear. Additionally, a rear picnic area might require some portable toilets whereas a picnic area located near Wall Street (Route 316) could be serviced by the nearby toilet building proposed in this area. If slope gradients and septic tank location permit, it may be possible to tie the toilet building into the elderly housing septic field instead of building another septic system. Pit-type or chemical toilets would be the alternative to a toilet building.

Since the need for picnicking seems to be secondary to that for ballfields, the layout proposal has the picnic area sited in the rear. If a picnic area is

POTENTIAL LAYOUT



installed, it would be advisable to plant some trees for shade. Conifers such as white pine are more durable in heavy use situations and are recommended if the soils are suitable. Additionally, a screen planting of conifers along the boundary line between the elderly housing and the recreation area would provide a partial sight and sound barrier which would benefit the elderly housing residents. Noise levels associated with ballfield use are frequently high.

The tract has a slight slope to it and would require some earth moving if level ballfields were required.

If only one ballfield were installed, there would be a greater amount of open field play area for activities such as kite flying, frisbee tosses, model airplane flying, etc. A larger picnic area could also be accommodated.

The rear portion of the tract is, as mentioned, wooded wetland. It may be advisable to keep this area relatively natural with usage limited to hiking or nature trails. Precautionary measures such as the use of corduroy to limit trail wear and enhance usability may be necessary in routing through wetland soils. Development of the wooded wetland is not advocated because of the more fragile nature of the soils and the anticipated problem with mosquitos.

The location of some higher than normal bench seats on the ballfield(s) perimeter would provide viewing opportunities to the elderly persons residing nearby. The higher seats are specifically recommended for more expedient use by arthritics. These could be mixed with normal height benches.

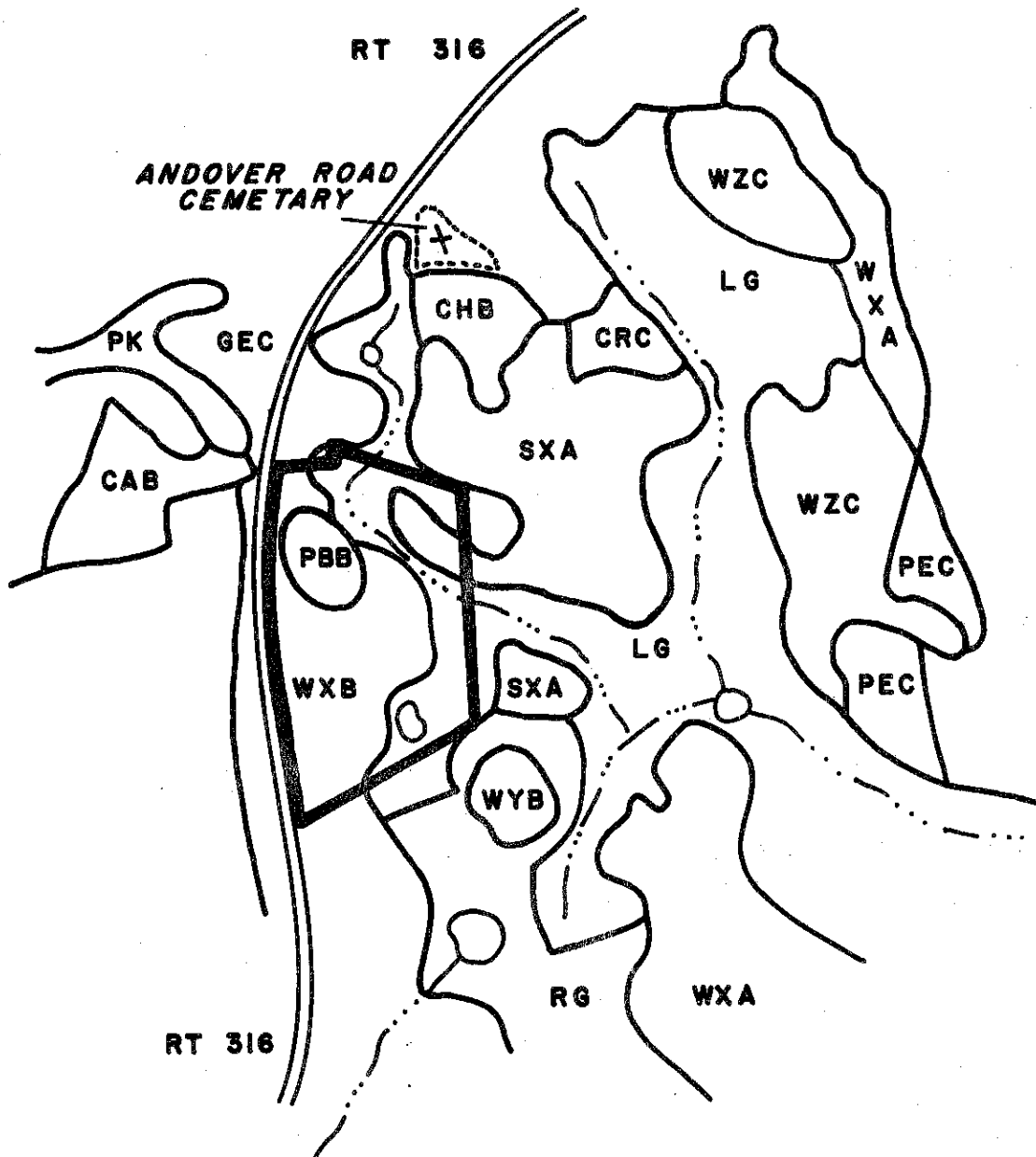
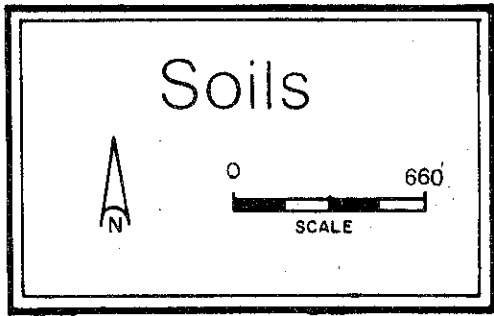
Facilities installed this close to RHAM High School can complement the school facilities and be utilized by the students.

ALTERNATIVES TO THE PROPOSED ACTION

No action is a possible alternative. The land proposed for development is considered prime agricultural land and could support either row crops (corn) or hay (and pasture) with minimum effort required for conversion.



Appendix



RECREATION SITES
HEBRON, CONNECTICUT

PROPORTIONAL EXTENT OF SOILS AND THEIR LIMITATIONS FOR CERTAIN LAND USES

Soil Series	Soil Symbol	Approx. Acres	Percent of Acres	Principal Limiting Factor	Urban Use Limitations*				
					On-Site Sewage	Buildings with Basements	Streets & Parking	Land-Scaping	Play-grounds
PARCEL 3									
Leicester**	Lg	6		Wetness	3	3	3	3	3
Paxton	PbB	2		Percs slowly	3	2	2	1	2
Sutton	SxA	2		Wetness, stoniness	3	3	2	2	2
Woodbridge	WxB	8		Wetness	3	3	3	2	2

* Limitations: 1=slight; 2-moderate; 3=severe.

** Regulated Wetland Soil Under PA 155.

SOIL INTERPRETATIONS FOR URBAN USES

The ratings of the soils for elements of community and recreational development uses consist of three degrees of "limitations:" slight or no limitations; moderate limitations; and severe limitations. In the interpretive scheme various physical properties are weighed before judging their relative severity of limitations.

The user is cautioned that the suitability ratings, degree of limitations and other interpretations are based on the typical soil in each mapping unit. At any given point the actual conditions may differ from the information presented here because of the inclusion of other soils which were impractical to map separately at the scale of mapping used. On-site investigations are suggested where the proposed soil use involves heavy loads, deep excavations, or high cost. Limitations, even though severe, do not always preclude the use of land for development. If economics permit greater expenditures for land development and the intended land use is consistent with the objectives of local or regional development, many soils and sites with difficult problems can be used.

Slight Limitations

Areas rated as slight have relatively few limitations in terms of soil suitability for a particular use. The degree of suitability is such that a minimum of time or cost would be needed to overcome relatively minor soil limitations.

Moderate Limitations

In areas rated moderate, it is relatively more difficult and more costly to correct the natural limitations of the soil for certain uses than for soils rated as having slight limitations.

Severe Limitations

Areas designated as having severe limitations would require more extensive and more costly measures than soils rated with moderate limitations in order to overcome natural soil limitations. The soil may have more than one limiting characteristic causing it to be rated severe.

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, climatologists, soil scientists, landscape architects, archeologists, recreation specialists, engineers and planners. The ERT operates with state funding under the supervision of the Eastern Connecticut Resource Conservation and Development (RC&D) Area.

The Team is 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, sanitary landfills, commercial and industrial developments, sand and gravel operations, 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 officials 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. This request letter should include a summary of the proposed project, a location map of the project site, written permission from the landowner allowing the Team to enter the property for purposes of review, and a statement identifying the specific areas of concern the Team should address. 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 regarding the Environmental Review Team, please contact Jeanne Shelburn (889-2324), Environmental Review Team Coordinator, Eastern Connecticut RC&D Area, 139 Boswell Avenue, Norwich, Connecticut 06360.