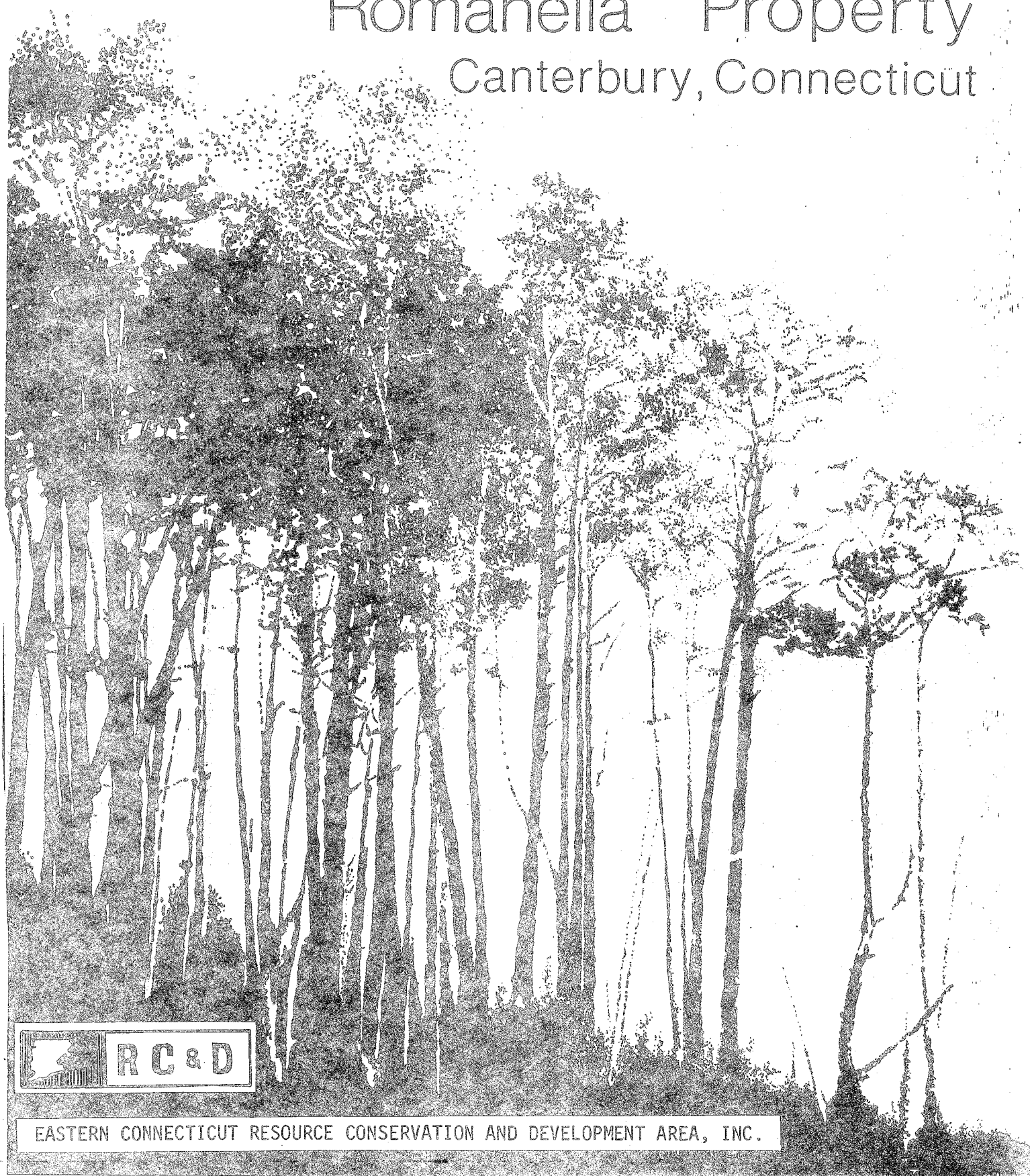
Environmental Review Team Report

Romanella Property

Canterbury, Connecticut



RC&D

EASTERN CONNECTICUT RESOURCE CONSERVATION AND DEVELOPMENT AREA, INC.

Environmental Review Team Report

Romanella Property

Canterbury, Connecticut

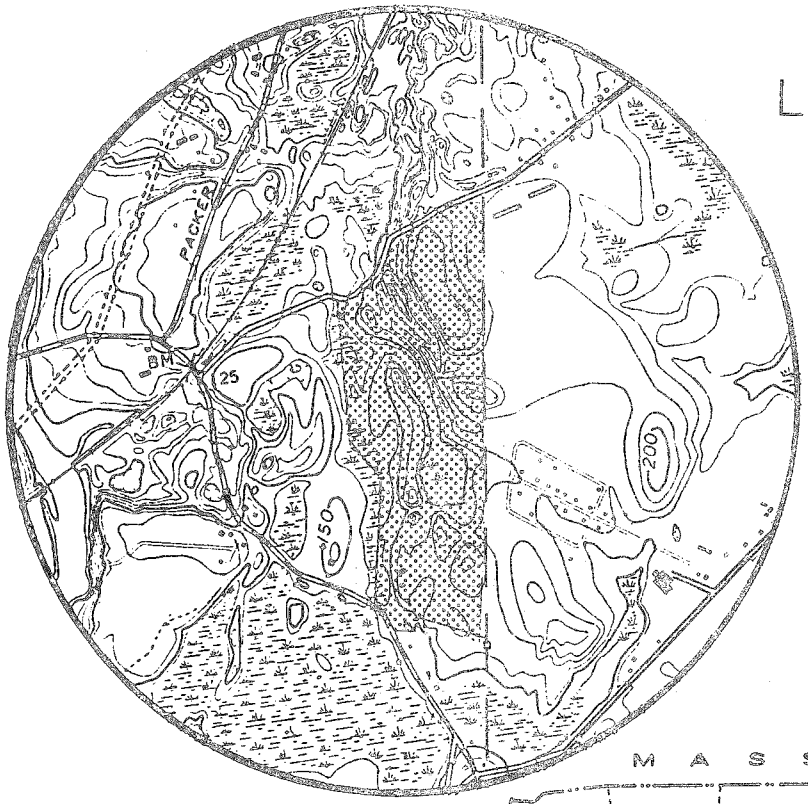
November 1982

RC&D

Eastern Connecticut Resource Conservation & Development Area

Environmental Review Team
PO Box 198
Brooklyn, Connecticut 06234

Location of Study Site



ROMANELLA PROPERTY
CANTERBURY, CONNECTICUT

EASTERN CONNECTICUT
RESOURCE CONSERVATION AND DEVELOPMENT PROJECT

ENVIRONMENTAL REVIEW TEAM REPORT
ON
ROMANELLA PROPERTY
CANTERBURY, CONNECTICUT

This report is an outgrowth of a request from the First Selectman of Canterbury to the Windham 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 by the RC&D Executive Committee 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 personel: Howard Denslow, District Conservationist, Soil Conservation Service (SCS); Michael Zizka, Geologist, Connecticut Department of Environmental Protection (DEP); Dick Raymond, Forester, (DEP); Karl Lutz, Wildlife Biologist, (DEP); Marsha Banach, Regional Planner, Northeast Regional Planning Agency; Don Capellaro, Sanitarian, State Department of Health; Andy Petracco, Recreation Specialist, (DEP); and Jeanne Shelburn, ERT Coordinator, Eastern Connecticut RC&D Area.

The Team met and field checked the site on Thursday, August 19, 1982. 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 by supplying site designs or detailed solutions to development problems. This report identifies the existing resource base and evaluates its significance to the proposed development and also suggests considerations that should be of concern to the developer and the Town of Canterbury. The results of this Team action are oriented toward the development of a better environmental quality and the long-term economics of the land use.

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, Route 205, Box 198, Brooklyn, Connecticut 06234, 774-1253.

Topography

0 660'
scale

N

INTRODUCTION

The Eastern Connecticut Environmental Review Team was asked to prepare an environmental assessment for a proposed town land acquisition. The town is interested in using the site for industrial development, recreational development or town municipal/educational buildings. The site is presently in the private ownership of the Romanella family and has been mined for gravel and other earth materials in the recent past.

Located in the southeast corner of Canterbury the 136 acre site is easily accessible from Route 169 or Route 12 via Butts Bridge Road. The elongated site is up to 1500 feet wide at its northern end and 4600 feet long - along its eastern boundary (Plainfield/Canterbury town line). Relatively flat, the site ranges in elevation from 125 feet above sea level to 190 feet. The original topography has been dramatically altered in areas excavated for earth materials. Vegetation on the site varies greatly. A wooded swamp wetland borders the west site. A tall stand of pines, partially thinned, cover a few acres on the east side of the site. Several areas of the property are growing silage corn. A large glacial kettle in the northeast corner supports scrub vegetation similar to that found on lower Cape Cod, Massachussetts.

The western side of the site is bounded by an intermittent stream running north thru a wooded wetland. This area is dominated by Adrian and Carlisle soils. The surface water elevation is determined by a seasonal ground water table and surrounding surface runoff. Likewise, the water table in the two ponds on the eastern side is determined by ground water and surface runoff. Since the water table is within 10 feet of the now-disturbed surface of much of the site, it is important that sanitary facilities installed for any development not impair the ground water quality.

Water in the locations mentioned will provide opportunity for either enlarging and deepening existing ponds, or for developing new ones. Ponds could be used for multiple uses including passive recreation or for educational opportunities adjacent to a future school. Because of low flow - through characteristics, intensive swimming at any pond developed on the property will be minimal.

The Romanella property offers a unique opportunity to the town. The property is suitable for a school site and light industrial development in the areas already disturbed. Access to a school could be from Tarbox Road, once improved, and to industry, from Butts Bridge Road. There is room for school play fields, and environmental education areas compatible with wildlife. A buffer of trees could be planted between the school and industries. Wooded and swampy wetland areas not developed might be managed to improve their aesthetic qualities and educational and wildlife benefits. Agricultural land could continue to be used as such. And of course, the piles of stone and gravel already mined could be used by the town, elsewhere.

If the site is purchased, a long range plan of development should be initiated. Planning for surface water control, erosion prevention, and restoration of disturbed areas is appropriate. The Windham County Soil and Water Conservation District will help the town review any site plans for drainage and erosion control. The District and Soil Conservation Service will make recommendations for grading and stabilizing areas upon request.

ENVIRONMENTAL ASSESSMENT

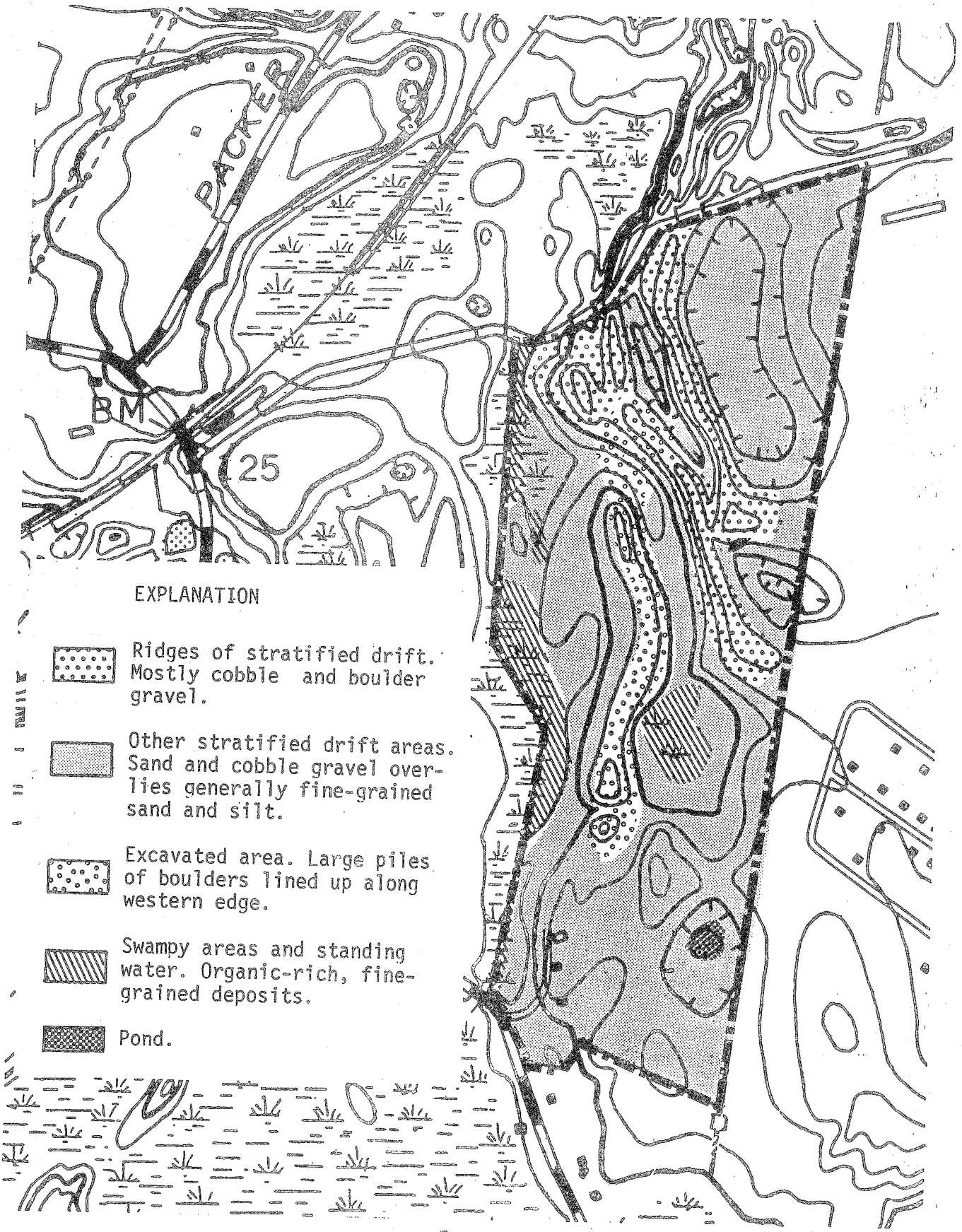
GEOLOGY

The Romanella property is located within a massive series of stratified drift deposits in the Quinebaug River valley. The property itself and surrounding areas are dominated by the distinctive topography and geologic structures of ice-contact stratified drift. The term "stratified drift" refers to the typically well-layered sediments that were deposited by glacial meltwater streams. "Ice-contact" means that the sediments were deposited on, under, or adjacent to wasting blocks of glacier ice. Melting of buried ice blocks caused the sediments to collapse into irregular, often deep basins called kettles. Striking examples of kettles are located along the eastern boundary of the site. Deposition of meltwater-carried sediments in tunnels or fractures in the ice resulted in the formation of steep-sided ridges after the ice wasted away. Such ridges, which are called eskers if formed in an ice tunnel, and ice-channel fills if formed in a fracture (crevasse), dominate the central portion of the site.

The ridges are made up largely of cobble gravel and boulder gravel. Sand and pebbles comprise most of the remainder of the ridges. In other parts of the parcel, the upper 10 feet of the sediments is most likely to be gravelly, but the bulk of the deposits probably consist of fine-grained to medium-grained sand with some silty layers. The total depth of the stratified drift to bedrock is probably less than 50 feet in most places; the thickest deposits are likely to occur in the southeastern section of the property.

The best remaining potential for gravel mining exists in the remaining portions of the ridges and in the upper 10 feet of the deposits in the southeastern part of the site. Gravel in the ridges is most likely to be cobble-and boulder-sized; gravel from the southeastern section is likely to be mostly pebble-and cobble sized. Rough estimates by the Team indicate that about 255,000 cubic yards of cobble and boulder gravel may remain in the ridges. It is much more difficult to estimate gravel volumes in the other portions of the site, but it seems reasonable to conclude that no more than (and probably much less than) 685,000 cubic yards of pebble and cobble gravel are present.

Surficial Geology



With the exception of the swampy areas along the western boundary and the wet kettle bottoms in the southeastern and central sections, the property has excellent potential for industrial or school usage. Residential usage would be more of a problem only because of the high costs of returning the mined areas to an aesthetically attractive condition. As a precautionary measure, the town should leave no less than 10 feet of natural material above the normal high groundwater elevation in any area where subsurface sewage disposal facilities are planned.

HYDROLOGY

The Romanella property lies within the Quinebaug River basin. Because of the coarse-grained nature of the overburden on the site, most rainfall is absorbed into the ground rather than passing overland via streamcourses. One notable streamcourse is present at the western end of the site. This stream flows north through a linear series of wetlands that straddle the parcel boundary. The stream joins Quinebaug River approximately 3500 feet north of the site.

The stratified drift deposits in the Quinebaug River valley have a high potential for serving as a public groundwater-supply source. However, the potential of any particular location depends upon the texture and thickness of the deposits at that location, the proximity to streams and the size of those streams, and other factors. The saturated thickness of the deposits on the Romanella site may be as much as 40 feet in some places. On the other hand, the records of several test holes and wells suggest that fine sands, a difficult material in which to finish wells and a relatively slowly permeable medium, make up the bulk of the stratified drift at depth. Without more specific on-site data, the Team concludes that the overall potential of the site for public water supplies is only moderate: wells finished in the stratified drift on the parcel would probably yield 50 to 500 gallons per minute. Nevertheless, if the town does acquire the parcel, it would be desirable to do more testing to obtain a firmer estimate of the site's water-supply potential.

If the property were determined to have a higher water-supply potential than is presently suspected, the town should consider its long-range needs before making final plans for the use of the site. Certain types of uses may be inconsistent with the protection of groundwater quality. On the other hand, most types of uses, such as light industrial or school uses, could be established without creating significant hazards to water quality as long as adequate precautions were taken (e.g. keeping pollutant sources, such as septic systems, as far from the well field as possible).

SOILS

A detailed soils map of this site is included in the Appendix to this report accompanied by a chart which indicates soil limitations for various urban uses. As the soil map is an enlargement from the original 1,320 feet/inch scale to 660 feet/inch, the soil boundary lines should not be viewed as absolute boundaries, but as guidelines to the distribution of soil types on the site. The soil limitation chart indicates the probable limitations for each of the soils for on-site sewerage, build-

ings with basements, buildings without basements, streets and parking, and landscaping. However, limitations, even though severe, do not preclude the use of the land for development. If economics permit large expenditures for land development and the intended objective is consistent with the objectives of local and regional development, many soils and sites with difficult problems can be used. The soils map, with the publication Soil Survey, Windham County, Connecticut, can aid in the identification and interpretation of soils and their uses on this site. Know Your Land: Natural Soil Groups for Connecticut can also give insight to the development potentials of the soils and their relationship to the surficial geology of the site.

The soils in the area are derived from materials laid down during glacial periods. This is evident from soils mapping data produced by USDA soil scientists and observation of the piles of water-rolled rocks mined on the site. Most silage corn now growing is located on prime agricultural land - the Merrimac (MyA, MyB) and Ninigret (Nn) soils. It is recommended that this land continue to support agricultural crops since prime farmland is diminishing in Eastern Connecticut. And the corn is growing on perimeter areas of the property - areas which would not have to be disturbed to make way for industrial or other development. The soil on the site which has been mined most heavily is a Hinckley gravelly sandy loam (HkC, HkD). Merrimac sandy loam (MyA, MyB) has also been disturbed to a lesser extent. Descriptions of Hinckley and Merrimac soils reveal their earth material potentials. Since so much of the central area of the site has been disturbed it makes sense to use the earth materials stockpiled, and plan industrial or other development for this area. Detailed soils descriptions follow.

Adrian and Palms mucks. This unit consists of nearly level, very poorly drained organic soils in depressions and along streams of outwash plains and glacial till uplands. Slopes range from 0 to 2 percent but are mostly less than 1 percent. About 45 percent of the total acreage of this unit is Adrian soils, 35 percent is Palms soils, and 20 percent is other soils. Some areas of the unit consist almost entirely of Adrian soils, some almost entirely of Palms soils, and some of both. The Adrian and Palms soils were mapped together because there are no significant differences in their use and management.

Typically, the Adrian soils have a surface layer of black and very dark gray muck 12 inches thick. The subsurface layer is black muck 21 inches thick. The substratum is gray and grayish brown silt loam and fine sandy loam to a depth of 60 inches or more.

Typically, the Palms soils have a surface layer of black muck 9 inches thick. The subsurface layer is very dark brown and black muck 21 inches thick. The substratum is gray and grayish brown silt loam and fine sandy loam to a depth of 60 inches or more.

Included with this unit in mapping are small areas of very poorly drained Carlisle, Saco, Scarboro, and Whitman soils. A few small areas have a thin, loamy surface layer.

These Adrian and Palms soils are wet most of the year. Water is on the surface for several weeks from fall through spring and after heavy summer rains. The soils have a high available water capacity. The Adrian soils have moderately rapid permeability in the organic layers and rapid permeability in the substratum. The Palms

soils have moderately rapid permeability in the organic layers and moderate or moderately slow permeability in the substratum. Runoff is very slow on both soils. Both soils are strongly acid to medium acid in the organic layers and medium acid to slightly acid in the substratum.

Wetness makes the soils of this unit generally unsuitable for cultivated crops. Most areas are difficult to drain, and subsidence is a hazard in areas that are drained.

Wetness also makes the soils poorly suited to trees. It severely limts the use of equipment and causes a high rate of seedling mortality. The high water table limits rooting, causing a hazard of uprooting during windy periods.

Wetness and low strength in the organic layers limit these soils for community development, especially for onsite septic systems.

Carlisle muck. This soil is nearly level and very poorly drained. It is in low depressions on outwash terraces and glacial till plains. Slopes range from 0 to 2 percent but are mostly less than 1 percent.

Typically, this soil is black, very dark brown, and dark reddish brown muck to a depth of 60 inches or more.

Included with this soil in mapping are small areas of very poorly drained Adrian, Palms, Saco, Scarboro, and Whitman soils. A few small areas have a thin mineral layer on the surface. Included areas make up about 25 percent of the unit.

The water table of this Carlisle soil is at or near the surface during most of the year. The available water capacity is high. Permeability is moderately rapid. Runoff is very slow, and water is on the surface of some areas from autumn to spring and after heavy rains. This soil is very strongly acid to slightly acid.

The high water table makes this soil generally unsuitable for cultivated crops. Most areas do not have adequate drainage outlets. Although most areas support red maple, ash, and alder, the soil is poorly suited to woodland production. The organic material will not support heavy equipment, and uprooting is common during windy periods.

The high water table and the low strength of the organic material make this soil generally unsuitable for community development.

Hinckley gravelly sandy loam. This soil is nearly level and excessively drained. It is on terraces of stream valleys and on outwash plains. Typically, this soil has a surface layer of very dark grayish brown gravelly sandy loam 2 inches thick. The subsoil is dark yellowish brown, yellowish brown, and brownish yellow gravelly sandy loam and gravelly loamy sand 16 inches thick. The substratum is pale yellow gravelly sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of excessively drained Windsor soils, somewhat excessively drained Merrimac soils, well drained Agawam soils, and moderately well drained Sudbury soils. A few small areas have a few stones and boulders

on the surface. Included areas make up about 15 percent of the unit.

The water table in this Hinckley soil is commonly below a depth of 6 feet. The available water capacity is low. Runoff is slow. The soil has rapid permeability in the surface layer and subsoil and very rapid permeability in the substratum, and it is extremely acid to medium acid.

Irrigated areas of this soil are well suited to cultivated crops; nonirrigated areas are fairly suited for cultivation. The soil warms and dries early in the spring and is easy to till. Minimum tillage and cover crops help to maintain tilth in cultivated areas.

Droughtiness makes the soil poorly suited to woodland and causes a high rate of seedling mortality.

This soil generally is suited to community development, but the rapid permeability causes a hazard of ground-water pollution in areas used for septic tanks and some slopes of excavations are unsuitable.

Hinckley gravelly sandy loam. This is a gently sloping to sloping, excessively drained soil on terraces of stream valleys and on glacial outwash plains. Typically, the surface layer is very dark grayish brown gravelly sandy loam 2 inches thick. The subsoil is dark yellowish brown, yellowish brown, and brownish yellow gravelly sandy loam and gravelly loamy sand 16 inches thick. The substratum is pale yellow gravelly sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of excessively drained Windsor soils, somewhat excessively drained Merrimac soils, well drained Agawam soils, and moderately well drained Sudbury soils. Also included are a few areas of a soil with a surface layer of fine sandy loam and a few small areas with a few stones on the surface. Included areas make up about 15 percent of the unit.

The water table in this Hinckley soil is commonly below a depth of 6 feet. The available water capacity is low. Runoff is rapid. This soil has rapid permeability in the surface layer and subsoil and very rapid permeability in the substratum, and it is extremely acid to medium acid.

Irrigated areas of this soil are well suited to cultivated crops; nonirrigated areas are fairly suited to cultivation. The soil dries and warms early in the spring and is easy to till. Minimum tillage and cover crops help to minimize the moderate erosion hazard in cultivated areas.

Droughtiness makes this soil poorly suited to use as woodland; lack of water increases seedling mortality.

This soil generally is suited to community development, but the rapid permeability imposes a hazard of ground-water pollution in areas used for septic tanks. The slopes in some excavated areas are unstable.

Hinckley gravelly sandy loam, 15 to 45 percent slopes. This soil is moderately steep to very steep and excessively drained. It is on side slopes and terrace breaks of stream valleys and outwash plains. Typically, the surface layer is very dark grayish brown gravelly sandy loam about 2 inches thick. The subsoil is dark yellowish brown, yellowish brown, and brownish yellow gravelly sandy loam and gravelly loamy sand 16 inches thick. The substratum is pale yellow gravelly sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of excessively drained Windsor soils, somewhat excessivley drained Merrimac soils, and well drained Agawam soils. Included areas make up about 15 percent of the unit.

The water table in this Hinckley soil is commonly below a depth of 6 feet. The available water capacity is low. Runoff is rapid. This soil has rapid permeability in the surface layer and subsoil and very rapid permeability in the substratum, and it is extremely acid to medium acid.

Slope and a severe erosion hazard make this soil poorly suited to cultivated crops. Maintaining a permanent plant cover helps to control runoff and erosion in cultivated areas.

This soil is suited to woodland, but droughtiness causes a high rate of seedling mortality and slope hinders the use of some harvesting equipment.

Slope is the major limitation of this soil for community development. The rapid permeability causes a hazard of ground-water pollution in areas used for septic tanks.

Merrimac sandy loam, 0 to 3 percent slopes. This soil is nearly level and somewhat excessively drained. It is on terraces and outwash plains in stream valleys.

Typically, the surface layer is dark brown sandy loam 8 inches thick. The subsoil is yellowish brown sandy loam and loamy sand 16 inches thick. The substratum is yellowish brown gravelly sand and stratified sand and gravel to a depth of 60 inches or more.

Included with this soil in mapping are small areas of excessively drained Hinckley and Windsor soils, well drained Agawam soils, and moderately well drained Sudbury soils. A few large areas have a surface layer of fine sandy loam. Included areas make up about 15 percent of the unit.

The water table in this Merrimac soil is commonly below a depth of 6 feet. The available water capacity is moderate. This soil has moderately rapid permeability in the surface layer and upper part of the subsoil, moderately rapid or rapid permeability in the lower part of the subsoil, and rapid permeability in the substratum. Runoff is slow. The soil is extremely acid to medium acid.

This soil is well suited to cultivated crops, but it is droughty during extended dry periods. Minimum tillage and cover crops help to maintain tilth in cultivated areas.

The soil is well suited to woodland, but droughtiness causes a moderate rate of seedling mortality.

This soil generally is suited to community development, but the rapid permeability of the substratrum causes a hazard of pollution to the ground water in areas used for septic tanks. Some slopes of excavations in this soil are unstable.

Merrimac sandy loam, 3 to 8 percent slopes. This soil is gently sloping and somewhat excessively drained. It is on terraces and outwash plains of stream valleys. Typically, the surface layer is dark brown sandy loam 8 inches thick. The subsoil is yellowish brown sandy loam and loamy sand 16 inches thick. The substratum is yellowish brown gravelly sand and stratified sand and gravel to a depth of 60 inches or more.

Included with this soil in mapping are small areas of excessively drained Hinckley and Windsor soils, well drained Agawam soils, and moderately well drained Sudbury soils. A few large areas have a surface layer of fine sandy loam. Included areas make up 15 percent of the unit.

The water table in this Merrimac soil is commonly below a depth of 6 feet. The available water capacity is moderate. This soil has moderately rapid permeability in the surface layer and upper part of the subsoil, moderately rapid or rapid permeability in the lower part of the subsoil, and rapid permeability in the substratum. Runoff is is slow to medium. The soil is extremely acid to medium acid.

This soil is well suited to cultivated crops, but it is droughty during extended dry periods and has a moderate erosion hazard. Cover crops and minimum tillage help to control runoff and erosion in cultivated areas.

The soil is suited to woodland, but droughtiness causes a moderate rate of seedling mortality.

This soil generally is suited to community development, but the rapid permeability of the substratum causes a hazard of pollution to the ground water in areas used for septic tanks. Some slopes of excavations in this soil are unstable.

Ninigret fine sandy loam. This soil is nearly level to gently sloping and moderately well drained. It is in slight depressions of stream terraces and outwash plains.

Typically, the surface layer is very dark grayish brown fine sandy loam 8 inches thick. The subsoil is mostly mottled, yellowish brown and light olive brown fine sandy loam and is about 17 inches thick. The substratum is yellowish brown and light olive brown sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of well drained Agawam soils, moderately well drained Sudbury soils, and poorly drained Walpole soils. Some small areas have a few stones on the surface, and a few large areas have a surface layer of silt loam. Included areas make up about 10 percent of the unit.

This Ninigret soil has a seasonal water table at a depth of about 20 inches from fall to spring. The available water capacity of the soil is moderate. The soil has moderately rapid permeability in the surface layer and subsoil and rapid permeability in the substratum. Runoff is slow to medium. The soil is very strongly acid to medium acid.

This soil is well suited to woodland and cultivated crops. Providing drainage to alleviate wetness in early spring is a main crop management concern. Minimum tillage and cover crops help to maintain tilth in cultivated areas.

The seasonal high water table is the main limitation of this soil for community development. The water table and the rapid permeability in the substratum cause a hazard of ground-water pollution in areas used for septic tanks. Some slopes of excavations in this soil are unstable.

Rippowam fine sandy loam. This soil is nearly level and poorly drained. It is on the lowest parts of the flood plains of major streams and their tributaries. Slopes range from 0 to 3 percent. Typically, the surface layer is very dark gray fine sandy loam 7 inches thick. The subsoil is dark brown, grayish brown, and dark grayish brown, mottled fine sandy loam 28 inches thick. The substratum is grayish brown and gray gravelly sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of moderately well drained Pootatuck soils, poorly drained Leicester soils, and very poorly drained Saco soils. Also included are a few large areas with a surface layer and subsoil of silt loam. Included areas make up about 20 percent of the unit.

This Rippowam soil has a seasonal high water table at a depth of about 10 inches from fall through spring. The soil is subject to frequent flooding, mainly from fall to spring. It has moderate or moderately rapid permeability in the surface layer and subsoil and rapid or very rapid permeability in the substratum. Runoff is slow. The soil has moderate available water capacity and is very strongly acid to medium acid.

Drained areas of this soil are suited to cultivated crops. The seasonal high water table causes the soil to dry slowly in the spring, often delaying planting and making undrained areas poorly suited to cultivation.

The soil is suited to woodland, but the water table causes a high rate of seedling mortality and restricts the use of some types of harvesting equipment for part of the year.

Frequent flooding and the seasonal high water table are major limitations of this soil for community development. Steep slopes of excavations in this soil are unstable, and lawns are soggy from fall through spring. The rapid permeability in the substratum causes a hazard of ground-water pollution in areas used for septic tanks.

Saco silt loam. This soil is nearly level and very poorly drained. It is on the low parts of the flood plains of major streams and their tributaries. Typically, the surface layer is black silt loam about 14 inches thick. It is mottled in the lower 4 inches. The substratum extends to a depth of 60 inches or more. The upper part is mottled, dark gray silt loam, and the lower part is gray stratified sand and gravel.

Included with this soil in mapping are small areas of poorly drained Rippowam and Leicester soils and very poorly drained Adrian, Whitman, and Palms soils. Also included are a few areas that have a sandy substratum at a depth of less than 40 inches. Included areas make up about 25 percent of the unit.

The water table in this Saco soil is at or near the surface during most of the year, and the soil is subject to frequent flooding. The soil has moderate permeability in the surface layer and upper part of the substratum and rapid or very rapid permeability in the lower part of the substratum. Runoff is slow. The soil has high available water capacity and is strongly acid to medium acid above a depth of 40 inches and medium acid to slightly acid below 40 inches.

Flooding and the high water table make this soil generally unsuitable for most uses other than as wetland wildlife habitat.

Scarboro fine sandy loam. This soil is nearly level and very poorly drained. It is in low depressions of outwash plains and terraces. Slopes range from 0 to 2 percent. Typically, the surface layer consists of 4 inches of black muck over a 14-inch layer of very dark gray, black, and dark grayish brown fine sandy loam and sandy loam. The substratum is grayish brown loamy sand and sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of poorly drained Walpole soils and very poorly drained Adrian and Palms soils. Included areas make up about 10 percent of the unit.

This Scarboro soil has a seasonal high water table at or near the surface from fall until late spring. The soil has rapid permeability in the surface layer and very rapid permeability in the substratum. Runoff is slow, and water is on the surface of some areas. The soil has low available water capacity and is very strongly acid to medium acid.

The seasonal high water table makes this soil unsuited to cultivated crops and poorly suited to woodland. The water table restricts the use of equipment and causes a high rate of seedling mortality. The water table is also a major limitation for community development.

Windsor loamy sand, 0 to 3 percent slopes. This soil is excessively drained and nearly level. It is on glacial outwash plains and terraces. Typically, the surface layer is dark brown loamy sand 7 inches thick. The subsoil is dark yellowish brown and yellowish brown loamy sand 25 inches thick. The substratum is light olive brown sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of excessively drained Hinckley soils, somewhat excessively drained Merrimac soils, well drained Agawam soils, and moderately well drained Sudbury soils.

This Windsor soil has low available water capacity and rapid or very rapid permeability. The water table commonly is at a depth of more than 6 feet. Runoff is slow. This soil is very strongly acid to medium acid in the surface layer and subsoil and very strongly acid to slightly acid in the substratum.

This soil is droughty, but irrigated areas are well suited to cultivated crops. The soil warms early in the spring. Minimum tillage, cover crops, and returning crop residue to the soil help maintain tilth in cultivated areas.

Droughtiness makes this soil poorly suited to woodland. The rate of seedling mortality is high, and productivity is low.

The rapid permeability in this soil causes a hazard of ground-water pollution in areas used for onsite septic systems. Steep slopes of excavations in this soil are unstable.

Windsor loamy sand, 3 to 8 percent slopes. This soil is gently sloping and excessively drained. It is on glacial outwash plains and terraces. Typically, the surface layer is dark brown loamy sand 7 inches thick. The subsoil is dark yellowish brown and yellowish brown loamy sand 25 inches thick. The substratum is light olive brown sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of excessively drained Hinckley soils, somewhat excessivley drained Merrimac soils, well drained Agawam soils, and moderately well drained Sudbury Soils. Included areas make up about 20 percent of the unit.

This Windsor soil has low available water capacity and rapid or very rapid permeability. The water table commonly is at a depth of more than 6 feet. Runoff is slow. This soil is very strongly acid to medium acid in the surface layer and subsoil and very strongly acid to slightly acid in the substratum.

This soil is droughty, but irrigated areas are well suited to cultivated crops. The soil warms early in the spring. Minimum tillage, cover crops, and returning crop residue to the soil help to maintain tilth in cultivated areas.

Droghtiness makes this soil poorly suited to woodland. The rate of seedling mortality is high, and productivity is low.

The rapid permeability in this soil causes a hazard of ground-water pollution in areas used for onsite septic systems. Steep slopes of excavations in this soil are unstable.

FOREST RESOURCES

The parcel may be divided into six vegetation types. These include a softwood stand of 5 acres, 17.5 acres of mixed hardwoods, old fields of 5 acres, softwoods/hardwoods of 20 acres, hardwood swamp/streambelt of 20.5 acres and 45 acres of agricultural fields. An additional 17.3 acres of gravel bank and 2.2 acres of open water make up the property.

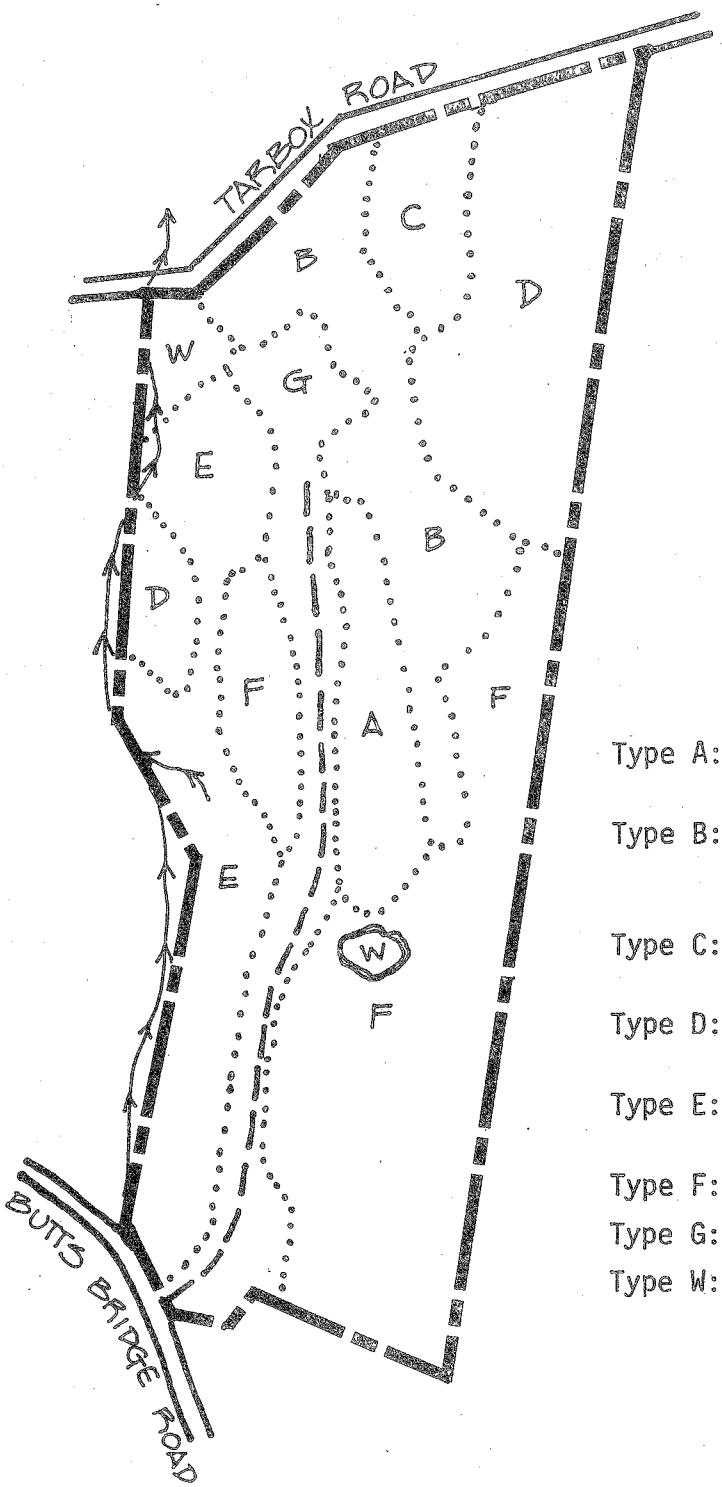
Type A - This 5 acre understocked to fully stocked pure white pine stand consists of medium to high quality pole to large sawtimber trees. The wide range of stocking and size composition is due to recent cutting. The understory is open with some white pine seedlings which germinated during the past spring. Their survival will be dependent upon adequate soil moisture. Volumes per acre vary from 15,000 board feet in the uncut portion to 750 board feet in the cut-over portion.

Type B - An overstocked mixed hardwood stand of 7 acres occupying a gravel ridge, this stand contains pole to small sawtimber size scarlet oak, white oak and red maple. Dogwood is also present. White oak and white pine seedlings are abundant along with ferns, huckleberry and blueberry. An additional 10.5 acres of this vegetation type have been or are being clearcut.

Type C - This 5 acre old field developed after repeated fires. The primary forest cover is multi-stemmed bear or scrub oak approximately 5-6 feet tall. This cover is almost impenetratable. Other species found are seedling to pole-sized white pine, pitch pine, red maple, aspen, scarlet oak, white oak and grey birch. Sweet fern and blueberry are also present.

Type D - Pole to small sawtimber-size white oak, scarlet oak, white pine, pitch pine and aspen compose these fully stocked stands totalling 20 acres. White pine, white oak and bear oak reproduction are present along with ground pine, huckleberry, and blueberry.

Vegetation



LEGEND

- PROPERTY BOUNDARY
- ACCESS ROAD
- VEGETATION TYPE BOUNDARY
- STREAM
- POND

VEGETATION TYPE DESCRIPTIONS*

Type A: Softwoods, 5 acres, variably stocked (partially cut) pole to small sawtimber.

Type B: Mixed hardwoods, 17.5 acres, variably stocked (partially cut), pole to small sawtimber.

Type C: Old field, 5 acres, fully stocked, seedling to pole size.

Type D: Softwoods-hardwoods, 20 acres, fully stocked, pole to small sawtimber.

Type E: Hardwood swamp/streambelt, 20.5 acres, variably stocked, pole to small sawtimber.

Type F: Fields, 45 acres.

Type G: Gravel bank, 17.3 acres.

Type W: Open water, 2.2 acres.

* Seedling size: Trees less than 1" diameter at 4½' above the ground (DBH).
Sapling size: Trees 1 to 5" DBH.
Pole size: Trees 5 to 11" DBH.
Sawtimber size: Trees 11" DBH and greater.

Type E - A variably stocked hardwood swamp/streambelt, this stand of 20.5 acres has some areas of open water. It contains pole to sawtimber-size red maple with occasional American elm and white ash. Trees in this area are poor in quality. A dense understory of highbush blueberry, spicebush and swamp azalea is present. The ground cover is formed by sphagum moss, ferns and skunk cabbage.

The proposed utilization of the forested portions of the property for industrial, municipal, or recreational development will impact the vegetative cover negatively, dependent upon the extent of clearing.

The extent of vegetation losses will depend upon the type and magnitude of development. Removal of all woody vegetation from roads, parking areas, building sites and the possible pond site will be necessary. If a recreation development is created on an area, removal of some vegetation to open up picnic areas and trails to increase sunlight and air flow must be considered. Clearing operations should, if possible, remove only the lowest quality trees and those which are a hazard to area users. The healthier, more vigorous trees should be retained, where possible, for their high aesthetic value.

In the industrial park, buffer strips of trees, both softwoods and hardwoods, together with lesser vegetation should be retained or created between each industrial site and between the industrial park and other uses for screening and noise reduction. Care should be exercised during the construction period not to disturb or damage the trees that are to be retained. Construction practices may disturb the balance between soil aeration, soil moisture level and soil composition. These disturbances may cause a decline in tree health and vigor, resulting in tree mortality within three to five years. Mechanical injury may cause the same results. Dead trees reduce the aesthetic quality of an area and may become hazardous and expensive to remove if near roads, buildings and utility lines.

Mitigating Measures/Management Practices

The trees which are removed during clearing operations for the development should be utilized for sawtimber, fuelwood and woodchips. Trees that are to be removed should be marked to lessen the likelihood of removing desirable trees, especially in recreation areas.

Dead and dying trees, which have the potential to be hazardous to users of the facilities, should be removed and where possible utilized for the highest value use.

Any trails or picnic areas should be well defined and clearly marked. This should limit extensive soil compaction, techanical root injury and trampling of herbaceous vegetation outside the trail system and picnic area. Detrimental soil compaction may be reduced by spreading woodchips several inches deep along heavily used trails and in picnic areas. As the woodchips rot, they lose effectiveness and must be replaced. Crushed stone or cinders will also reduce soil compaction and while more permanent, they are usually more costly.

Eventual loss of some trees caused by soil compaction is unavoidable. As these trees die, they should be removed to prevent a possible hazard.

Management of Vegetation Type A will depend upon the results of the present logging operation. As of 19 August 1982, this stand had cut and uncut portions. In conversation with the logger, it was learned that he intends to cut the remainder.

In the cut portion of the stand, all sawtimber-size trees have been harvested. The remaining trees are the slower growing pole-sized trees having wide sail-like crowns which are highly susceptible to wind damage. All damaged trees and all resulting mortality should be removed. If adequate regeneration does not occur within 3 years then white pine seedlings should be planted among the poles. The poles should be removed in 10-15 years.

If any uncut areas remain, remove the culls and such undesirable trees as crooked and damaged trees. Lightly thin the small sawtimber-sized trees (12"-14" D.B.H.).

The skid trail through this stand should be backbladed and waterbars installed at appropriate intervals to prevent soil erosion.

Vegetation Type B should be thinned slightly heavy by removing the cull sawtimber size trees together with the cull and undesirable poles. Also harvest all sawtimber larger than 16" D.B.H. Approximately 6 cords per acre and 750 board feet per acre can be harvested. If any large openings are created by the removal of the culls, white pine seedlings should be planted to reinforce the stand.

White pine seedlings could also be planted in any openings in Vegetation Type C or the stand could be left as is.

The culls and undesirable growing stock should be removed from Vegetation Type D, favoring the white pine. The expected yield per acre would be 600 board feet and 5 cords. Where stocking is light or holes are created, white pine seedlings should be planted.

Vegetation Type E is inoperable due to a high water table. This stand is also a possible site for a proposed recreational pond. Clearing for the pond would yield 19-24 cords per acre. Windthrow around the edges of the clearing is to be expected due to a weakening of the stabilizing root mat.

Long term management of Vegetation Types B and D should be aimed at increasing the percentage of softwoods in these stands. Softwoods are preferred on a dry site because, unlike hardwoods, their growth is completed before the occurrence of a late summer drought. Seedlings for forest plantings are available from the State Forest Tree Nursery.

A public service forester or private consultant forester should be contacted to help select the trees to be removed in the thinnings if they are agreed upon. Revenue from these thinnings will more than cover consultant costs.

WILDLIFE

One of the main attractions of this property is the variety of wildlife habitat either presently or potentially buffered from disturbed areas. Wildlife, compatible with light industry or municipal buildings, could be encouraged and attracted to the area by careful landscaping around buildings and by manipulation and management of the adjacent woodlands, cropland, and swamps.

The partially wooded swamp along the western boundary of the property offers good habitat enhancement potential. Opening up the southern end of this area would provide open water for dabbling ducks and amphibious wildlife. The area could be made more attractive for humans also. If a school was built on the property a pond and marsh could be used for nature studies. Wildlife plantings could be put into the small field adjacent to the swamp at its southern edge.

Ideally the mature pine woods on the eastern side should be retained and managed for timber. An attractive pine grove could be created. This forest type would serve primarily as a shelter for birds. Certain rodents and birds will feed on the pine cones. The pines would serve as a buffer between developed areas and adjacent property.

The decidious woods along the north boundary and Tarbox Road could be improved for wildlife by selective thinning allowing sunlight to penetrate and encourage seedling sprouting. Varying heights and species of plants encourages wildlife use. Softwood (coniferous) trees might be underplanted back from Tarbox Road to provide winter cover and perhaps future timber.

The kettlehole in the northeast corner of the property is interesting geologically and biologically. This area, buffered by the now-existing natural esker running north

to south, has an abundance of blueberries, blackberries, various brambles, gray birch, scrub oak, pitch pine, and aspen. These provide good wildlife food and cover for deer and other animals. Although the trees on the esker have been removed and it may be excavated for sand and gravel - if possible - retaining this natural earth buffer is desirable. It, together with the kettlehole, provide a uniquely separate area. For environmental education purposes trails and even a student-planted wildlife food plot could be developed in the area.

FISH

Presently the fisheries requirements are very limited for the property proposed for development. The hardwood swamp on the property's eastern edge is the best location to construct a pond. The low rate of water flow would limit its use for such purposes as swimming, though it would enhance the area for wildlife and provide a limited amount of warm water fishing. If a pond is constructed, care must be taken to prevent nutrients from entering the pond from any septic disposal unit. Otherwise algae and rotted aquatic plants will cause constant problems affecting fishing and visual aesthetics adversely.

If the area is used for industry, excessive runoff carrying oil, grease, silt, and salt from asphalt parking lots could have a very negative effect on adjacent wetland soils. Runoff should be allowed to diffuse within buffer strips of vegetation preserved along the wetlands edge.

WATER SUPPLY

As discussed in the Hydrology section of this report, the Romanella property is underlain by stratified drift deposits that have a moderate water-supply potential. However, the fine-grained materials which appear to form the bulk of the deposits at depth may preclude the development of a satisfactory well in many parts of the site. Test holes will need to be drilled in different areas to assess the adequacy of the deposits for water supply. If coarse-grained layers of substantial thickness are present at depths of 40 feet or more, there is a good potential for a well yield in excess of 100 gallons per minute. Such high yields should adequately serve the needs of most industries or of municipal facilities such as schools.

If only small yields (less than 10 gallons per minute) are needed for the ultimate users of the site and the stratified drift proves unsuitable for wells, bedrock under the site should be a satisfactory water source. Approximately 90 percent of the bedrock wells surveyed for Connecticut Water Resources Bulletin No. 8 (Quinebaug River Basin) yielded at least 3 gallons per minute. Small yields can be offset in many cases by the provision of storage capacity, either within the well itself or in storage tanks. Yields of 50 gallons per minute or more from bedrock wells are unusual and should not be anticipated.

The main sanitary consideration with any type of well water supply, should be the proper location of a well site. A site should provide protection from possible sources of pollution by a combination of sufficient separating distance and a location which would be away from the normally expected flow of groundwater and contaminants introduced by subsurface sewage disposal systems, agricultural and industrial wastes, etc. Because the demands on and the pumping rate (yield) of individual drilled (rock) wells, a marked increase in the separating distance from pollution sources, in-

cluding control of land surrounding a well, is needed. These distances may vary from 150-200 feet or even greater depending upon pertinent factors. Individual water supply wells which are sealed into underlying bedrock are typically capable of supplying small but reliable yields of groundwater. They also allow more flexibility in placement and generally afford greater protection from surface or near surface contamination assuming proper installation.

Industrial development can be a serious source of surface and/or groundwater pollution problems if proper precautions and care in operations are not taken. Certain types of organic compounds, gasoline or other hydrocarbons, chemical substances, can render water unusable for potable purposes. Of course there are many types of industrial uses and light industry would probably have no more impact on water resources than from a medium to low residential development. A great deal would or could depend upon the nature of the particular industries or other projects that would be involved. Recreational pursuits would probably present a minimum of concern. In reviewing the site to surrounding properties it is noted that north of the site and Tarbox Road there is a private refuse disposal area near the Quinebaug River. It appears this activity is within the general watershed area and that drainage would be towards the river where dilution would be the greatest.

The quality of groundwater at the subject property should be satisfactory. The installation of one or several test wells, however, would provide more specific information on underlying soils and expected yields and would also allow samples to be taken for laboratory analysis. The latter in turn would indicate whether minerals, particulary iron and/or manganese, where sufficiently elevated to require future water treatment.

WASTE DISPOSAL

The town of Canterbury does not have public sewerage facilities, therefore, the property in question would be served by on-site subsurface sewage disposal facilities. Individual systems would probably be provided for buildings although a central system (s) may be a possibility if technical reasons and/or site limitations indicate this would be a preferred method.

Soil mapping data and visual observations generally indicate that most of the property consists of well drained sandy and gravelly soils. This is borne out by the sand and gravel operations which have taken place along with indications that quantities of such materials remain in other areas of the property. The land itself appears suited for a number of purposes ranging from recreational to residential to possible industrial development. However, well drained coarse soils which are also conducive to larger than average underlying aquifer areas, are also know to have rapid seepage and in turn may not have the ability to provide for good filtration and renovation of septic tank effluent or other types of pollutants although some types are not readily removed or broken down. Ultimate dilution and dispersion in the groundwater may occur where concentrations, hopefully, will not cause any significant or potentially harmful degree of degradation.

On-site testing should be conducted to determine groundwater levels, if the soil is especially porous (bony gravel having very little fines) and whether there is any shallow underlying bedrock. Although minimum separating distances are required above the maximum groundwater level or bedrock, increasing the vertical distance would provide more treatment area creating better safeguards. Development should also be within the limits of acceptable density as to the capacity of the soil and particularly not to overload the aquifer with too great a volume of sewage waste water discharge. Potential industrial users should be evaluated as to the type of industrial wastes and methods for handling and disposing of such wastes. Certain types of industries

may pose too great a risk for site conditions without the availability of public sewers. Some industries, due to the type of chemicals, manufacturing processes and disposal practices involved, may not be compatible with various existing factors on the site and therefore should be avoided. If the land is developed, engineered design plans for sewage disposal systems should be prepared and submitted to the proper agency for review purposes.

In summary, the property appears to have favorable potential for a possible variety of uses, including the availability of natural resources such as sand and gravel deposits and probably an abundant groundwater supply. However, suitable measures should be incorporated to give reasonable assurance for the protection and integrity of water resources.

LAND USE CONCERNS

The proposed site is partially located within the boundaries of an area identified in the Canterbury Plan of Development as desirable for industry.

Canterbury's current zoning regulations (1976) include detailed provisions for establishing an industrial park. The regulations specify a 45 acre minimum, which is more than adequately satisfied by the proposed site. The site also conforms with an "access to state highways" provision of the zoning regulations, with direct access to the site via State Route 668. However, another requirement of the zoning regulations for an industrial park states that "... at least 50% of the land must contain soils classified as either well drained or moderately well drained by the Soil Conservation Service of the USDA." The proposed site does not meet this requirement, as about 99% of the area is classified by USDA as either excessively drained or poorly drained.

The proposed site has a groundwatr classification as assigned by the Connecticut Department of Environmental Protection (DEP) of "Class GA." This classification is assigned to land from which private drinking water may be supplied without treatment. Under this classification, DEP will permit only the following discharges:

- domestic sewage
- wastes from acceptable agricultural practices
- backwash from public drinking water treatment systems
- septage or other wastes of predominantly human or animal origin
- effluents containing substances of natural origin or materials which easily biodegrade in the soil system and pose no threat to untreated drinking water supplies drawn from the groundwater (outside any zone of influence)

Under the above criteria, the only industries which would be permitted by DEP at the proposed site would be very light industries such as warehousing.

The town could apply to DEP for a change in the classification, as the site does border a Class GB area. Class GB areas can be permitted to receive certain treated industrial process waters which are not permitted in Class GA areas. Some of the industries which are included in the Canterbury zoning regulations would not be permitted in a Class GA area, but would most likely be permitted in a GB area.

There is relatively little pre-existing development surrounding the proposed site, especially in the town of Canterbury. The site is surrounded by wetlands which preclude intensive development. The town of Plainfield borders the site on the east; and there is very little development on the Plainfield side with the exception of a small subdivision within 330' of the proposed site. If Canterbury does decide to develop an industrial park at that site, it should take into consideration the location of the industries at a sufficient distance from the homeowners to avoid antagonizing residents of the Plainfield subdivision.

ROADS/TRAFFIC CONCERNS

Access to the proposed industrial park site is generally good. Interstate Route 52 provides the main access by road, with state routes 12 and 668 providing direct access to the site from Route 52. State Route 12 currently has a low traffic count (about 3500 vehicles/day average), and the addition of industrial park traffic would have minimal impact. State Route 668 has an even lower traffic count (about 1000 vehicles/day.)

An active rail line is located less than 1/4 mile from the site (at the closest point), thus providing the possibility of a rail spur if needed.

There are three international airports within a two-hour drive of the site - Logan in Boston, Bradley in Hartford, and Green in Providence.

The Connecticut Department of Transportation has prepared a Geometric Characteristics Index which evaluates state routes for their adequacy with regard to roadway width, horizontal curvature, and sight distances. This index is useful for determining the relative inadequacy of existing highway sections in terms of physical features with the most effect on traffic capacity, safety and efficiency. The ratings range from 0 to 100, with a score of 50 indicating minimal adequacy. Very low ratings indicate severe deficiency.

Route 12 from the Route 52 interchange to Route 668 has two evaluated sections: (A) Route 52 to Bishop's Crossing Road and (B) Bishop's Crossing Road to 668. Width ratings for sections A & B are 41 and 56; curve ratings are 100 and 73; and sight distance ratings are 85 and 0. Connecticut Department of Transportation also provides an overall rating for the state roads which take into account traffic usage as well as the above standards. For this index, a rating of 77 is considered threshold adequacy. The two sections of Route 12 received ratings to 70 and 11, respectively.

RECREATIONAL POTENTIAL

The Romanella property has enough suitable building land to accommodate most of the desired Town uses. If the parcel is selected for purchase, the Town would like to persue immediate industrial development. The presently excavated area is well suited to industrial development. With an on-going gravel extraction operation, development of the industrial park would, of necessity, be a phased operation. The amount of gravel which can be removed will, in large part, depend on the water table depth. Sufficient over burden must be maintained to allow establishment of building foundations and installation of underground utilities and septic fields.

There are a number of suitable sites on the tract for town offices, public works garages, recreation facilities and school buildings. School buildings would ideally be segregated from the industrial park and away from the traffic servicing that complex. The geographical location of the tract, at the extreme southeast corner of town, may not be ideal for either schools or town offices, but the property certainly has the capability of accommodating these uses.

The property is accessible from the north by Tarbox Road and from the south by Butts Bridge Road. Tarbox Road is unpaved at the area where the tract fronts on it. The parcel is further bounded by a wetland on its west and by the Plainfield town line on its east. The gravel mining operation is occurring on the western half while the eastern half is made up of woodland and cornfields. A dwelling and associated outbuildings lie on the southern portion and are shown on the map as being a part of the property rather than privately owned. The bulk of the woodland lies on the northeastern part of the parcel and would be suitable for recreational activities such as picnicking, camping, and trail uses such as hiking, jogging, parcourse (exercise stations), and nature study.

Approximately one-third of the tract is composed of agricultural fields with most of this component lying in the southeastern portion of the tract. The westernmost cornfield, lying between the wetland comprising the western boundary and the gravel road through the tract, could be easily converted into a ballfield. Even if not a part of a town recreation complex, it would be a desirable component of an industrial park.

The separation of a school or schools from the industrial park component may be achieved by proper siting ,road layout, and to a lesser degree by effective landscaping. The danger and distractive noise posed by high traffice volume can be reduced by the use of cul-de-sacs, limited access and/or separate access roads. If Tarbox Road becomes a point of access to the property as might be the case if a school is located on the northern portion of the tract, it would need to be widened and paved. Access to town offices on the south end of the property and an industrial park in the gravel excavation area, could be provided by an upgraded road (possibly a cul-de-sac) coming off Butts Bridge Road.

The flat low area situated near the northeastern corner of the property appears suitable for a school and associated ballfield(s). The agricultural fields would also lend themselves to this use. Preservation of prime agricultural land should be a primary consideration however and whenever possible it should be kept in agricultural production. Using the northeastern part of the tract for school and recreation development, and the excavated area for the industrial park would permit agricultural production to continue. The Hinckley soils are suitable for locating structures, roads, and ballfields. Their use for these functions would not deplete the prime farmland needlessly. Establishing town offices and a public works garage on the south end of the property or in the industrial park would further complement that plan.

The ridge which runs roughly north to south located in the north central part of the tract is apparently targetted for gravel extraction and eventual elimination as a terrain feature. The trees have been removed from most of it. This ridge would have offered a natural separation between the proposed industrial park site (present gravel excavation) and the proposed school site. When gravel extraction is completed, a buffer of vegetation, in the form of planned evergreens such as white pine or spruce could afford a visual barrier and limited sound screening, thereby providing better isolation of these use zones from each other.

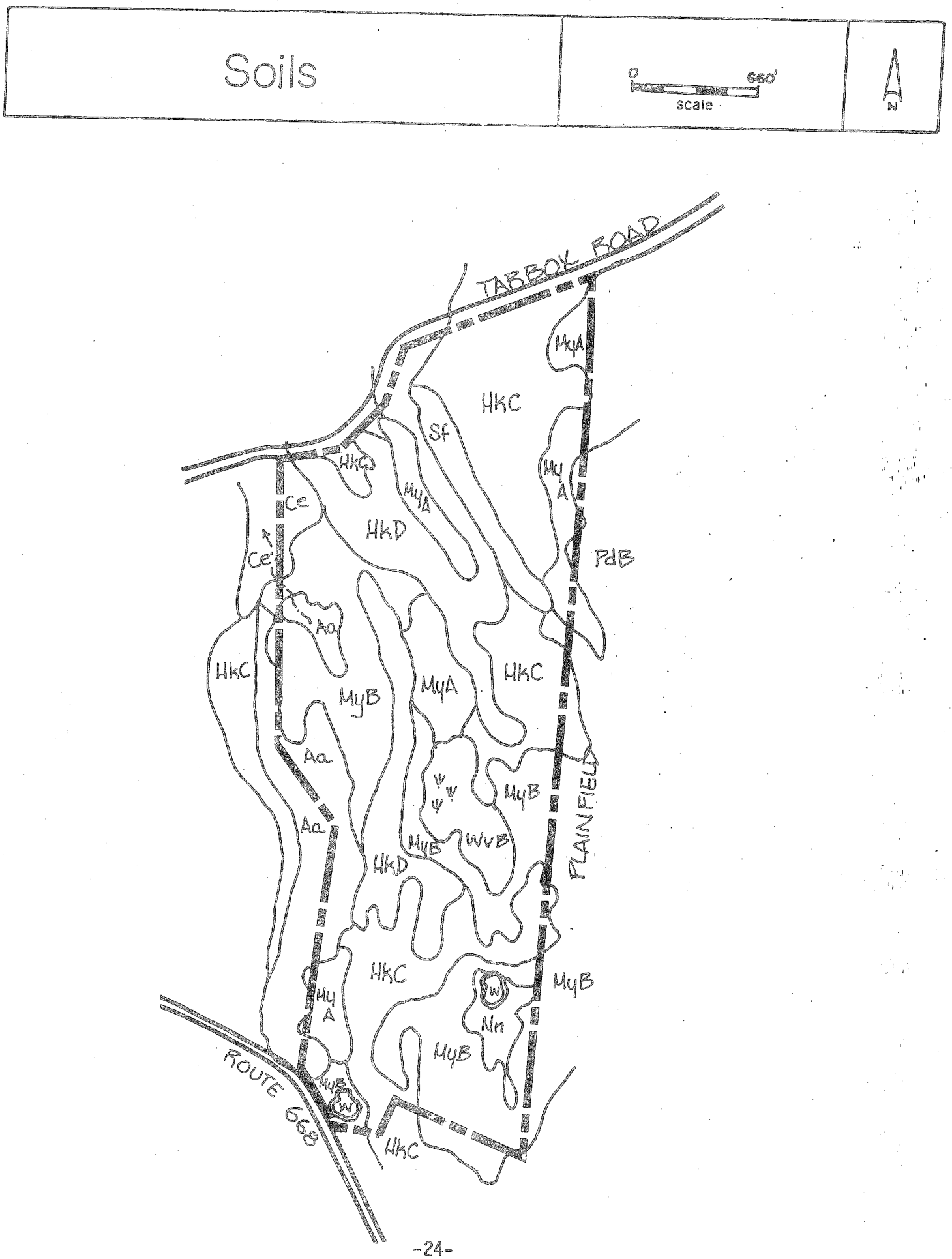
The existing stand of white pine located on the east side of the gravel access road and approximately in the middle of the property could become an attractive picnic grove. Some tree thinning has been undertaken here. Some of the remaining trees have been badly debarked in the cutting operation and may eventually die. However, retention of this grove of trees is desirable from an aesthetic and recreation potential standpoint. It is the only pine stand remaining on the property and would be ideal for picnic use. Since most of the industrial park will not be forested (at least initially), this site would provide some variety and offer a shaded outdoor spot for employees of the industrial park to enjoy their lunch. Operation of such a picnic area by either the town or the industrial park complex would determine where responsibility for its maintenance would lie.

A foot trail network throughout the entire tract (utilizing the industrial park as well) would afford jogging opportunities to industrial park employees and cross-country track opportunities to students.

The proposal offered presupposes that an industrial park will be a feature of this tract. If that does not accur, the recreation potential for the property will be greater.

Appendix

Soils


0
660'
scale
N
TARBOX ROAD
MyA
HkC
Sf
HkD
MyA
MyA
Ce
Ce
HkD
PdB
Aa
HkC
MyB
MyA
HkC
Aa
MyB
Aa
MyB
WvB
HkD
PLAINFIELD
HkC
MyA
W
Nn
MyB
MyB
ROUTE 668
MyB
W
HkC

Romanella Property

Canterbury, Conn.

Principal Limitations and Ratings of Soils for:

RECREATIONAL DEVELOPMENT

Soil Name and Map Symbol	Camp Areas	Picnic Areas	Playgrounds	Paths and Trails	Golf Fairways
*Aa Adrian	Severe; ponding, excess humus	Severe:ponding, excess humus	Severe:ponding, excess humus	Severe; ponding, excess humus	Severe: excess humus, ponding
Palms	Severe:ponding, excess humus	Severe; ponding, excess humus	Severe: ponding, excess humus	Severe: ponding, excess humus	Severe: ponding, excess humus
*Ce Carlisle	Severe: ponding, excess humus	Severe: ponding, excess humus	Severe: excess humus, ponding	Severe: ponding, excess humus	Severe: excess humus, ponding
HkC Hinckley	Severe: small stones	Severe: small stones	Severe: slope, small stones	Slight	Severe:small stones
HkD Hinckley	Severe: slope, small stones	Severe: slope, small stones	Severe: slope, small stones	Moderate: slope	Severe: small stones, slope
#MyA Merrimac	Slight	Slight	Moderate: small stones	Slight	Slight
#MyB Merrimac	Slight	Slight	Moderate: slope, small stones	Slight	Slight
#Nn Ninigret	Moderate:wetness	Moderate:wetness	Moderate:wetness	Moderate;wetness	Moderate:wetness
*Sf Scarboro	Severe: ponding, excess Humus,too sandy	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding, excess humus
WvB Windsor	Slight	Slight	Moderate: slope	Slight	Moderate: droughty

Prime Farmland
* Designated wetland soil by Public Act 155

Romanella Property

Canterbury, Conn.

Principal Limitations and Ratings of Soils for:

BUILDING SITE DEVELOPMENT

Soil Name and Map Symbol	Small Commercial Buildings	Local Roads and Streets	Septic Tank Absorption Fields	Area Sanitary Landfill	Gravel Sources	Drainage
*Aa Adrian	Severe: ponding, low strength, flooding	Severe: ponding, low strength, frost action	Severe: ponding, poor filter, flooding	Severe: ponding, seepage, flooding	☆ Probable	Ponding, subsides, flooding
Palms	Severe: ponding, flooding, low strength	Severe: ponding, frost action, low strength	Severe: flooding, subsides, ponding	Severe: ponding, flooding, seepage	☆ Improbable: excess humus, excess fines	Flooding, ponding, subsides
*Ce Carlisle	Severe: ponding, low strength, flooding	Severe: low strength, ponding, flooding	Severe: flooding, ponding	Severe: flooding, ponding, seepage	☆ Improbable: excess humus	Subsides, flooding, frost action
HkC Hinckley	Severe: slope	Moderate: slope, large stones	Severe: poor filter	Severe: seepage	☆ Probable	Deep to water
HkD Hinckley	Severe: slope	Severe: slope	Severe: slope, poor filter	Severe: slope, seepage	☆ Probable	Deep to water
#MyA Merrimac	Slight	Slight	Severe: poor filter	Severe: seepage	☆ Probable	Deep to water
#MyB Merrimac	Moderate: slope	Slight	Severe: poor filter	Severe: seepage	☆ Probable	Deep to water
#Nn Ninigret	Moderate: wetness	Moderate: frost action, wetness	Severe: wetness, poor filter	Severe: wetness, seepage	☆ Probable	Cutbanks cave

Romanella Property

Canterbury, Conn.

Principal Limitations and Ratings of Soils for:

BUILDING SITE DEVELOPMENT

Soil Name and Symbol	Small Commercial Buildings	Local Roads and Streets	Septic Tank Absorption Fields	Area Sanitary Landfill	Gravel Sources	Drainage
*Sf Scarboro	Severe: ponding	Severe: ponding, frost action	Severe: ponding, poor filter	Severe;seepage, ponding	✯ Improbable: too sandy	Cutbanks cave,frost action
WvB Windsor	Moderate: slope	Slight	Severe: poor filter	Severe: too sandy,seepage	✯ Improbable: excess fines	Deep to water

Prime Farmland

* Designated wetland soil by Public Act 155

✯ For construction materials such as gravel volumes, onsite borings or excavations must be made. The rating of Improbable or Probable is self explanatory.

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 consistant 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 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 activitis. 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 (774-1253), Environmental Review Team Coordinator, Eastern Connecticut RC&D Area, P.O. Box 198, Brooklyn, Connecticut 06234.