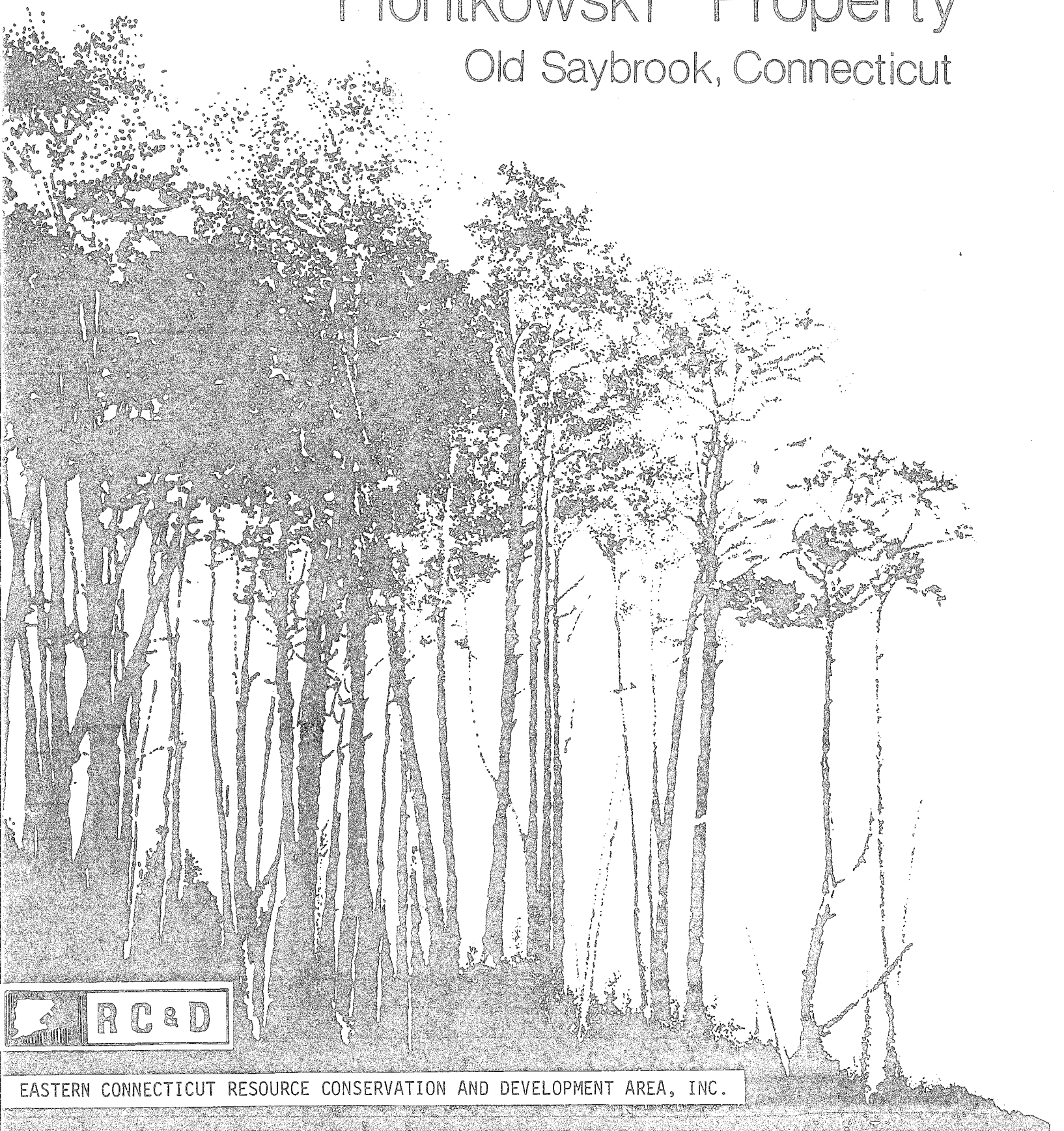
Environmental Review Team Report

Piontkowski Property

Old Saybrook, Connecticut



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EASTERN CONNECTICUT RESOURCE CONSERVATION AND DEVELOPMENT AREA, INC.

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Piontkowski Property

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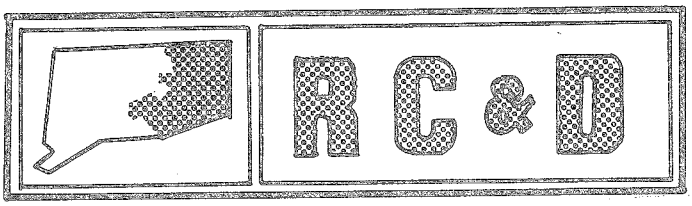
October , 1981

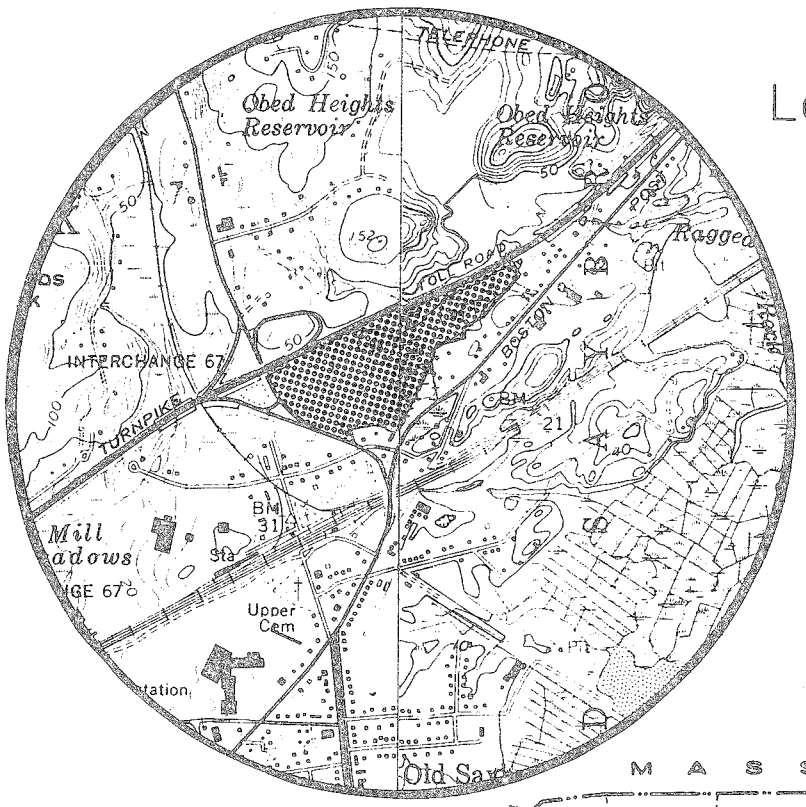


eastern connecticut resource conservation & development area

environmental review team
139 boswell avenue
norwich , connecticut 06360

Location of Study Site

PIONTKOWSKI PROPERTY
OLD SAYBROOK, CONNECTICUT



ENVIRONMENTAL REVIEW TEAM REPORT
ON
PIONTKOWSKI PROPERTY
OLD SAYBROOK, CONNECTICUT

This report is an outgrowth of a request from the Old Saybrook Health Department to the Middlesex 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.

The ERT that field-checked the site consisted of the following personnel: Barry Cavanna, District Conservationist (SCS); Mike Zizka, Geologist, Connecticut Department of Environmental Protection (DEP); Rob Rocks, Forester, DEP; Ed Meehan, Planner, Connecticut River Estuary Regional Planning Agency; Don Capellaro, Sanitarian, State Department of Health; Karl Lutz, Biologist, DEP; and Jeanne Shelburn, ERT Coordinator, Eastern Connecticut RC&D Area.

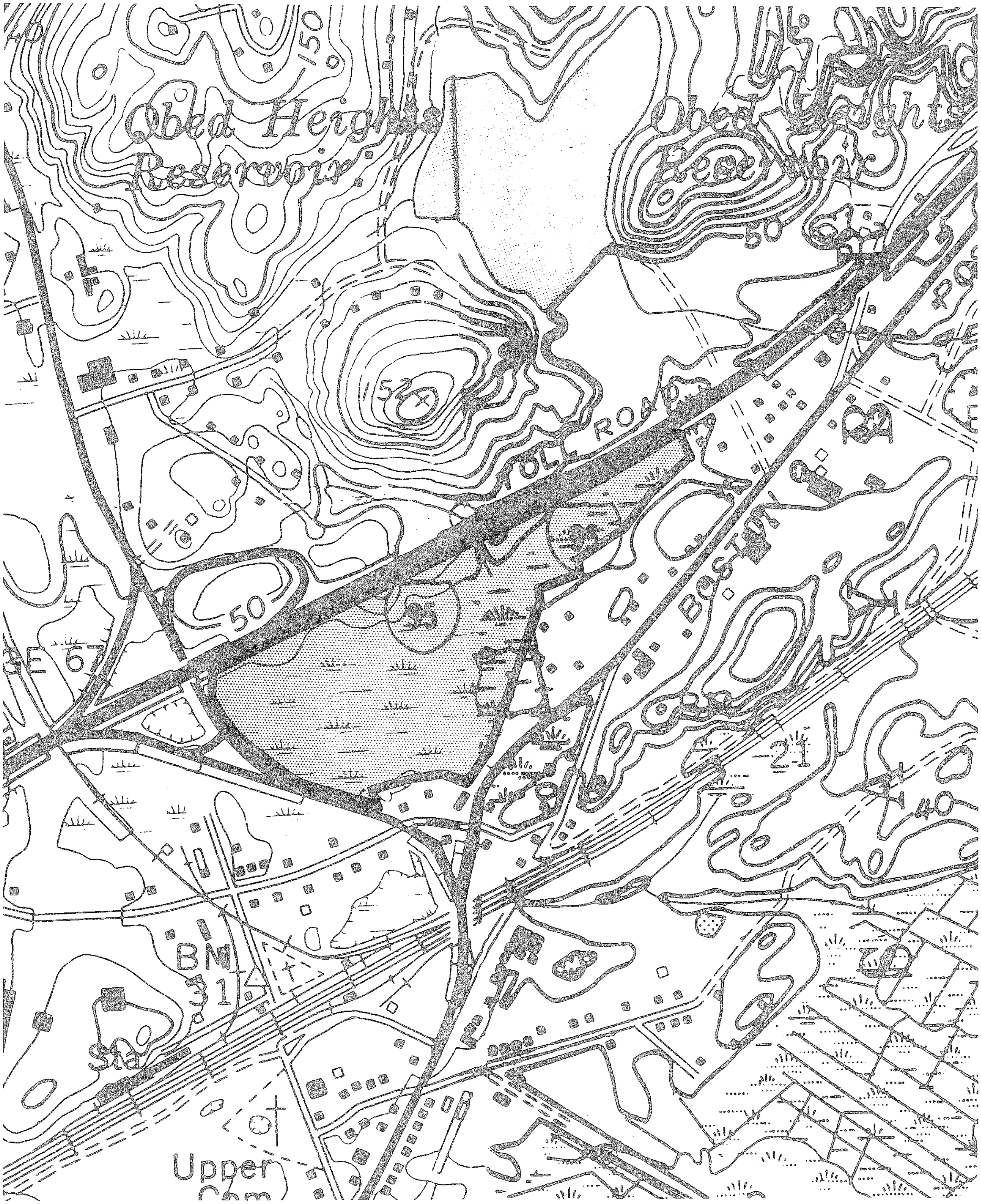
The Team met and field checked the site on Thursday, August 6, 1981. Reports from each contributing Team member were sent to the ERT Coordinator for review and summarization for the final report.

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 Old Saybrook. 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, 139 Boswell Avenue, Norwich, Connecticut 06360, 889-2324.

Topography	Site Boundary	0 660' scale	N



INTRODUCTION

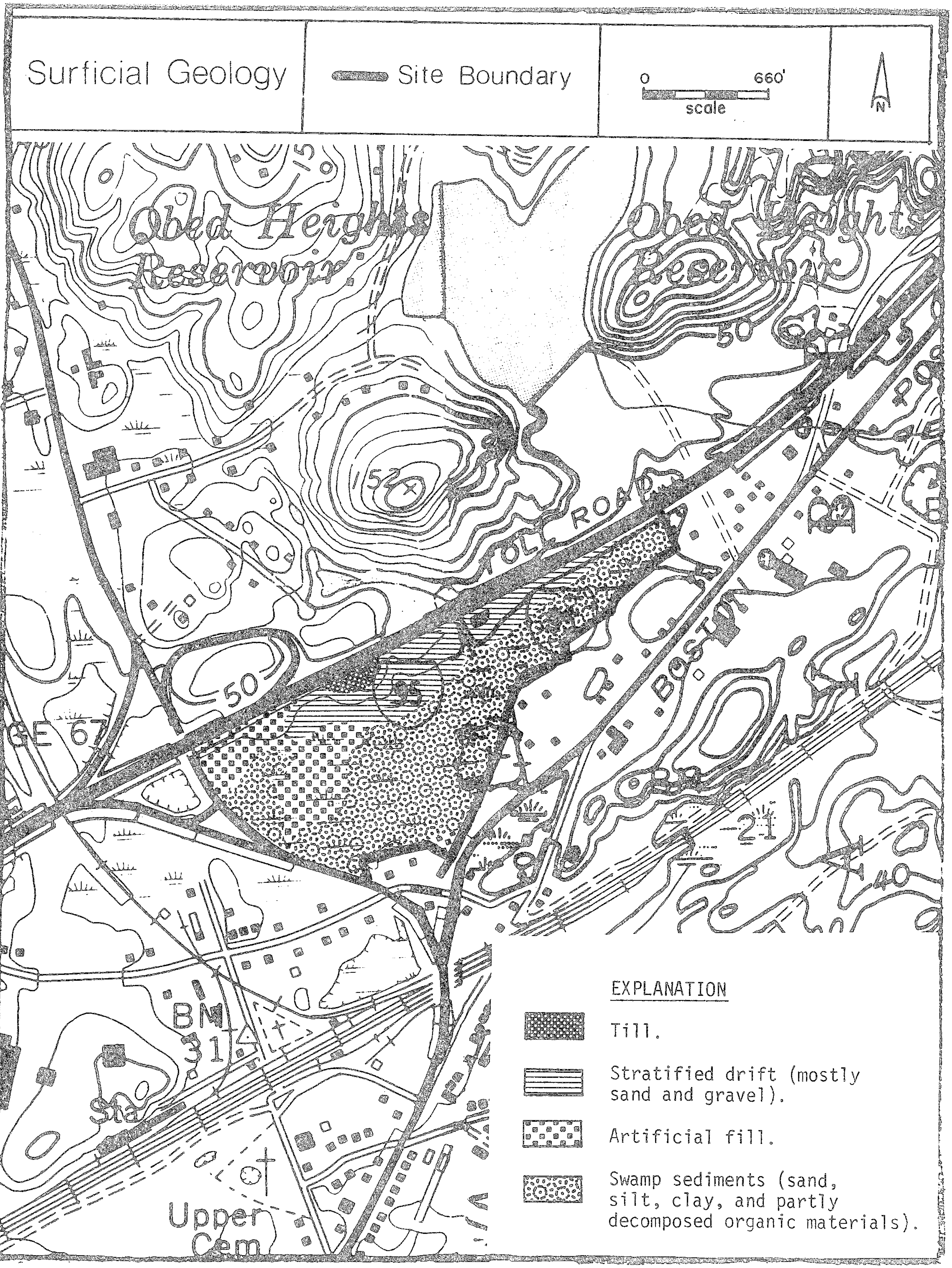
The Eastern Connecticut Environmental Review Team was asked to prepare an environmental assessment for a $35^{\pm}$ acre parcel, located on Route 154 and Boston Post Road in Old Saybrook. The property is presently in the private ownership of Carl Piontkowski, an Old Saybrook resident. Several plans have been proposed for the site, including a potential golf driving range, a drive-in theatre or a shopping center, however, no specific plans for any of these proposals had been prepared as of the date of the field review. The Team was asked to evaluate the site for its best use.

The property is relatively flat. A major portion of the site is in wetland and subject to periodic flooding. The perimeter of the property is forested, central sections have been cleared and filled. Soils typical of the site range from Adrian muck to Charlton-Hollis fine sandy loam.

The Team is concerned with the effect of development on the natural resource base of this site. Although many severe limitations to development can be overcome with proper engineering techniques, these measures can become costly, making a project financially unfeasible for a developer. The major development limitation found on the Piontkowski site is the large wetland-peat deposit which dominates approximately 42% of the property. Peat is an organic deposit which is structurally unstable. Heavy loads on peat can cause compression of the peat and subsidence of the load. Although the subsidence may eventually stabilize, any additional load may cause a further shift. It is generally unwise to build on peat without first excavating to a mineral based soil. A complication on the Piontkowski site is the unknown depth of artificial fill which has already been deposited on top of the peat. All of this material would need to be removed prior to building activity on the site in order to avoid uneven settling of structures and parking areas.

If the wetland area on site is filled, the wildlife habitat which it provides would not only be destroyed, but there will be an increased flooding hazard from additional stormwater runoff. (See Hydrology section of this report for more detailed discussion.) Major planning concerns for any development of this parcel include the amount of traffic generation, the location of curb cuts, intersection capacity and potential expansion of I-95 and the Baldwin Bridge. There is also concern for location of any potential septic system as a municipal sewage system is not available to this site.

Generally, in the Team's opinion, any on site activity not requiring building would be suitable to the site as it would not be affected by the subsidence of fill deposited on the peat. Any recreational pursuits, seasonal activities or a peat removal operation would be suitable to the site in its present condition. Any major construction (shopping complex) on the site should be preceded by peat removal in areas which will be used for development.


Surficial Geology
Site Boundary
0
660'
scale
N
Obed Heights Reservoir
Obed Heights Reservoir
50
520
TOLL ROAD
BOSTON
50
21
40
BM 314
Sta
Upper Cem
EXPLANATION
Till.
Stratified drift (mostly sand and gravel).
Artificial fill.
Swamp sediments (sand, silt, clay, and partly decomposed organic materials).

ENVIRONMENTAL ASSESSMENT

GEOLOGY

Surficial geologic materials (those materials which overlie solid bedrock) are probably the only geological features of concern with regard to the potential development of this site. The surficial materials consist of four major units: stratified drift, till, swamp sediments, and artificial fill. The first two types of deposits are related to the glaciation of Connecticut. Till is composed of rock particles and fragments which were collected by a glacier as it moved across the state, and which were redeposited directly from the ice mass. Till contains a nonsorted mixture of clay, silt, sand, gravel, and boulders. Although till may be sandy and friable near the surface, it is often siltier and very compact at depths of three feet or more. Till is found in a small area of the site along Interstate Route 95.

Stratified drift consists of glacial sediments that were deposited by meltwater flowing from a wasting body of ice. These deposits are generally characterized by sorting (separation of different grain sizes) and stratification (sedimentary layering). Most of the stratified drift in the parcel consists of sand, but gravelly and silty layers are interspersed. A narrow area of stratified drift is exposed along I-95, but the major portion of these materials underlies the swamp sediments and fill.

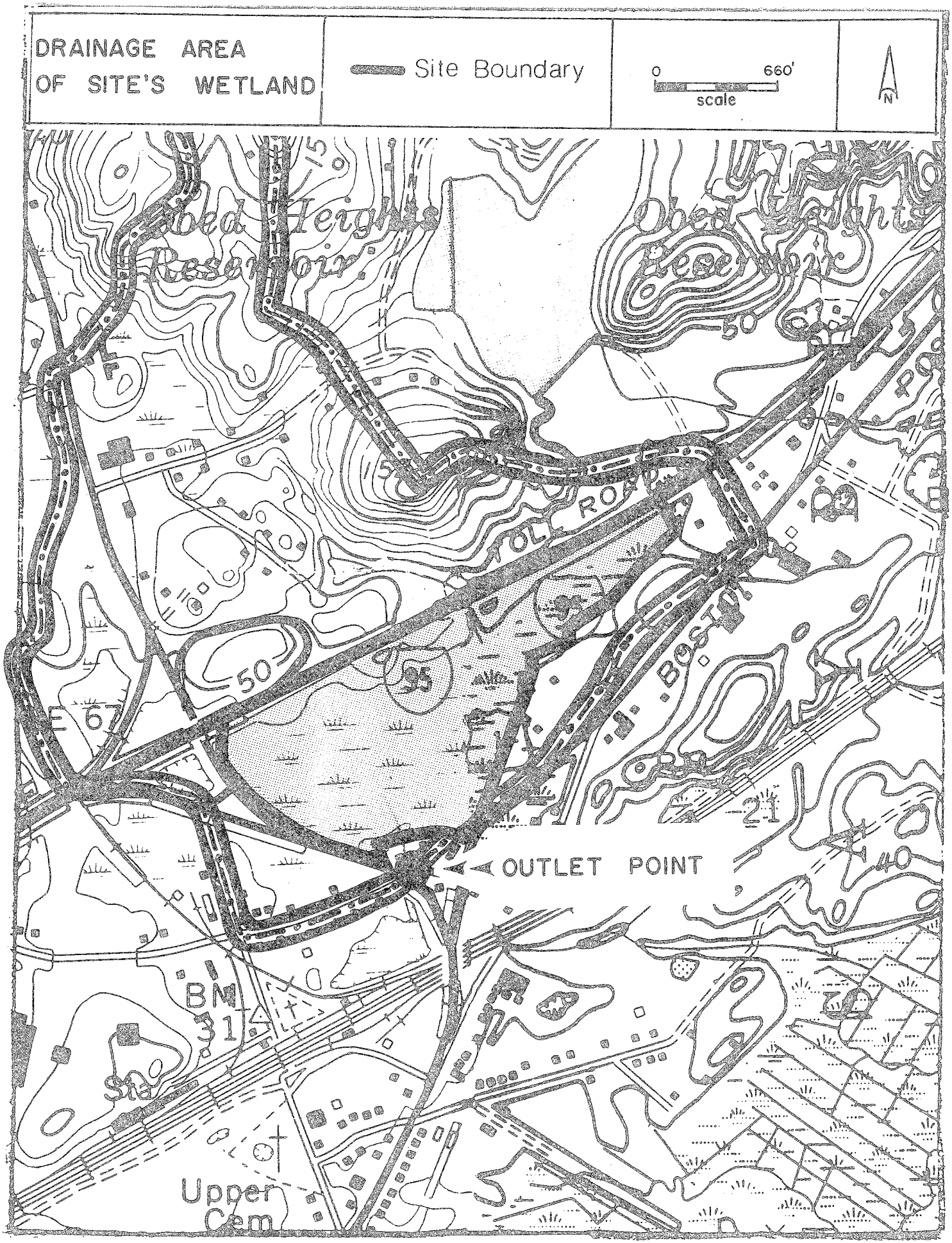
The swamp sediments within the parcel are composed primarily of peat and muck (partly decayed organic materials). Some clay, silt, and sand is mixed with the organics. The thickness of the swamp sediments varies from place to place, but for the south-central part of the site, thicknesses of thirty feet or more have been estimated.

Artificial fill, which appeared to consist mostly of sand and gravel, overlies swamp sediments in some portions of the site. Boring records submitted to the Team showed fill thicknesses of as much as seven feet. One record noted six feet of fill, sand, gravel, and peat overlying nineteen feet of peat.

Peat is structurally unstable. Heavy loads placed on peat are likely to cause compression of the peat and subsidence of the load. Although the subsidence may stabilize after a period of time following the placement of the initial load, further subsidence may occur after a new load is added. For these reasons, it is generally unwise to build on a peaty area without excavating the peat down to a mineral base. This has not been done in the filled areas of the Piontkowski parcel. The Team recommends that any areas suggested for building be re-excavated and the swamp sediments completely removed. On-site activities that would not require building and would not be as greatly affected by subsidence of the existing fill (e.g. a golf driving range) may be acceptable on the site as is.

HYDROLOGY

The principal hydrological feature of the parcel is the wetland, which occupies more than half of the total area. The natural drainage patterns


DRAINAGE AREA
OF SITE'S WETLAND
Site Boundary
0
660'
scale
N
Reservoir
OUTLET POINT
BM
31
Upper
Cem

around the site have been disrupted to some extent by roads, particularly Interstate Route 95, and other man-made features. The Team was unable to study the rearranged surface flow patterns in detail, but a preliminary analysis suggests that the watershed of the wetland on the site is approximately as shown in the accompanying illustration. The size of the watershed is about 200 acres. Two streams flow into the site. One stream flows under I-95 and enters the parcel along the northern border; the other flows under Route 154 near Bickford's Restaurant, enters the parcel along the western border, flows south along that border for about 200 feet and passes under Route 1 at the site's only drainage outlet. The second stream's inlet and outlet each consist of two 48-inch pipes. The stream flows south from Route 1 in an artificial channel, passes under the Amtrak railroad, and flows east into the tidal marshes which border the Connecticut River between North Cove and Ragged Rock Creek.

Wetlands serve several valuable ecological and hydrological functions. Among the most important hydrological functions is the storage of floodwaters and the reduction of peak streamflows. During periods of heavy rainfall or snowmelt, surface runoff that might otherwise be transmitted rapidly through streamcourses accumulates temporarily in the wetland. The percentage of reduction in the peak streamflow varies with the magnitude of the storm, the location of the wetland within the watershed, the area of the wetland in relation to the total watershed area, and other factors. The portion of wetland area remaining in the Piontkowski parcel constitutes approximately 10 to 15 percent of the watershed. It may be estimated that peak flows at the outlet point would be increased by about 92 percent for a 10-year storm and about 54 percent for a 100-year storm if the wetland is filled completely.

Another potentially valuable hydrological attribute of wetlands is their ability to reduce contaminant levels in surface waters. Suspended materials (silt, sand, etc.) may be trapped within the wetlands, while some dissolved materials may be taken up by wetland vegetation. Wetlands, in general, appear to have a buffering effect on surface-water quality. This does not mean, however, that the quality of water will necessarily be improved in <u>all</u> respects after passing through a wetland. Color, acidity, and iron and manganese content may all be increased in the outflowing water.

Wetlands are often valuable for their biological productivity. The availability of water as well as vegetative cover and food sources make wetlands important for the protection of wildlife and of ecological diversity. The relatively large size of the wetland on the Piontkowski site (about 20 acres) and the presence of different habitats (forested, brushy, and cleared) suggest that the site has a significant wildlife value.

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, buildings 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, Middlesex 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.

Soil series typical of this site are described as follows:

Adrian Muck: This nearly level, very poorly drained, organic soil is in low depressions of outwash terraces and glacial till plains. The areas of this soil are mainly round or irregular in shape. Slopes are 0 to 2 percent but are dominantly less than 1 percent.

Typically, this soil has an organic layer 24 inches thick. The upper 8 inches of the organic layer is very dark brown muck, the next 12 inches is black muck, and the lower 4 inches is very dark grayish brown muck. The substratum is dark gray gravelly sand to a depth of 60 inches or more.

Included with this soil in mapping are small, intermingled areas of very poorly drained Carlisle, Saco, Whitman, and Scarboro soils. Included areas make up 5 to 20 percent of this map unit.

The permeability of this soil is rapid. The soil has moderate to high available water capacity. Runoff is very slow or ponded. This soil remains wet most of the year and is ponded for several weeks from fall through spring and after heavy rains in summer. Unlimed areas are very strongly acid to neutral in the organic layers.

This soil is poorly suited to cultivated crops because of wetness. Most areas are difficult to drain. If drained, the soil can be used to grow vegetables, but the water table needs to be carefully maintained to minimize subsidence and prevent excessive loss of organic material. If the soil is cultivated, cover crops are needed to prevent wind erosion.

This soil is poorly suited to trees, but most of the soil is wooded primarily with red maple, ash, and alder. Other common types of vegetation are sweet pepperbush, blueberry, viburnum, cinnamon fern, and royal fern. The use of equipment is difficult on this soil because of wetness. The soil has a severe windthrow hazard because the roots of trees are restricted by the high water table.

This soil has poor potential for community development. The major limitations are the high water table that is at or near the surface most of the year, frequent flooding or ponding, and the very low strength and poor stability of the organic layers. If fill is placed on top of the organic layers, it will settle. If the soil is drained, the organic material subsides and shrinks and the surface of the soil is lowered. Excavations are unstable. Onsite septic systems are not feasible on this soil.

Agawam fine sandy loam: This gently sloping, well drained soil is on outwash plains and stream terraces. The areas are dominantly irregular in shape.

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

Included with this soil in mapping are small, intermingled areas of moderately well drained Ninigret soils, somewhat excessively drained Merrimac soils, and excessively drained Hinckley and Windsor soils. A few areas along the Connecticut River have more red in the substratum than this Agawam soil. Included areas make up 5 to 15 percent of this map unit.

The permeability of this soil is moderately rapid in the surface layer and upper part of the subsoil, moderately rapid or rapid in the lower part of the subsoil, and rapid in the substratum. Available water capacity is moderate. Runoff is medium. This soil dries out and warms up early in the spring. Unlimed areas are very strongly acid to medium acid.

This soil is well suited to cultivated crops. It is easy to till, and the hazard of erosion is moderate. Minimum tillage, use of cover crops, and incorporating crop residue into the soil are suitable management practices.

This soil is suited to trees, but only a small acreage is wooded.

This soil has good potential for community development. Steep slopes of excavations are unstable. Onsite septic systems need careful design and installation to prevent pollution of ground water. Quickly establishing plant cover, mulching, and establishing siltation basins are suitable management practices during construction.

Charlton-Hollis very stony fine sandy loams: This complex consists of gently sloping and sloping, well drained and somewhat excessively drained soils on ridges where the relief is affected by the underlying bedrock and on upland glacial till plains. These soils formed in glacial till derived from gneiss, schist, and granite. Areas are oblong or irregular in shape. Slopes are smooth or complex. Stones and boulders cover 0.1 to 3 percent of the surface. This complex is about 50 percent Charlton soils, 30 percent Hollis soils, and 20 percent other soils and bedrock outcrops. The soils of this complex are in such an intricate pattern that is was not practical to map them separately.

Typically, the surface layer of the Charlton soils is dark brown fine sandy loam 2 inches thick. The subsoil is 34 inches thick. The upper 30 inches is dark yellowish brown, yellowish brown, and light olive brown fine sandy loam. The lower 4 inches is light yellowish brown gravelly sandy loam. The substratum is brown fine sandy loam to a depth of 60 inches or more.

Typically, the surface layer of the Hollis soils is very dark grayish brown fine sandy loam 3 inches thick. The subsoil is yellowish brown fine sandy loam 11 inches thick. Hard, unweathered schist bedrock is at a depth of 14 inches.

Included with this complex in mapping are small, intermingled areas of well drained Canton, Montauk, and Paxton soils; moderately well drained Woodbridge

soils, poorly drained Leicester and Ridgebury soils; and very poorly drained Adrian and Whitman soils. Also included are bedrock outcrops and a few areas where the stones and boulders have been cleared from the surface.

The permeability of the Charlton soils is moderate or moderately rapid. Available water capacity is moderate. Runoff is medium to rapid. Unlimed areas of the Hollis soils are very strongly acid to medium acid.

This complex is poorly suited to cultivated crops. It is limited mainly by stoniness, bedrock outcrops, and the shallow depth to bedrock in many places. The complex is suited to orchards and pasture. It has a moderate to severe erosion hazard, and minimum tillage and maintaining permanent vegetative cover help to control erosion.

This complex is suited to trees. Trees on the Hollis soil are subject to windthrow because of the shallow rooting zone above the bedrock.

This complex has fair potential for community development. The shallow depth to bedrock in the Hollis soils and the bedrock outcrops make excavation difficult. Onsite septic systems require very careful design and installation, and an area of more than two acres is sometimes needed as a suitable site for an onsite septic system. In a few areas, bedrock outcrops have aesthetic value for homesites.

Saco silt loam: This nearly level, very poorly drained soil is on low flood plains adjacent to streams and rivers. The soils formed in silty alluvial sediments. Areas are dominantly long and narrow. Slopes are 0 to 2 percent.

Typically, the surface layer is very dark grayish brown mucky silt loam 6 inches thick. The substratum is dark gray and very dark gray silt loam to a depth of 60 inches or more.

Included with this soil in mapping are small, intermingled areas of moderately well drained Podunk soils, poorly drained Rumney and Rumney Variant soils, and very poorly drained Westbrook soils. Included areas make up about 10 percent of this map unit.

This soil is subject to frequent flooding. The permeability of this soil is moderate. Available water capacity is high. Runoff is slow or very slow, and water covers some areas from late fall through early spring. The soil is strongly acid to neutral at a depth of less than 30 inches and medium acid to neutral at a depth of more than 30 inches.

This soil is poorly suited to cultivated crops because of wetness and frequent flooding. The soil is difficult to drain for crop production. Frequent flooding severely damages or destroys some crops. Wetness severely restricts the use of farming equipment.

This soil is not suited to commercial timber production because of wetness and frequent flooding.

This soil has poor potential for community development. The soil is limited mainly by the high water table and frequent flooding. Use of this soil for community development is not feasible unless the soil is extensively filled.

The Team soil scientist feels that the wetland line should be delineated on site, to give an accurate picture of the actual area occupied by wetland soils. Sediment and erosion control measures should be planned and implemented for any development on this site. Personnel at the Soil Conservation Service field office in Haddam are available to provide technical assistance when preparing such a plan. When proposed plans for the site have become more definite, additional storm water controls may be needed. Engineers at SCS can also provide additional advice on these systems.

VEGETATION

The 35± acre Piontkowski tract which may eventually be developed is composed of four vegetation types. These include a hardwood swamp which totals 15± acres; an open shrub swamp which totals 13± acres; an open field/filled area of 5± acres; and 2± acres of mixed hardwoods. (Please see Vegetation Type Descriptions and Vegetation Type Map.)

Prime quality tree growth is limited by the high water table and saturated soils present in the wetland areas. Windthrow is a potential hazard in the hardwood swamp area. This potential may be increased with further filling. The restriction of natural drainage flows resulting from filling of the wetlands may cause mortality of the trees, shrubs and herbaceous vegetation in areas where water is ponded for extended periods. The trees and shrubs along this tract's northern boundary should be retained to provide a natural barrier between this property and the highway. Reinforcement planting of conifers may provide additional visual and noise abatement. The wetland areas provide wildlife with a high value habitat. Filling these wetlands will destroy the value of this area for wildlife. The effects of filling may be lessened by landscaping practices which are designed to improve food and cover conditions for wildlife.

Vegetation Type Descriptions:

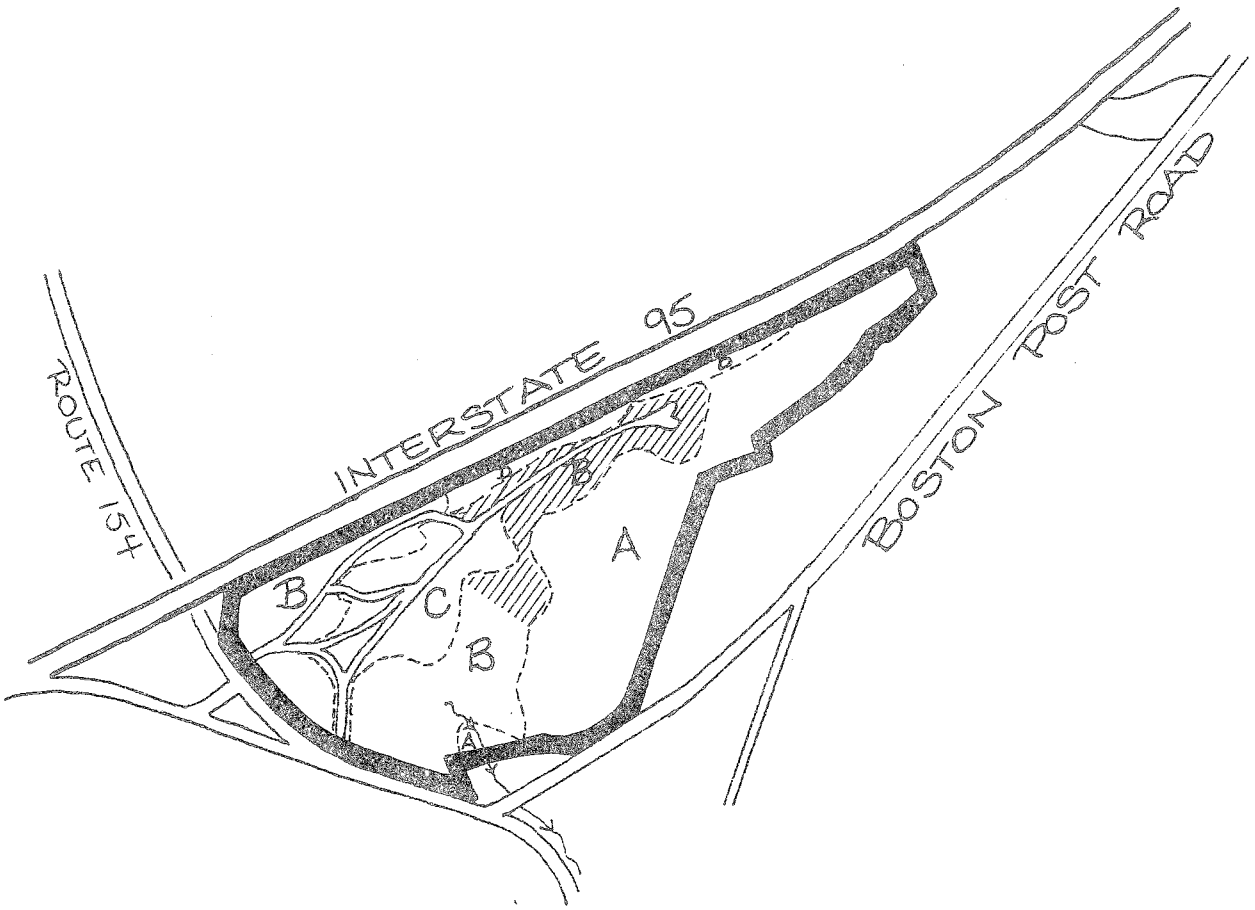
Type A. (Hardwood Swamp.) This 15± acre hardwood swamp is vegetated with poor quality pole to sawtimber size red maple and scattered black gum and black birch. Of special interest are several small patches of Atlantic white cedar which are located throughout this stand. The density of the overstory is quite variable in this stand. Understory and shrub vegetation consists of sweet pepperbush, spice bush, swamp azalea, swamp rose, winterberry, arrowwood and occasional poison sumac. In some places, the understory vegetation is extremely dense, especially where the canopy is somewhat open. The herb layer is dominated by cinnamon fern, sensitive fern, evergreen wood fern, lady fern, skunk cabbage, Solomon's seal, false Solomon's seal, assorted asters, horse-balm, elderberry, jewel weed and in the drier areas, club moss and Canada mayflower. Vine species which are present include cat greenbrier, fox grape, summer grape and oriental bittersweet.

Type B. (Open Swamp.) The open shrub swamp which is present within this tract totals approximately 13 acres. Parts of this area have been harvested of all saleable size trees. These areas are shaded on the vegetation type map. Shrub species, which include sweet pepperbush, spice bush, arrowwood and button bush, dominate this area along with red maple and black gum seedlings and sprouts. Purple loosestrife, phragmites, common cattail, blue flag iris jewelweed,

Vegetation

0 660
scale

N



LEGEND

- Roads
- Property Boundary
- Vegetation Type Boundary
- Gravel Roads
- Stream
- Trees Have Recently Been Removed From This Area

VEGETATION TYPE DESCRIPTIONS*

TYPE A. Hardwood swamp, 15±acres, variable stocking, pole to sawtimber-size.

TYPE B. Open shrub swamp, 13±acres, understocked, shrub species.

TYPE C. Open field/filled land, 5±acres.

TYPE D. Mixed hardwoods, 2±acres, fully-stocked, pole to sawtimber-size.

* Seedling-size = Trees less than 1 inch in diameter at 4 1/2 feet above the ground (d.b.h.)
Sapling-size = Trees 1 to 5 inches in d.b.h.
Pole-size = Trees 5 to 11 inches in d.b.h.
Sawtimber-size = Trees 11 inches and greater in d.b.h.

angelica, violet, evergreen wood fern, sensitive fern, sphagnum moss and several species of sedges including tussock sedge are also present. Cat greenbrier, purple-flowering raspberry, goldenrod and virgin's bower are present along the gravel road which passes through this area.

Type C. (Open field/filled land.) Approximately 5 acres of this tract has been filled with gravel. Wildflower and weed species have become widely established. The most abundant herbaceous species found throughout this property include grasses, sedges, goldenrod, Queen Anne's lace, cinquefoil, ragweed, partridge pea, everlasting pea, groundnut, St. John's wort, wild mint, common nightshade, selfheal, boneset, hysop-leaved boneset, wild indigo, joe-pye-weed, morning glory, elderberry, meadowsweet, whorled loosestrife, several lobelia, meadow beauty, New York ironweed, sundrops, butterfly weed, and bouncing bet. The vine species which are present are fox grape, summer grape, cat greenbrier, Virginia creeper, oriental bittersweet and poison ivy. The shrub species found within this area include multiflora rose, winged sumac, staghorn sumac, arrow-wood, sweet fern, bayberry, and several species of raspberry, including purple-flowering raspberry. Red maple, bigtooth aspen, cottonwood and gray birch seedlings have become established in scattered patches throughout much of this area.

Type D. (Mixed Hardwoods.) Pole to sawtimber size black oak, white oak, shag-bark hickory, red maple, black birch and scattered American beech are present in this 2± acre fully-stocked area. Maple-leaved viburnum, witchhazel, blue beech and sweet pepperbush form this area's understory. Ground cover consists of grasses, sedges, club moss, Canada mayflower, striped pipsisewa and bracken fern.

The saturated soils and high water table which are present in Vegetation Types A and B limit vegetation growth to species which are tolerant of excessive moisture conditions. The red maple and black gum that are growing in the hardwood swamp are slow growing and of poor quality. Management of these trees for timber production is not economically advantageous.

The trees which are present in the hardwood swamp are very susceptible to windthrow. These trees are somewhat unstable because their shallow root systems are unable to become securely anchored in the saturated soils. Openings or clearings made for filling in these areas may allow wind to pass through rather than over these areas, resulting in increased potential for windthrow.

Development practices which restrict natural drainage flows in the hardwood swamp section of this property may cause water to back up and pond over plant roots. If this ponding becomes permanent, it may cause mortality of the trees, shrubs, and herbaceous species which are present. In time plant species which are able to survive the new water levels will become established. These changes, however, may significantly alter the appearance, composition and character of this wetland area.

If sections of the hardwood swamp wetland are to be filled and developed, any suitable trees that are felled should be utilized for fuelwood. Clearing this area will provide a range of between eight and fourteen cords of fuelwood per acre. In general, few of the trees which are present will provide quality sawtimber.

The trees and shrubs which are present in Vegetation Type D (Mixed Hardwoods) should be retained for a barrier between this property and Interstate 95. The additional planting of several rows of a mix of eastern white pine and eastern hemlock in this area would in time produce a more complete barrier. These species may be planted in three staggered rows with approximately eight feet between each tree. The underplanting of eastern hemlock in this stand would also help to block views of the highway and absorb or muffle the noise generated by passing vehicles. these plantings will also improve cover for area wildlife.

WILDLIFE

There are two distinct habitat types found in this property; a wet marshy area and upland dry area. The two sites are approximately equal in size. The following plant species are found in abundance on the property: red maple, red cedar, honey locust, young oaks, cherry, sumac, arrowwood, spicebush, bayberry, blackberry, raspberry, greenbrier, grapevines, partridge pea, cattails, and a variety of seed producing grasses and wildflowers. This abundance of berry and seed producing vegetation, and the way it is arranged, provide an excellent source of food and cover for many wildlife species. The vegetation types are very diverse, creating a greater potential for wildlife use since birds and animals need more than one cover type to survive.

Upland Dry Site: There is a large grassy opening in the middle of this site with many smaller openings created by a logging operation three years ago. A dirt road system also serves to create an open space in an otherwise wooded or brushy area. These areas consist primarily of grasses and brush and are used mostly for food gathering by wildlife. There is plenty of dense brush located nearby for easy escape cover if a predator should come close. This dense brush also serves as good nesting habitat. There is a sapling and pole size forest located on the remaining areas of this site. There are several old large oak trees scattered over this site which may serve as a perching site for hawks or owls when looking for prey or as a nesting site for cavity using wildlife.

Marshy Site: Most of this area consists of a dense brush understory with a few small open spaces. There is little open water, but the site remains wet except in extremely dry periods. The wetness has killed many of the overstory trees, but these standing snags are still very valuable for several wildlife species. Woodpeckers use them to find food, hawks and owls use them for perching and smaller cavity nesters use them for shelter. The dense brush understory provides excellent food and cover and the wetness provides a water source.

Realistically, the major roadways surrounding this property will limit the access of this area for some animals. However, birds and mammals with a small home range or low mobility could utilize the resources of this area very well. The area has potential to support such species as rabbits, raccoons, opossums, woodchucks, squirrels, small mammals, quail, doves, hawks, owls, and a variety of songbirds.

Development of this site would have an extreme negative impact on wildlife since there is a limited suitable habitat nearby for movement into the surrounding area.

If further development of this tract does occur, it would be desirable to landscape with species which have value for wildlife. Colorful fruiting shrubs, including autumn olive, crabapple, silky dogwood and high bush cranberry could be planted to provide wildlife with food, and to improve the aesthetic value of the area. Including evergeen trees, such as eastern while pine and eastern hemlock will provide year round cover for songbirds and small mammals. Proper landscaping will lessen the effects of habitat destruction should development occur.

WATER SUPPLY

Public water service would be available from the Connecticut Water Company and would be adequate to supply commercial or other types of development.

WASTE DISPOSAL

The town of Old Saybrook, having no municipal sewerage facilities and having begun to implement a sewer avoidance program, relies for the most part on the installation of on-site subsurface sewage disposal systems. In some cases, due to existing problems and/or site conditions, limited "community" sewer systems may be implemented as a feasible way to satisfactorily resolve sanitary matters.

Based on visual observations, soil mapping information and a review of soil boring logs by an outside consultant indicates the majority of the property is poorly suited for subsurface sewage disposal. Various limitations range from high ground water, poorly drained soils, flooding, and exposed and underlying bedrock. In addition, a considerable portion of the property is overlain with organic peat and muck soils. The depth of such materials apparently varies considerably. There are indications that peat probably extends to 30 feet below surface in some areas of the site. In general, these types of soils have relatively poor potential for extensive commercial and/or community development.

In terms of existing conditions, the upper strip of land parallel with I-95 appears to be the most feasible area for subsurface leaching purposes. Depth of soil to bedrock is questionable in this area. The Public Health Code requires the bottom area of a leaching system to be a minimum distance of four feet above bedrock. In other areas, because unspecified fill material of varying depths was placed over peat or muck soils, nothing would seem feasible unless extensive soil removal, refilling and regrading operations were to occur. This would change the overall character of the site, affecting internal drainage and water retention ability. In addition to being concerned with the possibility of a substantial flow of sewage effluent which a shopping center of any size may generate, increases in storm water runoff from buildings and paved parking areas would also occur. This in turn may increase the possibility of flooding and further impair the proper operation of subsurface sewage disposal systems.

In general, it would seem that any development plans for the property should reflect enterprises which would have a minimum impact on the land. Recreational pursuits, such as a golf driving range or other seasonal activities may be satisfactory. A peat removal business may also be feasible.

PLANNING CONCERNS

The planning comments on this are general in nature because no definite development proposal has been presented. Assuming that this parcel is used for a commercial shopping center of 153,000± square feet as shown in schematic drawings to the ERT, the first set of significant impacts that town and state officials and the developer must deal with are the issues of traffic generation, location of curb cuts and intersection capacity.

The following are potential vehicle trip rates which could result from the development of this site:

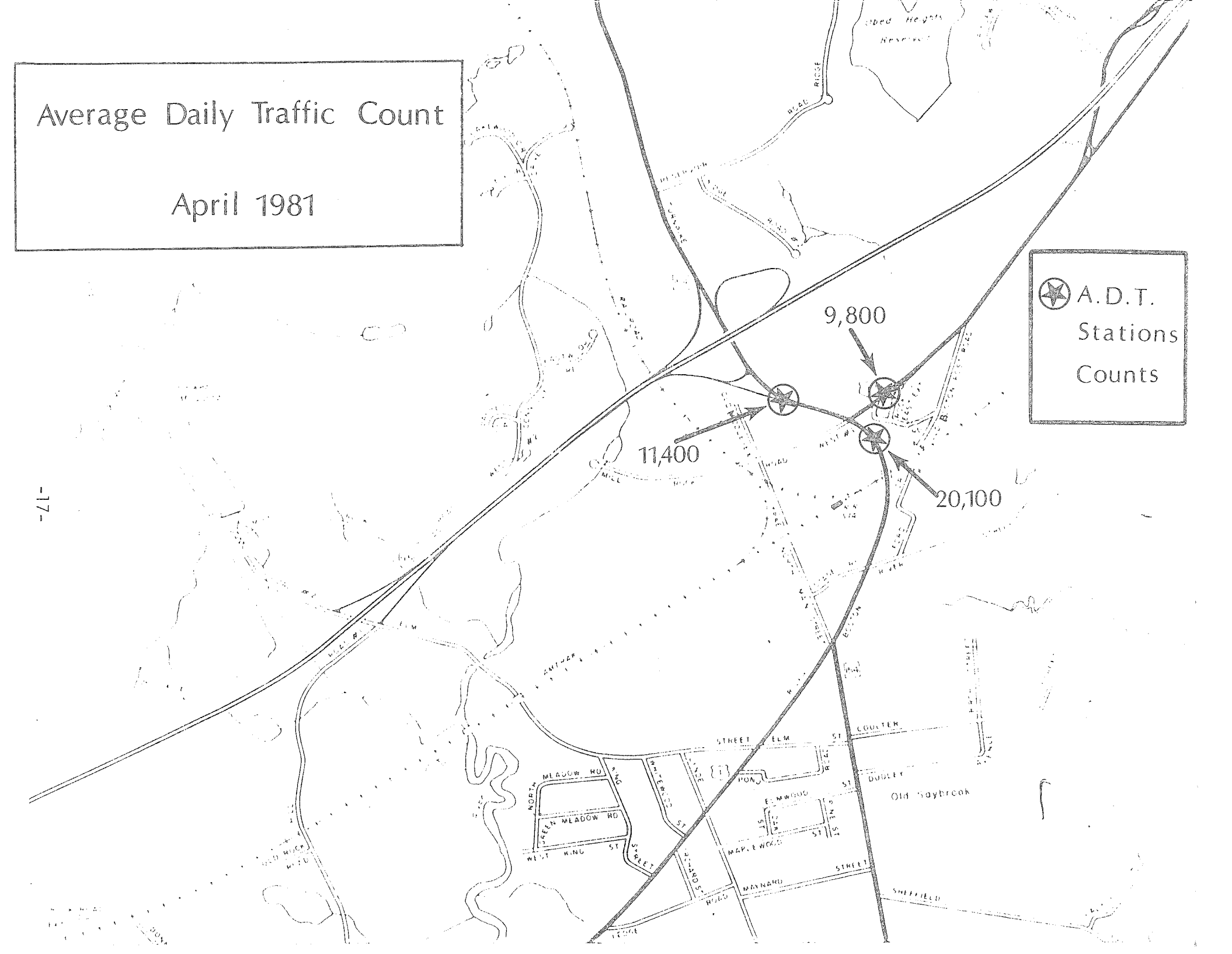
Department Store	85,000 square feet	=	3,068 trips per day
Miscellaneous retail stores	62,500 square feet	=	1,125 trips per day
Food market	42,500 square feet	=	3,695 trips per day
	153,000 square feet		7,888 Total trips per day

Parking needs for a commercial land use of 153,000 square feet area based on the general standard of 5.5 spaces per 1,000 square feet of gross leaseable area. Thus, a complex of this size should be planning for a parking area layout to accommodate 842 cars.

The floor area coverage and parking lot (ground coverage) raises the impact issue of storm water runoff from impervious surface area. Assuming single floor structures (153,000 square feet) and 400 square feet per parking space (336,800 square feet) indicates that about eleven acres (32%) of this 35 acre parcel might be covered. Because of the site's limited soil characteristics (high ground water) and existing drainage from surrounding roads, any future development of this area must be carefully reviewed with concern toward storm water control.

A potential developer of this site should also be aware of the need to submit plans to the Connecticut Department of Transportation (DOT) District Maintenance Manager and the State Traffic Commission for their review and approval. Because the development of this site would fall under the category of Major Traffic Generator, the builder should anticipate seeking traffic engineering assistance and be prepared to pay for the traffic improvements required by CONNDOT.

Finally, the probable expansion of I-95, between Elm Street in Old Saybrook, and Lyme Street, Old Lyme, must also be considered when planning the long term use of this site. At present, expansion plans for the Baldwin Bridge, I-95 lanes and associated ramp network are in a "hold" status. CONNDOT's position is that the Baldwin Bridge will need more than minor maintenance repairs to keep its deck in satisfactory condition. As more frequent deck repairs are required, the efficiency of the Bridge's traffic capacity will be reduced and the economy of such short term maintenance measures are questionable. Of greater concern to CONNDOT is the effect that delays could have on the deck's support members. Only when portions of the deck are completely removed and inspected will CONNDOT engineers have accurate knowledge of the Bridge's structural condition. Redesign and relocation of the bridge's ramp system has been studied as an integral part of the I-95/Bridge segment improvements.


Average Daily Traffic Count
April 1981
A.D.T. Stations Counts
9,800
11,400
20,100
-17-

The Piontkowski site has been considered in various CONNDOT schematics as a potential alternate eastbound on-ramp location. When designing the new Route 154 railroad bridge and relocating the Route 1 intersection, CONNDOT engineers provided for the possibility that a portion of the Piontkowski site might be used to complete the Exit 67 "cloverleaf" interchange. All planning and design work associated with the Baldwin Bridge's ramp network is classified as an inactive project by CONNDOT pending further study of the bridge's deck condition.

ROADS AND UTILITIES

This site has frontage on Route 154 and Boston Post Road; both are state highways. The Connecticut River Estuary Regional Planning Agency Transportation Plan indicates that the segments of highways providing access to this site have adequate capacity to accept additional traffic volume. Route 154, between the Boston Post Road and Route 9, has an average daily traffic (ADT) load of 13,300 vehicles. Route 1 had an 10,500 ADT in 1980. Both Route 154 and Route 1 are functionally classified as part of the Federal Aid primary system. As part of the reconstruction of the Route 154/Route 1 railroad bridge, increased lanes, sidewalk, turning lanes and signal controls were installed. These traffic improvements would be adequate to handle the increased traffic that would be generated by the commercial development of this site; however, until a specific site use (trip generator) is known, intersectional capacity can only be presumed. Once a site plan has been submitted, analysis of lane turning and through movements should be conducted to determine the specific impact of development on adjacent streets.

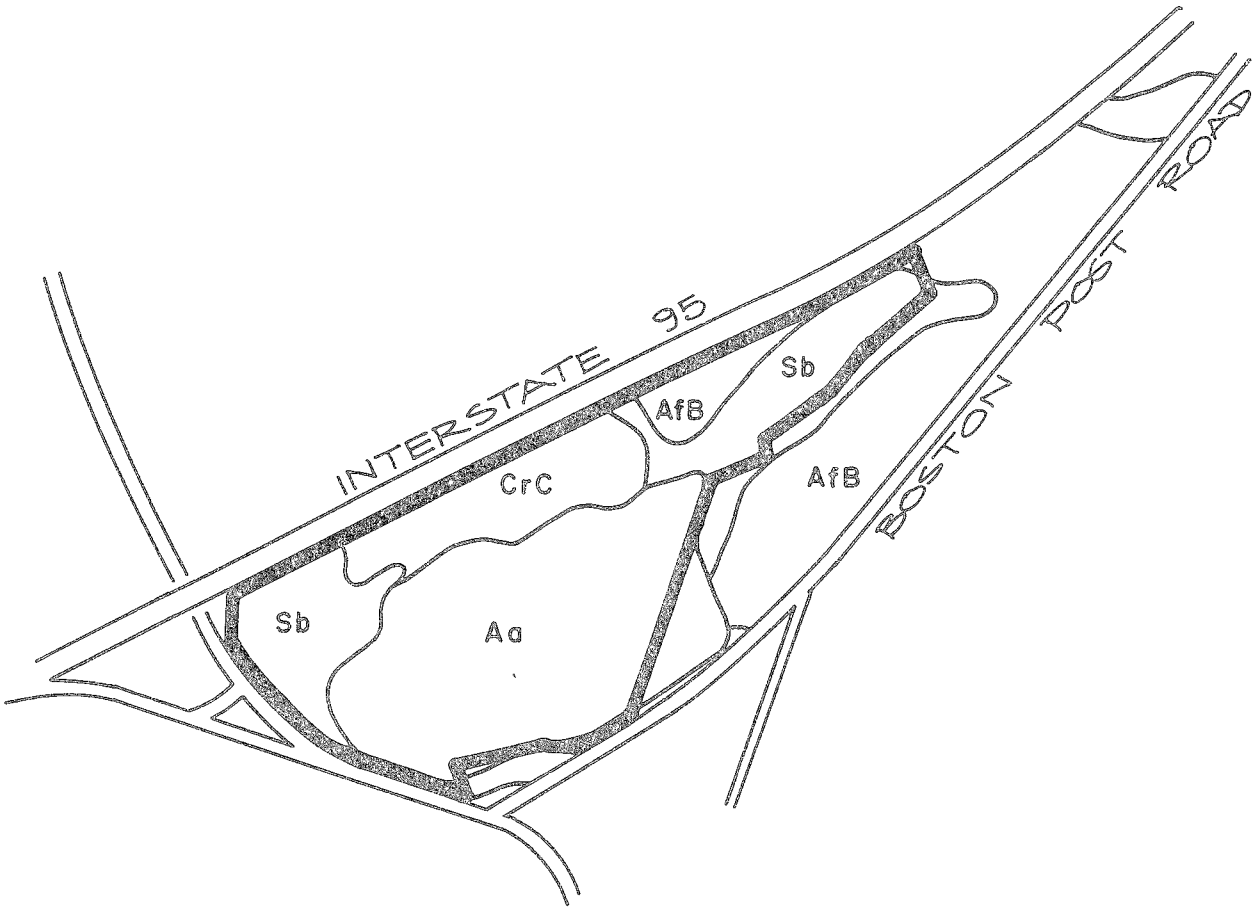
Increased traffic generated by the development of this site could be a potential problem if not properly controlled by the careful location of entrance and exit points. Traffic entering or leaving the site would be in close proximity to the Route 1/Mill Rock Road intersection and Exit 67 I-95 off-ramp. Because state roads are involved, any development occurring on this site would have to get CONNDOT curb cut permit approval and, depending on the size of the development, State Traffic Commission approval.

COMPATIBILITY OF SURROUNDING LAND USES

The development of this site for commercial purposes would be compatible to surrounding land uses and consistent with the recommendations of the Old Saybrook Plan of Development. Zoning Regulations classify this site as a B-4 District (General Business). A variety of retail services, professional offices, restaurants, hotels, gas stations and warehousing uses are permitted. Lot area requirements are 20,000 square feet per unit. Maximum ground coverage is 40% of the site. The Zoning Regulations stipulate Site Plan approval prior to the issuance of zoning permits.

Appendix

Soils


0
660'
SCALE
N
INTERSTATE 95
BOSTON POST ROAD
Sb
AfB
CrC
AfB
Sb
Aa

PIONTKOWSKI PROPERTY
OLD SAYBROOK, CONNECTICUT

PROPORTIONAL EXTENT OF SOILS AND THEIR LIMITATIONS FOR CERTAIN LAND USES

Soil Series	Natural Soil Group	Soil Symbol	Approx. Acres	Percent of Acres	Principal Limiting Factor	Urban Use Limitations*			
						On-Site Sewage	Buildings with Basements	Streets & Parking	Land-Scaping
Adrian		Aa	19	42%	Floods, wetness	3	3	3	3
Agawam		AfB	3	7%		1	1	1	1
Charlton-Hollis		CrC	11	24%	Slope,				
Charlton Part					Depth to	2	2	2	2
Hollis Part					bedrock	3	3	3	3
Saco		Sb	12	27%	Floods	3	3	3	3
			45	100%					

Limitations: 1=Slight; 2=Moderate; 3=Severe

SOIL INTERPRETATIONS FOR URBAN USES

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

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

Slight Limitations

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

Moderate Limitations

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

Severe Limitations

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

About the Team

The Eastern Connecticut Environmental Review Team (ERT) is a group of professionals in environmental fields drawn together from a variety of federal, state, and regional agencies. Specialists on the Team include geologists, biologists, foresters, climatologists, soil scientists, landscape architects, archeologists, recreation specialists, engineers and planners. The ERT operates with state funding under the supervision of the Eastern Connecticut Resource Conservation and Development (RC&D) Area.

The Team is available as a public service at no cost to Connecticut towns.

PURPOSE OF THE TEAM

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

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

REQUESTING A REVIEW

Environmental reviews may be requested by the chief elected officials of a municipality or the chairman of town commissions such as planning and zoning, conservation, inland wetlands, parks and recreation or economic development. Requests should be directed to the Chairman of your local Soil and Water Conservation District. This request letter should include a summary of the proposed project, a location map of the project site, written permission from the landowner allowing the Team to enter the property for purposes of review, and a statement identifying the specific areas of concern the Team should address. When this request is approved by the local Soil and Water Conservation District and the Eastern Connecticut RC&D Executive Council, the Team will undertake the review on a priority basis.

For additional information regarding the Environmental Review Team, please contact Jeanne Shelburn (889-2324), Environmental Review Team Coordinator, Eastern Connecticut RC&D Area, 139 Boswell Avenue, Norwich, Connecticut 06360.