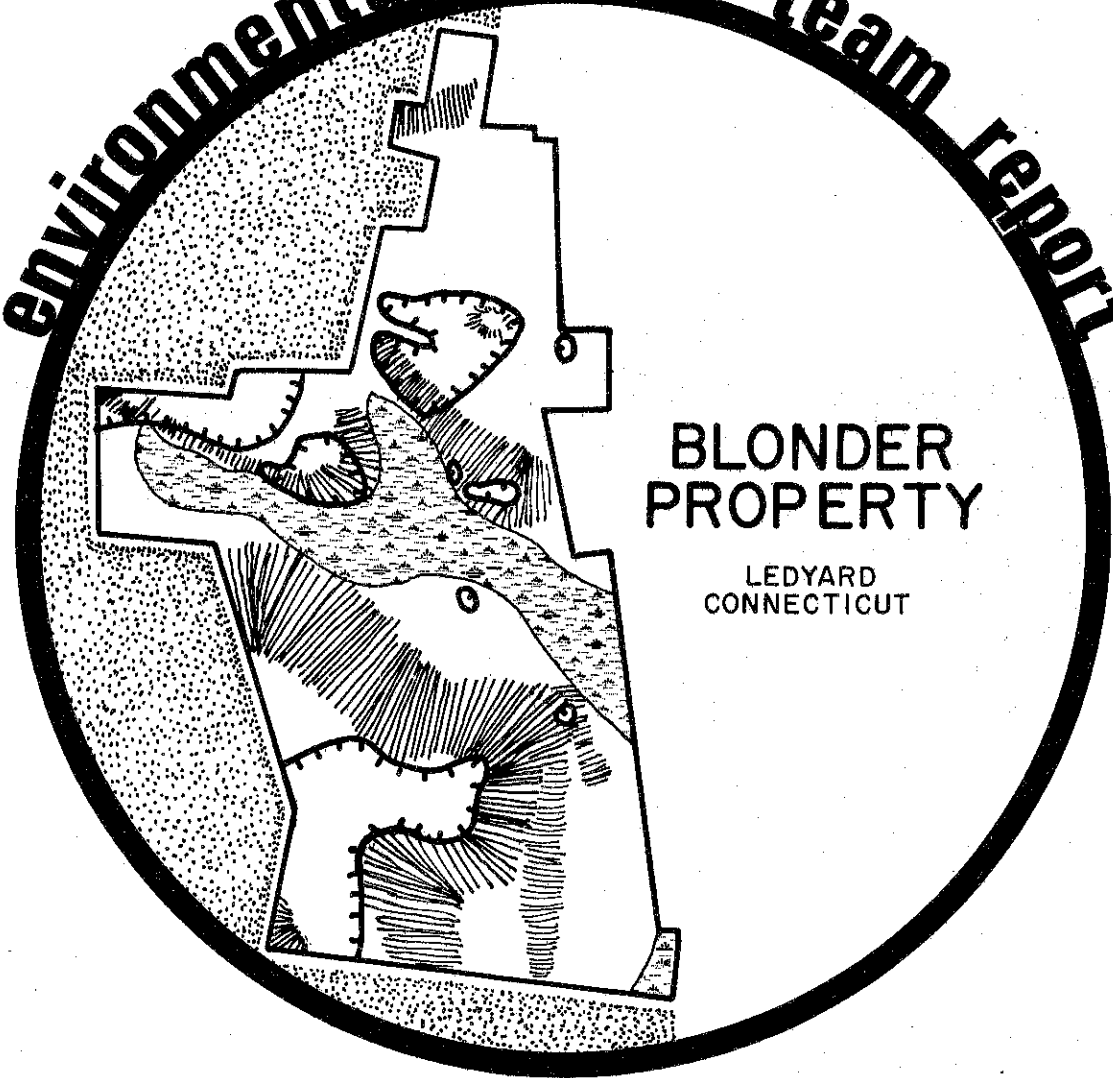


environmental review team report



RC & D

**EASTERN CONNECTICUT
RESOURCE CONSERVATION AND DEVELOPMENT PROJECT**

**ASSISTED BY: U.S. DEPARTMENT OF AGRICULTURE,
SOIL CONSERVATION SERVICE AND COOPERATING AGENCIES**

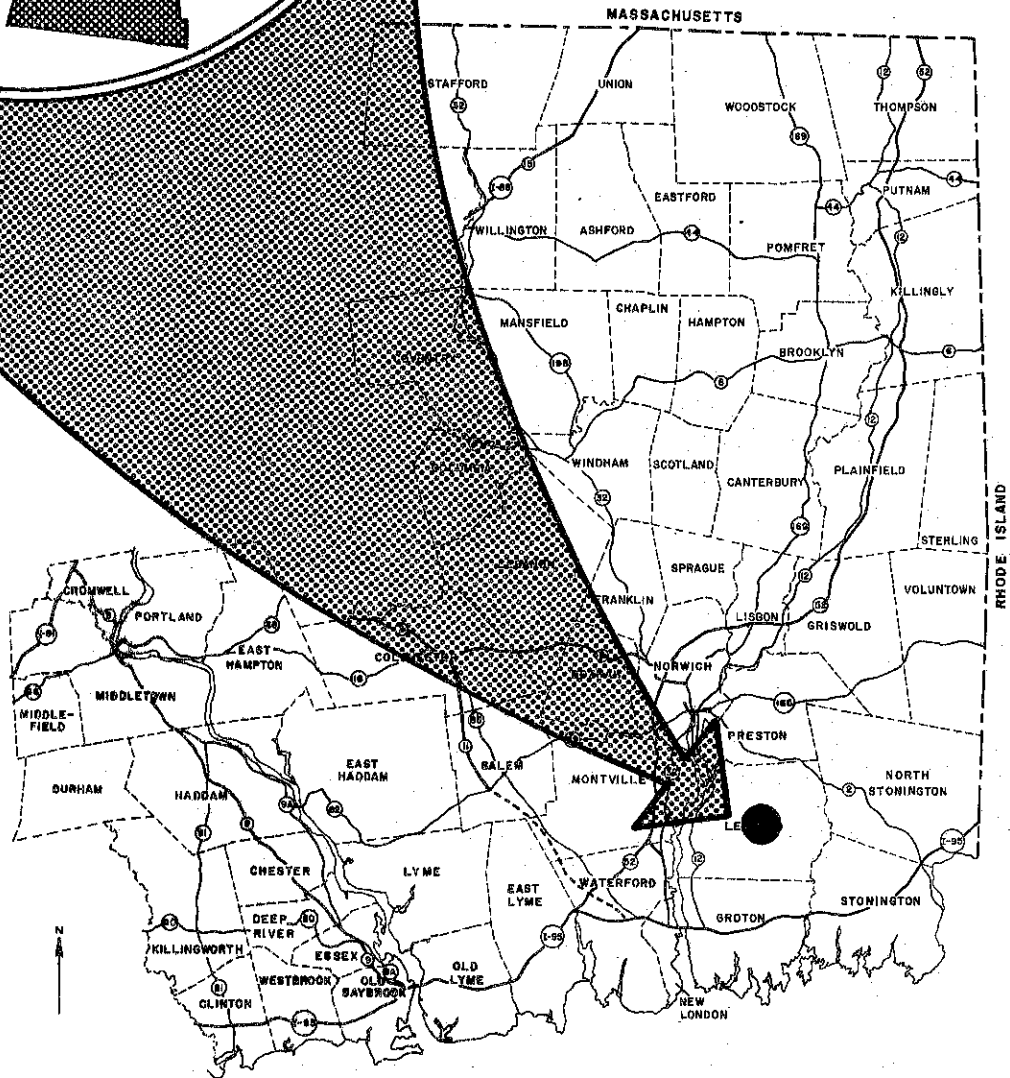
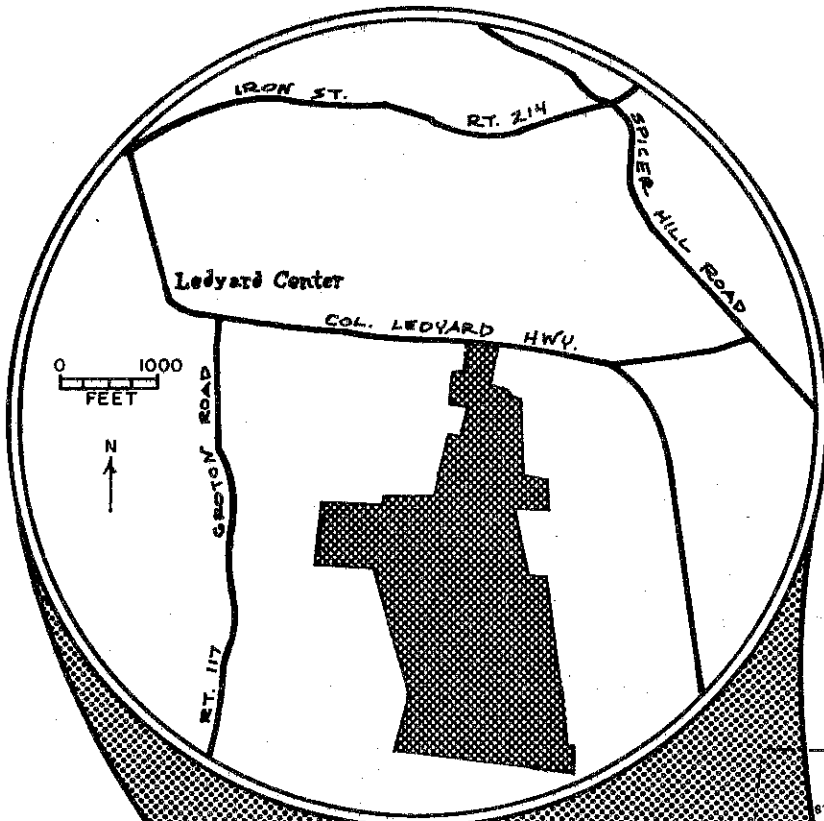
ENVIRONMENTAL REVIEW TEAM REPORT
ON
BLONDER PROPERTY
LEDYARD, CONNECTICUT
JUNE, 1976

*The preparation of this report was assisted
by a grant under Title 1, Section 107(a)4 of
the Housing and Community Development Act
of 1974, 24 CFR, Part 570, Section 570.406.*

EASTERN CONNECTICUT RESOURCE CONSERVATION AND DEVELOPMENT PROJECT
Environmental Review Team
139 Boswell Avenue
Norwich, Connecticut 06360

LOCATION OF STUDY SITE

BLONDER PROPERTY LEDYARD, CONNECTICUT



EASTERN CONNECTICUT
RESOURCE CONSERVATION AND DEVELOPMENT PROJECT

ENVIRONMENTAL REVIEW TEAM REPORT
ON
BLONDER PROPERTY
LEDYARD, CONNECTICUT

This report is the outgrowth of a request from the Town of Ledyard, who is also the landowner in this instance, to the New London County Soil and Water Conservation District (S&WCD). The Eastern Connecticut Resource Conservation and Development (RC&D) Project Executive Council also approved the request as a project measure which was subsequently reviewed by the 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 the property boundaries were forwarded to all members of the Team prior to their review of the site.

The Environmental Review Team that field-checked the property consisted of the following personnel: Sherman Chase, District Conservationist, SCS; Tim Dodge, SCS; Robert Miller, Geologist, Connecticut Department of Environmental Protection (DEP); Pete Merrill, Forester, DEP; Joseph Piza, Fisheries Biologist, DEP; Andy Petracco, Recreation Specialist, DEP; Dave Miller, Climatologist, University of Connecticut Cooperative Extension Service; Thomas Seidel, Planner, Southeastern Connecticut Regional Planning Agency; and Linda Simkanin, ERT Coordinator, Eastern Connecticut RC&D Project.

The Team met and reviewed the site on Thursday, May 20, 1976. Reports from each Team member were sent to the ERT Coordinator for review and summarization for this final report.

This report is not meant to compete with private consultants by supplying site designs or detailed solutions to development problems. As requested by the Town, this report, which identifies the existing resource base of the Blonder Property, shall constitute the environmental assessment portion of the Town's open space application for federal Department of the Interior, Bureau of Outdoor Recreation (BOR) funds to assist in the recreational development of the Blonder Property.

The Eastern Connecticut RC&D Project Committee hopes you will find this report of value and assistance in making your decisions on this particular site.

If you require any additional information, please contact: Miss Linda M. Simkanin, Environmental Review Team Coordinator, Eastern Connecticut RC&D Project, 139 Boswell Avenue, Norwich, Connecticut 06360, 889-2324.

BLONDER PROPERTY
DESCRIPTION OF THE PROPOSAL

The Town of Ledyard, specifically the Parks and Recreation Department, wishes to develop a multiple use recreation facility on undeveloped open space land currently owned by the Town. In 1969 Ledyard acquired approximately 61 acres, and in 1974 acquired the remaining acreage of the Blonder Property with a 50% matching grant from BOR. As the Town intends to apply by July 1, 1976 for additional BOR funds for the development of intensive and extensive recreational facilities on the property, the ERT was asked to field review the site, giving some consideration to a preliminary site plan which the state Department of Community Affairs (DCA) has prepared for the Blonder Property. This ERT report shall constitute the environmental assessment portion of the Town's application to BOR for recreational funds.

At the time of the review, the Parks and Recreation Department distributed to all Team members copies of a four-phase development plan for the Blonder Property. The anticipated acquisition of BOR funds plus the Town match is planned to implement Phase I of development plan. Consequently, in their review of the site, the Team was asked to consider the development suggestions of Phase I as listed below (a copy of the entire four-phase development plan is included in Appendix III of this report).

PHASE I

- A) Access Road
- B) Parking Lot
- C) Softball fields - 2 (1 lighted)
- D) Little League fields - 2 (60')
- E) Multi-purpose field
- F) Supply building with toilets
- G) Informal game area

Although the four phase plan offers many proposals for development, every attempt should be made to accommodate the facilities to the site rather than altering the site radically (and expensively) to accommodate the desired facilities. The soil and topographic limitations impose rather severe restrictions on some of the more ambitious facility proposals, and while their implementation might not be impossible, it may be very costly to the Town. Mindful of the site's physical limitations, the Team recommends taking maximum advantage of the existing features of the site, and developing only that portion of the site which is economically feasible. One Team member's suggestion which illustrates this Team recommendation takes the form of a rough sketch plan and is found in Appendix I of this report.

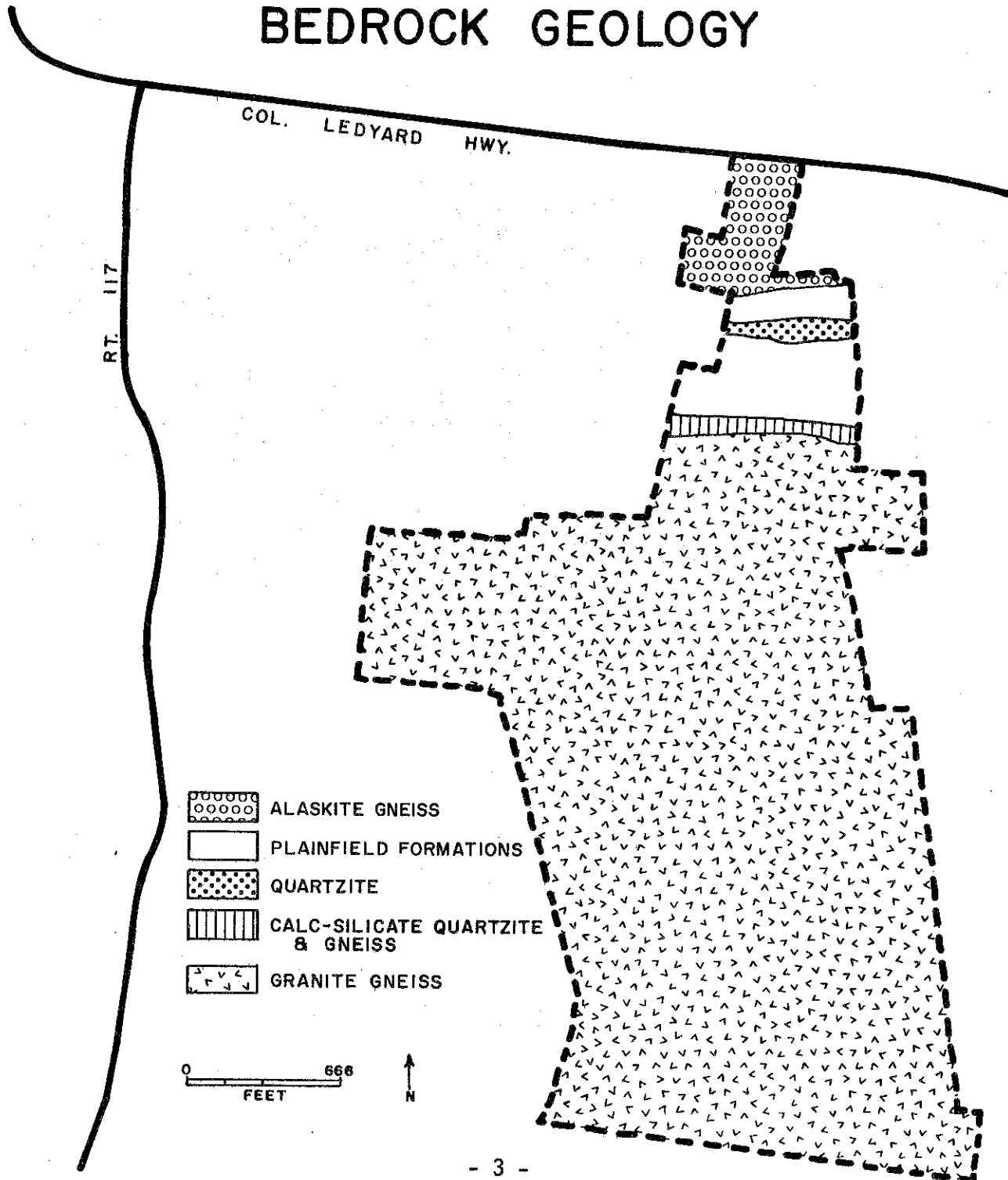
DESCRIPTION OF THE ENVIRONMENT

DESCRIBE THE SITE'S SURFACE AND SUBSURFACE GEOLOGIC CHARACTERISTICS. SPECIFIC REFERENCE SHOULD BE MADE TO MINERAL DEPOSITS WITH COMMERCIAL VALUE.

Bedrock Geology

The bedrock geology for the site investigated is composed of three major types: Alaskite gneiss, Granite gneiss, and Plainfield Formation. Alaskite gneiss and Granite gneiss are of Pre-Pennsylvanian geologic age while the Plainfield Formation is older and of Pre-Silurian geologic age. (See Bedrock Geology Map).

BEDROCK GEOLOGY



The Alaskite gneiss, as observed in the field, is orange-pink to light grey in color with a grain size ranging from fine to medium. The major minerals are quartz, microcline and albite, all present in about equal amounts. Very small percentages of magnetite and biotite may also be present.

Granite gneiss, which covers approximately 90% of the property, is grey in color. Grain size is fine to medium.

The Plainfield Formation is dark green in color and composed of hornblende-biotite-quartz-plagioclase. Two other members found within the Plainfield Formation are quartzite and a calc-silicate quartzite and gneiss layer.

Both Alaskite gneiss and Granite gneiss have economic importance as enriched stone, rip-rap, and rough construction building stone.

Surficial Geology

The dominant unconsolidated material which covers the site investigated is till; a mixture of all grain sizes in no specific proportions. Till was formed by the action of glacial ice as it moved southward out of Canada. As the ice melted and slowly retreated, the earth material it left behind formed till. The till found in this area forms ground moraine deposits. These deposits are commonly very thin and in many places do not average over 10 feet to the bedrock surface. The thickest till deposits are normally found on the north side of hill slopes. (Refer to Surficial Geology Map).

As indicated by the surficial geology map (Goldsmith, 1960) the property has numerous outcrop exposures. Evidence, in the form of glacial striations, on the exposed higher bedrock peaks shows the movement of ice in this area to be slightly east of south. Smooth vertical walls with water worked potholes give evidence that small ice dams formerly occupied the area.

The swamp deposits in the area consist of thin layers of organic matter with possibly a small lense of sand and gravel at their base. The large glacial boulders, or erratics, give evidence to the thickness of the swamp deposits.

In terms of economic importance, the unconsolidated materials present on this site are of little economic value. The swamp deposits are too thin to mine for peat and till is a poor construction material.

Hydrology

Approximately 90% of the Blonder property lies within the northern quarter of the Haley's Brook headwaters drainage basin. The headwater basin covers 1.41 square miles. The majority of storm water that falls within the property area flows as surface runoff; therefore construction of any hard surface areas is not expected to substantially change the storm water runoff within the brook.

Due to the shallowness of the bedrock surface and the poor quality surficial material subsurface sewage disposal within the site may be a problem. A more detailed study is needed before placement of any subsurface sewage disposal systems are planned for.

SURFICIAL GEOLOGY



Any onsite potable water supplies planned for the area will come from bedrock wells. Bedrock in the area is fractured to a depth of several hundred feet, and it is along these cracks (joints) rather than through inter-granular openings, as is common for surficial material wells, that most ground water within this area moves. Parallel joints, forming a set, may intersect joints of other sets; these intersections form enlarged openings that store and transmit groundwater. Recent studies indicate that joints become narrower and scarcer with depth so that the probability of encountering a significant quantity of water at depths greater than 200 to 300 feet below the top of the bedrock is slight. Due to the joint nature of the water storage and movement of ground water, any explosive work done to remove bedrock should not be performed adjacent to possible water supply wells. The explosions may cause the joints to close and reduce the bedrock's yielding potential.

The chemical quality of the ground water under natural conditions in the study area is generally good for potable uses. The crystalline bedrock underlying the report area and the glacial material derived from it are composed largely of minerals which are only slightly soluble in water, and the dissolved-solids concentration of the ground-water is correspondingly low. The most abundant dissolved chemical constituents in the natural ground water at the site investigated are silica, calcium, sodium, bicarbonate and sulfate.

COMMENT ON ANY SPECIAL TOPOGRAPHIC FEATURES WHICH MAY BE PRESENT.

The major topographic feature of the site investigated is one of steep slopes forming a small swamp deposit basin located within the central portion of the property. Many of the slopes have bedrock outcrops or large boulders at their peaks. These peak locations provide excellent vantage points from which to view the wetland below.

A significant topographic feature is a large outcrop of bedrock near the western edge of the property. This outcrop overlooks a wetland and forms a partial cave opening to the west. A feature such as this could easily be incorporated into a passive recreation use such as part of a nature trail or nature study area.

DESCRIBE THE NATURE OF SOILS IN THE AREA. PROVIDE A SOIL SURVEY MAP AND AN EXPLANATORY TABLE WHICH WILL INDICATE SOIL CHARACTERISTICS.

Due to the soil conditions it will be extremely difficult to develop facilities for intensive (active) recreational uses. Generally, the soils on the Blonder Property may be grouped as follows:

(a) Fifty six percent of the soils are ledge, bouldery and very stony, with slopes ranging from 3% to 25%. These soils are shown on the soil map as; 200-BC, 173M-D and 204-D. Most construction is very difficult and expensive on these soil types.

(b) Twenty three percent of the soils are upland till soil that are extremely stony, bouldery soils, with slopes that range from 3% to 25%. Most construction on these soils will be difficult and expensive due to the need for clearing and cut-and-fill. Also, it would be expensive and difficult to construct a road out to these areas

because of the steep slopes, ledgerrock, and swamp (inland wetland soils) on which the roads would need to be constructed. A rough scale indicates the road would be from 1000 to 1500 feet long depending on location. These soils are shown on the soil map as 210-BC, 52-BC and 52-D.

(c) Twenty one percent of the soils are very wet and have been classified as Inland Wetlands under Public Act 155. Because of the high water table, most construction on these soils is very difficult. As these soils are regulated, a permit would be required from the Inland Wetland Commission prior to construction. These soils are shown on the soil map as: 27M and 92.

Some extensive (passive) outdoor recreational facilities that might be considered are trails for hiking and nature study, picnicking, camping, and a nature observation center (structure). Because of the problem of constructing roads on the property, the placement of any facilities should be carefully considered. The soil survey map and the accompanying charts indicating soil limitations for certain land uses further distinguishes the soil types and their potential for the listed land uses.

PROPORTIONAL EXTENT OF SOILS

<u>Soil Series</u>	<u>Soil Symbol</u>	<u>Approx. Acres</u>	<u>Percent of Acres</u>	<u>Principal Limiting Factor</u>
Hollis	17L/BC	9.5	7	Slope, shallow to bedrock
Whitman/Ridgebury	27M	9.5	7	High water table, stony
Sutton	41M/BC	.2	.15	Seasonal high water table, stony
Charlton	52/BC	18.5	13.5	Slope, stony
Charlton	52/D	9.5	7	Slope, stony
Peat and Muck	91	1.3	.95	High water table organic material
Peat and Muck	92	15.5	11.3	High water table organic material
Hollis	173M/D	1.5	1	Shallow to bedrock, slope
Narragansett/Hollis	200/BC	36.5	26.6	"
Narragansett/Hollis	204/D	33.5	24.5	"
Peat and Muck	291	<u>1.5</u>	<u>1</u>	High water table
TOTAL		137	100%	

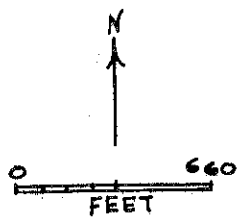
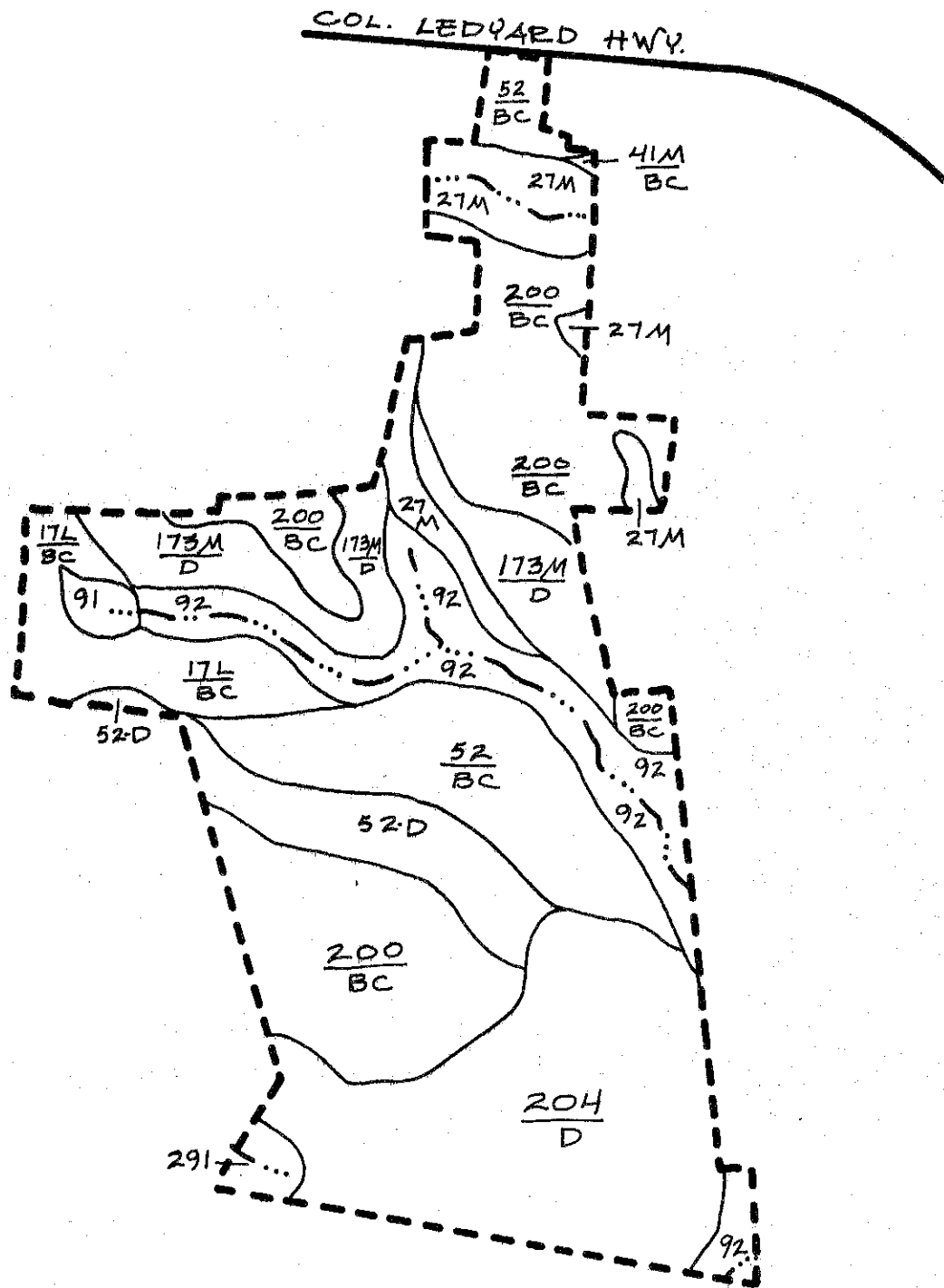
LEDYARD BLONDER PROPERTY

PROPORTIONAL EXTENT OF SOILS AND THEIR LIMITATIONS* FOR CERTAIN LAND USES

Soil Series	Soil Symbol	On-Site Sewage	Buildings with Basements	Streets & Parking	Land-Scaping	Athletic Fields	Intensive Play Areas	Camp Areas For Intensive Use	Picnic Areas	Hiking Trails	Golf Fairways
Hollis	17L/BC	3	3	3	3	3	3	3	3	3	3
Whitman/Ridgebury	27M	3	3	3	3	3	3	3	3	3	3
Sutton	41M/BC	2	2	3	3	3	3	3	2	2	3
Charlton	52/BC	2	2	3	3	3	3	2	2	1	3
Charlton	52/D	3	3	3	3	3	3	3	3	3	3
Peat and Muck	91	3	3	3	3	3	3	3	3	3	3
Peat and Muck	92	3	3	3	3	3	3	3	3	3	3
Hollis	173M/D	3	3	3	3	3	3	3	3	3	3
Narragansett/Hollis	200/BC	3	3	3	3	3	3	2	2	2	2
Narragansett/Hollis	204/D	3	3	3	3	3	3	3	3	3	3
Peat and Muck	291	3	3	3	3	3	3	3	3	3	3

* LIMITATIONS: 1 = slight; 2 = moderate; 3 = severe (see Appendix IV of this report for a further explanation of these numbered limitation classifications).

SOIL MAP
BLONDER PROPERTY
LEDYARD, CONNECTICUT



The map is an enlargement from the original
1320'/inch scale to 660'/inch.

Prepared by: UNITED STATES DEPARTMENT OF AGRICULTURE, Soil Conservation Service.
ADVANCE COPY, SUBJECT TO CHANGE.

MAY, 1976

PROVIDE DATA ON CLIMATIC CONDITIONS, SUCH AS TEMPERATURE AND PRECIPITATION.

The area is on the edge of the Connecticut coastal region and its climatic characteristic as a mixture of the coastal marine climate and the Northwestern uplands. Therefore the climate is basically mild and humid in all seasons. When low pressure weather systems bring southerly air flow from the south the area experiences humid maritime conditions especially in the winter and spring seasons. When high pressure systems prevail the area experiences relatively cool dry weather which are the prevailing summer and fall season conditions.

The following data was taken from the CLIMATE OF CONNECTICUT, Bulletin of the Connecticut Geological and Natural History Survey.

Annual Mean Temperatures	50°F
Probability of Winter temperatures getting below 0°F	2 in 5
Probability of Summer temperatures getting above 90°F	2 in 5
Annual Heating Degree Days	5800
Precipitation (mean annual) (relatively evenly distributed by month)	50 inches
Snow Depth (mean annual)	35 inches

The surrounding topography is gentle and therefore does not influence the local climate in any limiting manner. Since Ledyard is currently below the state limits for various air pollutants, the ambient air quality should not change with regard for the uses planned for this site. Changes in air quality could occur in the summer months when vehicle miles traveled increases. Air pollutants generated in the adjacent industrialized coastal town of Groton could affect Ledyard air quality.

DESCRIBE SITE VEGETATION, INCLUDING SPECIES COMPOSITION, DISTRIBUTION, COMMERCIAL UTILITY, AND AESTHETICS. SPECIAL REFERENCE SHOULD BE MADE TO RARE OR UNIQUE SPECIES. IF POSSIBLE, DELINEATE PLANT COMMUNITIES ON A MAP.

The diversity of plant forms and species is high. The vegetative cover includes trees, shrubs, vines, grasses, and wild herbaceous plants. Grasses are primarily limited to the open fields in the northern portion of the site while the mixed deciduous hardwood trees, shrubs, and vines are evenly distributed throughout the remaining area. Various species of wild herbaceous plants are found over the entire site. Examples of trees, shrubs, and vines present include, but are not limited to, the following: red maple, black cherry, apple, elm, dogwood, shagbark hickory, white oak, red oak, tulip poplar, and white ash. The aesthetic values of the wooded area is high; many specimen trees of the various species are present. Although not unique or unusual, American chestnut seedlings and saplings are present. Older chestnuts rarely exist due to disease. There are approximately 22 acres of wooded wetlands, Type 7 as described by the U.S. Department of the Interior Fish and Wildlife Service Circular 39. Dominant vegetation includes red maple trees, spicebush, skunk cabbage, and hellebore.

At one time most or all of the area was cleared, but because of the rough terrain very little of it was ever cultivated. It was probably pasture with a few large trees left here and there for shade. If properly designed to take advantage of the existing topographic features, this site can retain much of its wooded characteristics and still provide for the much needed recreational facilities.

The forest types illustrated on the following plant communities map are more

completely described as follows:

Field: Part of the area labeled as field is open grass land; the rest is old field coming up to brush. There are areas of open ledge in the south-central portion. The ledge areas have very limited use.

Swampy Areas: These areas are mostly in the large pole size 8" to 12" and contain various concentrations of red maple, white ash and tulip poplar. The ground varies from stony muck areas of nearly pure red maple of very poor form to good stands along the edge of these swamps that contain quality stems of white ash and tulip poplar. These areas are easily disturbed. They are subject to wind-throw if excessively thinned, or subjected to flooding, or smothering, even with small amounts of fill. Any development including these areas should be of very low intensity. Future management should include light thinnings under the supervision of a forester to maintain the stand in a good growing condition.

Saw Timber Stands: These are generally stands of oak and hickory where the dominant trees are twelve inches or more in diameter. Of all the wooded areas, these are the most suitable for development. These are the most level, have deeper soils, and development is likely to do the least damage. The trees are more wind-firm and drainage is better. These are also the best growing sites with the greatest variety of undergrowth. Undergrowth includes flowering dogwood, wild azalea, pepper bush, blueberries, mountain laurel, witch hazel, and a host of lesser shrubs and ferns. The real wet areas have their own species of undergrowth, but shrubs are mainly blueberries and pepper bush.

Pole Size Stands: These are stands of small four inch to twelve inch oaks, hickory and black birch. The trees are about the same age as those on the lower slopes classed as saw timber, but due to the poor ground conditions growth is very slow. There are few shrubs in the undergrowth. This also is a sensitive area like the wet area. Due to the shallow soils, trees are subject to wind throw and disturbance of the surface is apt to cause erosion due to the steepness of the slope. Selected areas might be cleared for vistas.

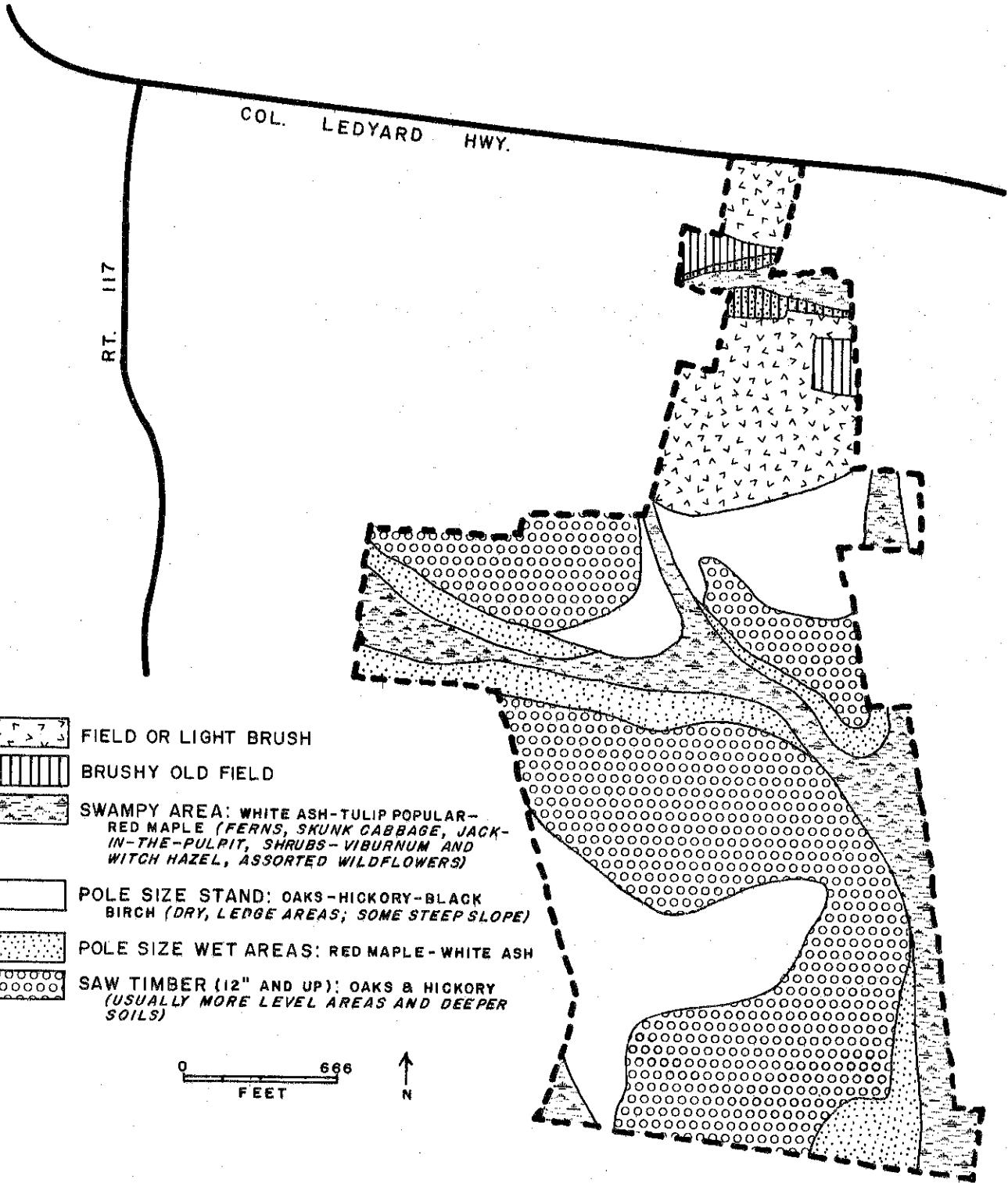
DESCRIBE THE FAUNA OF THE AREA. SPECIAL REFERENCE SHOULD BE MADE TO RARE OR ENDANGERED SPECIES.

Wildlife Habitat

Habitat is provided primarily to woodland game and non-game species of wildlife. The habitat is of good quality based on the composition and distribution, and management condition of the vegetative habitat elements. Approximately 50% of the woodland area is within 1/4 mile of the open field area. The woodland stand composes about 94% of the site, evenly distributed, with a moderately dense understory of shrubs, vines, and ground cover useful to wildlife. In addition, the open field area is surrounded by woody vegetation including fruiting shrubs. Den trees are present in the woodland area.

This type of habitat is useful to a variety of wildlife species such as grey squirrel, ruffed grouse, a variety of songbirds and woodpeckers, cottontail rabbit (field area), racoon, whitetailed deer, and small mammals including mice. The woodland wildlife habitat appears adequate to support better than average populations of wildlife.

PLANT COMMUNITIES



Fish Habitat

From a fisheries standpoint, the main concern is the interior wetlands and streams of the site. The wetlands form a natural starting drainage for Lee's Brook, Sandy Hollow Brook, and Haley Brook. The latter brook is stocked with trout downstream in Groton as it becomes a sizable stream which eventually drains into Mystic Harbor.

Severe use of property entailing much tree cutting or general land-clearing will encourage a faster runoff into the wetlands with possible erosion and siltation as well. At present the water budget of the site to feed the three brooks mentioned is low.

DESCRIBE THE EXISTING TRANSPORTATION ROUTES IN THE AREA, AND ELABORATE ON ACCESSIBILITY TO THE PROJECT SITE.

The Blonder Property is located in Ledyard Center, and is south and west of Colonel Ledyard Highway, and east of Connecticut Route 117. It is also approximately six miles north of Interstate 95.

Ledyard is a member of the Regional Transit District and local bus service is proposed for year two of the transit program along Colonel Ledyard Highway to the Highlands. Thus access could be by bicycle, automobile, or mass transit.

Access to the proposed facility would be from Blonder Boulevard which would have to be upgraded to a two-lane road and probably straightened. Since the homes on Blonder Boulevard have short setbacks any widening of the road and increased traffic flows would impact these houses. To help avoid this problem and to improve circulation a second access road could be located from the tract east to Colonel Ledyard Highway in the vicinity of the High School entrance. This access would have little effect on the surrounding land uses since the area is undeveloped and well buffered from residential uses. If use of the site increases in the future, possible accidents could help be alleviated by traffic lights at the entrances that could be activated when the recreation area is in use.

DESCRIBE THE PRESENT AND PAST LAND USES OF THE SITE AND OF THE SURROUNDING AREA.

Past Land Uses

The existence of stone wall boundaries indicate the land was at one time used for agricultural purposes, probably as pastureland or for hay. The site appears to have been heavily logged as mentioned earlier in the section on vegetation.

Present Land Uses

Approximately eight acres are in a present open land condition as unimproved pasture or for haying fields. The balance of the property is in woodland, utilized by game and non-game species of wildlife. Surrounding land uses are residential and undeveloped with the residential uses along Blonder Boulevard and Colonel Ledyard Highway.

ENVIRONMENTAL IMPACT OF THE PROPOSED ACTION

Effects on Vegetation

Development of the area for intensive recreation will result in some losses to existing woody vegetation. Vegetation in the field area should remain in grasses, management will require frequent mowing of play field areas. Exact acreage changes will depend on final designs. The 173M/D, 52/BC, and 52/D soils are extremely productive forest sites which presently have well stocked high quality timber stands on them. Intensive recreational development of these sites (which are the most buildable) would trade off this high productivity.

Development in the wooded areas should be planned so as to utilize log and wood material that will be removed. If the roads are roughed in first, then areas to be cleared can be sold for saw logs or allow residents to cut their own firewood. There is considerable volume of firewood. Estimates vary from 15 to 17 cords per acre on the ledgy area to 27 to 30 cords on the better saw log sites. If possible the trees should be cut in the roadways before the bulldozing is done and the wood piled to one side for later use.

Any development on the "peat and muck" soils and even the "Whitman/Ridgebury" soils including thinning the tree cover is apt to cause wind-throw in the remaining stand because of the shallow root system. This is also true in the more ledgy parts of the "Narragansett/Hollis" soils. These areas are better left to nature trails and low key uses. Roads should be laid out along the contours where practical to prevent erosion. Judicial thinnings should be done in the future to maintain a healthy stand under the guidance of a forester. Careful thinnings will help to prevent loss in the stand.

There are many natural obstacles to development of this property. The most difficult will be the ball fields because of the requirement of large flat areas. This will require considerable cutting and filling. Soil condition will be very limiting so detail plans for the whole area should be developed to assure room for as many projects as possible, even though it may be years before all the plans are implemented. Present plans call buildings in areas of high water table. Small units can be fitted in numerous places. It seems there should be a reevaluation of where various projects are to be located.

The implementation of Phase I of the development plan could be expensive. Some thought might be given to use of the Connecticut National Guard for land preparation. They have the equipment and manpower. Use of them would allow available monies to go further. Very careful appraisal should be made of the proposed access road in off the Colonel Ledyard Highway. There are some steep slopes and a sizable swamp to cross. The site has some real potential, but needs careful planning to take advantage of the natural terrain. The services of the State Service Forester are available to help in selecting trees to be removed and/or finding markets for products to be removed.

Effects on Wildlife Habitat

Development will create added disturbance from humans and domesticated pets. The mobility of wildlife should not be significantly affected as surrounding land uses are compatible with daily and seasonal wildlife movements. Habitat quantity will be reduced due to losses in existing vegetation for play and parking areas.

Changes in habitat quality will depend on location, revegetation, and management of play field areas. Development of the site with wildlife as a secondary land use could result in good quality wildlife habitat.

Wetland losses will also depend on degree of development and location of facilities. If development is limited to the presently open areas, there would not be any wetland losses.

Effects on Air Quality and Ambient Noise Level

Use of the Blonder Property as an intensive or extensive recreation area should not have a significant effect on air quality levels in the area.

Intensive recreation is sure to increase the ambient noise levels significantly with resulting effects on nearby residences. This effect will be most severe in the 6 warm months. Extensive recreation activities such as nature trails, hiking, picnicking etc. will not have a major noise impact except in the case of off road vehicles.

MITIGATING MEASURES

The climate imposes a few restrictions on intensive recreation in the area. The excess of rain fall will require good drainage designs on the playing field and careful designs of parking and paved area to control storm runoff.

The wind exposure of the level areas will be high if surrounding trees are removed. If the area is used for organized sports which are effected by the wind: for example, tennis, baseball etc. the maintenance of as much of the surrounding tree stands as possible is desirable.

ALTERNATIVES TO THE PROPOSED ACTION

It appears that only the northermost open field areas should be considered as locations for the intensive recreation facilities outlined in Phase I of the Blonder Property development plan. The majority of the property appears best utilized as an extensive recreation area, and also in appropriate sections as a nature demonstration area. The property is ideally suited to the multiple use concept of forest management which could include management for timber production, wildlife, watershed protection, hiking, horse trails, etc. Simultaneously, the education and recreation value of such a "town forest" demonstration area would be quite high.

Excluding the northern portion of the property where the extensive recreation facilities could be developed the diversity of topography, geology, vegetation, and soil conditions creates an opportunity for the creation of a high quality open space area on the remaining undeveloped portions. As an example, a confidence course area could be set up and run as part of the high school curriculum. Nature study, outdoor classroom activities, as well as hiking, photography, snowshoeing, picnic areas, etc. are activities which appear well suited to the area. In future years as Ledyard develops further, there will be few open areas of comparable bird and wildlife habitat, and suitable for nature studies, as the Blonder Property which is located in the center of Ledyard and is accessible to

the public. Intensive recreation on this portion of land would be difficult to develop due to wetness, slope, and bedrock limitations. Cost of development would be high and suitability of the final product to its intended use might be marginal.

If the northern portion of the tract is developed for active recreational uses such as playing fields, tennis courts, basketball courts, and parking lots, and the southern portion for more passive uses such as nature study areas and trails, and there is still demand for more active recreation uses, then perhaps other town owned areas could support active uses such as playing fields and courts. The town-owned land south of the high school could possibly be further developed as well as a portion of the Ledyard Oak parcel. A possible future water-oriented recreation area would be developed at the Romanella property on Lantern Hill Road. (See ERT report on Romanella Property, April, 1975.)

APPENDIX

APPENDIX II

In response to a request from the Ledyard Recreation Director, one Team member has offered a rough sketch plan which incorporates most of the recreational facility suggestions outlined in Phase I of the Blonder Property development plan (Appendix III).

This sketch plan, as mentioned earlier in the report in the section entitled, Description of the Proposal, attempts to accommodate the facilities to the site. The soils, slopes, and ledge outcrop areas all afford considerable limitations to the kinds of recreational facilities tentatively planned for the property.

Discussion of the Sketch Plan

Blonder Boulevard, the primary access to the site, is very narrow and would have to be widened to accommodate two-way traffic. Additionally, it appears that culverts may have to be installed and the road raised or water runoff problems may ensue. It should also be noted here that the tight corner in the road (Blonder Boulevard), where it skirts the stone wall on the fields edge, should be eliminated. Extension of the road southerly from where the pavement terminates would not eliminate usable open field area if routed along the stone wall delineating the property boundary. To do this trees would have to be cleared and some large boulders dumped in this area would have to be gravelled over or removed. If removed they might be usable elsewhere (ex. - establishing boundaries to a parking area). The Ledyard highway engineer can address these designs in his own evaluation of the needed access road improvements.

Parking is envisioned immediately south of what seems to be a ledge outcrop at the southerly end of the first open field. Refer to Sketch Plan map. Use of this area would detract the least from usable open field and would be fairly centrally located to the activity areas. It, furthermore, would not require extensive modification; it is virtually usable as is, once a gravel road has provided the vehicular access.

The layout of activities has been directed by the site features and located where a minimum amount of work would be necessary. In most cases this work would consist of some tree and brush removal (as in the portions of the sketch plan labeled D, E, and G). In the case of section D, addition of fill may be necessary to provide a usable level area as an addition to the present open field. In its present state with a varying grade, section E may only be suitable for a practice soccer field, informal playing field, or planned picnic area.

The small parking area proposed in proximity to sections E and F would utilize a small lane and would require a small section of stone fence being removed as well as some brush and small trees in the parking area.

Section G (tennis, handball) utilizes a relatively flat area which has some brush and small trees to remove to make usable.

Trees should be removed only where necessary and not on a wholesale (clear cut) basis where not necessary. Selective tree thinning with emphasis placed on retaining the more vigorous specimens could open new areas as picnic groves.

The pathway to the rear of the property (section I) could be upgraded to permit vehicular access in the future if required. Further planning and money would have to be provided first. It would be advisable to keep the back land in open space for now with the option of future development of interpretive programs (possibly by and for Ledyard High School).

Section D and E (open fields) could possibly be utilized as supplemental parking when needed as with the Ledyard Fair.

Toilet location should, where possible, be within 200' of heavy use areas. A toilet building was purposely not located since soil and other site conditions will dictate suitable locations. Some determination must be made on the sufficiency of water supply necessary for drinking as well as the operation of sanitary facilities. If drilled wells cannot supply sufficient water for flushing purposes, use of surface water for flushing only may have to be considered. Pit toilets (as supplemental) offer another possibility.

Cost estimates for all site engineering for roads, recreational and sanitary facilities should be performed immediately in order to accurately determine what portions of the four-phase development plan can be reasonably and economically fulfilled on the Blonder Property.

APPENDIX III BLONDER PROPERTY DEVELOPMENT PLAN

PHASE I

- A) Access Road
- B) Parking Lot
- C) Softball fields - 2 (1 lighted)
- D) Little League fields - 2 (60')
- E) Multi-purpose field
- F) Supply building with toilets
- G) Informal game area

PHASE II

- Tennis courts (4 - lighted)
- Basketball courts - 4 (2 lighted)
- Picnic area
- Informal game area
- Parking lot
- Toilet facilities
- Hand ball courts - 4 (2 lighted)
- Natural Ampitheater

PHASE III

- Outdoor swimming pool- with toilets, showers
- Miniature golf course (lights)
- Driving range (lights)
- Picnic area

PHASE IV

- Nature area, with following features:
 - Geology Trail, Wood Trail, Nature Trails, Marsh Trail
 - Botany Pool, Soil Profile
 - Nature by Square Yard
 - Erosion Control Demonstrations
 - Elevated Walk Ways
- Trails for bikes, jogging, walkers
- Wood and Nature Crafts area
- Outdoor Recreation area - (B.S.A.)

APPENDIX IV

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.