

Environmental review team report



CONDOMINIUM CLUSTER DEVELOPMENT
Old Saybrook, et.



RC & D

EASTERN CONNECTICUT
RESOURCE CONSERVATION AND DEVELOPMENT PROJECT

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

ENVIRONMENTAL REVIEW TEAM REPORT
ON
CONDOMINIUM CLUSTER DEVELOPMENT
OLD SAYBROOK, CONNECTICUT

MARCH, 1976

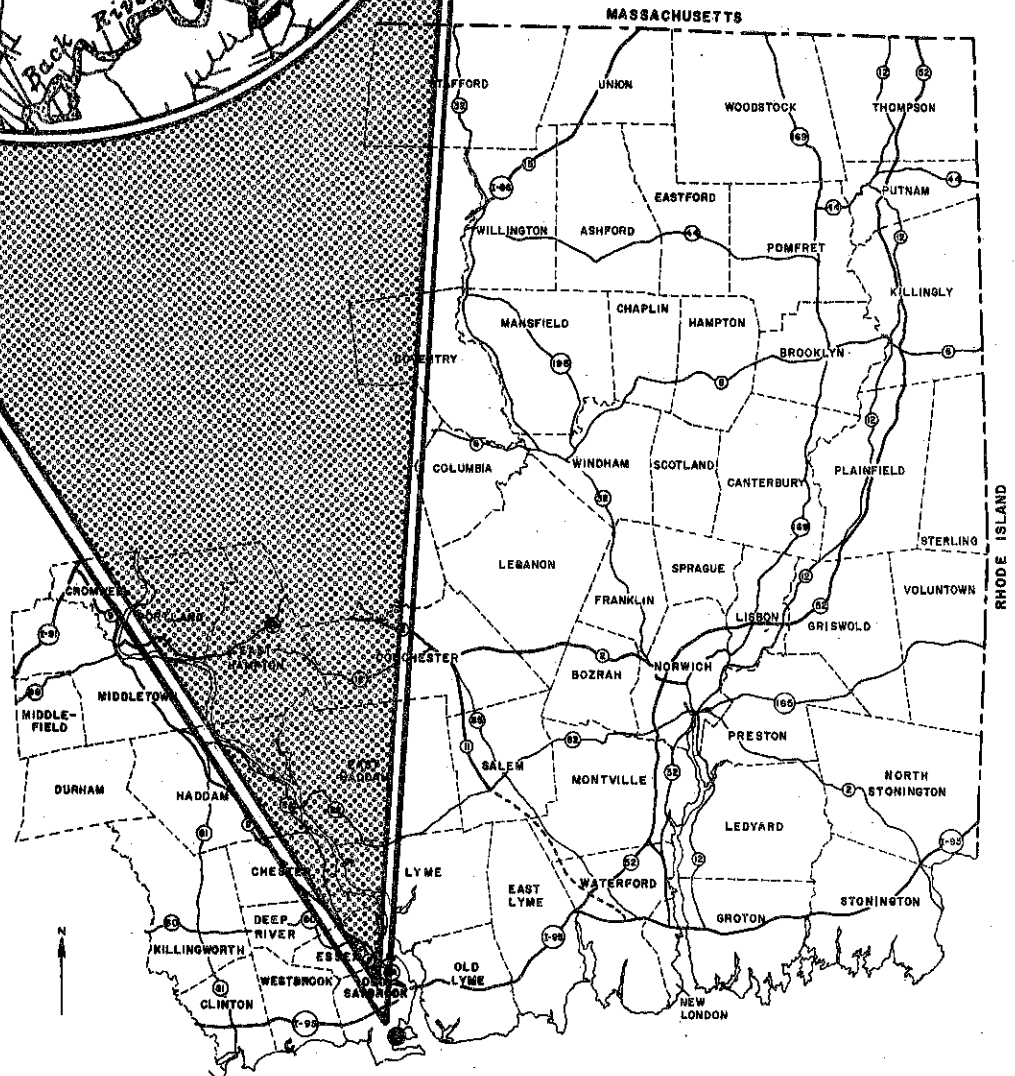
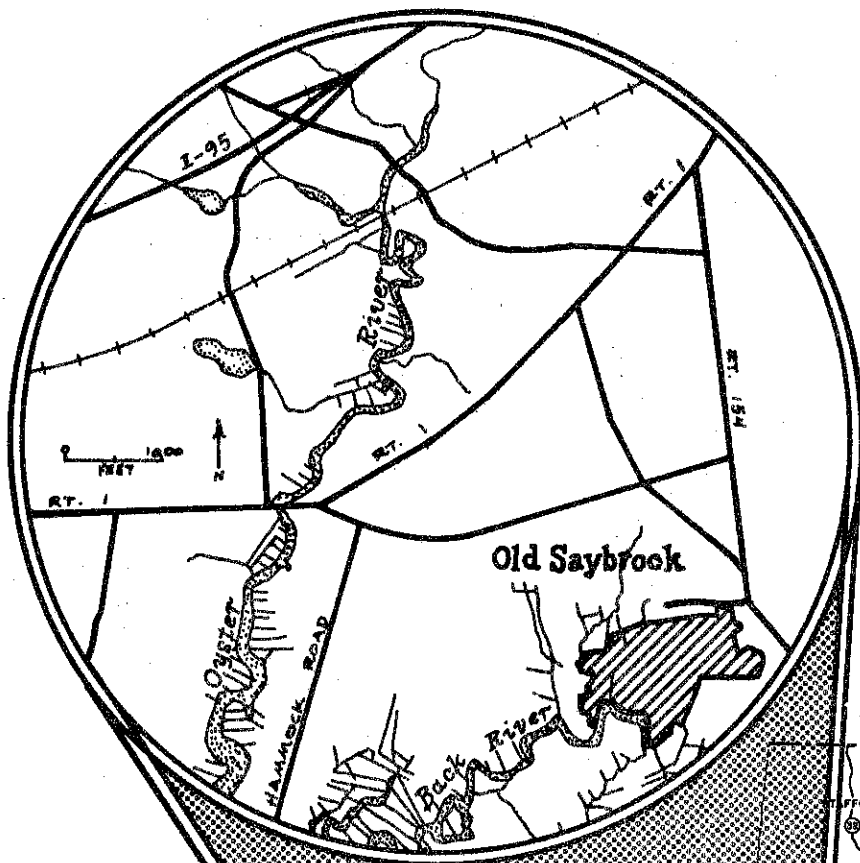
*The preparation of this report was assisted
by a grant under Title 1, Section 107(a)4 of
the Housing and Community Development Act
of 1974, 24 CFR, Part 570, Section 570.406.*

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

LOCATION OF STUDY SITE

CONDOMINIUM CLUSTER DEVELOPMENT

OLD SAYBROOK, CONNECTICUT



EASTERN CONNECTICUT
RESOURCE CONSERVATION AND DEVELOPMENT PROJECT

Scale: 0 10 Miles

ENVIRONMENTAL REVIEW TEAM REPORT
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This report is an outgrowth of a request from the Old Saybrook Zoning Commission, with the permission of the landowners, 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) Project Committee for their consideration and approval as a project measure. The request was approved and the measure reviewed by the Eastern Connecticut Environmental Review Team (ERT).

The soils of the site were mapped by a soil scientist of the United States Department of Agriculture (USDA) Soil Conservation Service (SCS). Reproductions of the soil survey, a table of soils limitations for certain land uses, and a topographic map of the site were forwarded to all ERT participants prior to their field review of the site.

The ERT that field-checked the property consisted of the following personnel: Barry Cavanna, District Conservationist, SCS; Marc Crouch, Soil Scientist, SCS; Leon Gardner, Engineering Specialist, SCS; Bill Lucas, RC&D Project Director, SCS; Sid Quarrier, Geologist, Connecticut Department of Environmental Protection (DEP); Oliver Edstrom, Marine Biologist, DEP; David Miller, Climatologist, University of Connecticut Extension Service; Donald Capellaro, Principal Sanitarian, Connecticut Department of Health; Ed Meehan, Regional Planner, Connecticut River Estuary Regional Planning Agency; Linda Simkanin, ERT Coordinator, Eastern Connecticut RC&D Project.

The Team met and field-reviewed the site on Thursday, February 19, 1976. Reports from each 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 Project Committee hopes you will find this report of value and assistance in making your decisions on this particular site.

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

INTRODUCTION

The condominium development is proposed for a relatively flat, 35 acre parcel of land located at the head of the Back River in Old Saybrook. The site is generally under 10 feet in elevation, and is considered to be a flood-prone area according to the United States Geologic Survey (USGS) and by the federal Department of Housing and Urban Development (HUD), Federal Insurance Administration (FIA). The approximate boundaries of the flood-prone areas will be illustrated later in this report; there is, on the average, about one chance in 100 that the designated flood-prone areas will be inundated in any year. Approximately 10 of the total 35 acres is tidal marsh as mapped under Connecticut Public Act 695.

The Environmental Review Team field-checked the site relative to the proposal to construct approximately 80, two bedroom detached condominium units, to be clustered in groups of four to six units. According to the preliminary site plan, no construction is proposed in the 10 acres of tidal marsh. The site is presently undeveloped and is zoned for residential use. Public water is available, but sewers are not available nor are they presently planned for Old Saybrook, so sewage disposal will have to be developed on-site.

Some aspects of the development discussed by the Team involve the placement of septic systems and the adequacy of the soils to accommodate the proposed systems, the high groundwater level, and the risk of flooding to any development which may occur on the site.

This ERT report will describe the natural characteristics of the site including topography, geology, soils, and forest cover. Consideration will be given to the compatibility and suitability of the development relative to the natural resource base, as well as to the existing development pattern including roads and utilities. Comments or recommendations made within this report are presented for consideration by the town and the developer in the preparation and review of the development plans, and should not be construed as mandatory or regulatory in nature.

EVALUATION

TOPOGRAPHY AND GEOLOGY

The site, located in Old Saybrook, Connecticut, is about one mile inland of the actual coast, but extensive tidal wetlands border the site giving it a distinct coastal character. The land owned by the developer totals about 35 acres, of which about 10 acres is tidal marsh and the remainder, about 25 acres, is fairly lowlying, flat and moderately well drained land. The major part of the property consists of open fields which have been utilized for agriculture (growing of corn). There is a limited wooded area which is lower in elevation (part of marsh appears to extend into a portion of it) on the southeast side of the property.

The land proposed for the condominium development is an upland protrusion into the tidal marshes of the Back River. See Topography and Site Plan Map. The marshes have been designated as tidal wetlands, and meet the Tidal Wetlands Criteria listed under Connecticut Public Act 695. The legal DEP tidal wetland map is known as Ecological Unit 49; SD 1-4; Parcel 174.

The tidal marshes to the west and south of the site are connected to Long Island Sound by the Back River which enters the Sound at Indiantown Harbor. A well developed channel of the Back River allows free flow of tidal water across the one mile of tidal marshlands to Indiantown Harbor. Tidal water also reaches the Back River through an interconnected channel with Plum Bank Creek which enters the Sound slightly to the southeast of Indiantown Harbor.

The 25 acres or so of land above the marsh is underlain by sand and gravel material and is relatively flat and lowlying. Land elevation data provided by the developer indicates that the upper surface of the marsh is about 4.2 feet above datum sea level, and that the area for proposed development varies from 6 to slightly over 10 feet above datum sea level. (The term datum sea level is used because subsequent rises in sea level place actual mean sea level measurably above the mean sea level that is used as a surveying datum.)

For the last several centuries sea level along the northeast coast has been rising at a rate of about one foot per century. This gradual rise is part of a long term trend that has been going on for the last 7 or 8 thousand years and is expected to continue. Vertical control stations for elevation for surveying were standardized to a sea level datum in 1929. Since this time sea level has risen about 6 inches. All land elevations which have an important relationship to current sea level should consider that current sea level is measurably higher than the 1929 datum. Average site elevation is estimated to be between 8.5 and 9 feet above datum sea level.

Tides were at or near their monthly maximum during the days that the team visited the site, and the high tide on the morning of the 19th of February is estimated to represent the level of a high spring tide. This tide reached levels about 8 inches above the top of the surrounding marshes. A hand level traverse of this high line onto the higher parts of the site, where land elevations were plotted on the developer's map, indicated that the high spring tide reached an elevation of about 5 feet above datum sea level. This leaves the average land elevation of the site about 3.5 feet above the high spring tide level.

TOPOGRAPHY AND SITE PLAN



At the present time most of the interior part of the site is tilled for farming. Various widths of woods and brushlands separate the open fields from the marsh to the south and west. This border of uncleared land is thinnest to the west, thus leaving the site well exposed to the flow of southwest winds.

The higher parts of the site which are proposed for condominium development are underlain by sand and gravel materials that are judged to be of glacial origin. Bedrock is estimated to be greater than ten but less than fifty feet below the surface. In the tidal marsh areas a measurable thickness of organic-rich sediments such as peat or organic-rich muck underlie the marsh surface. The thickness of this material was not determined, but is estimated to be 5 to 10 feet thick and possibly more in local areas. The substrate of the marsh is presumably the same sandy glacial material that underlies the higher land. More information about the glacial history of the area and the origin of the glacial materials can be had from R.F. Flint, "Surficial Geology of the Essex and Old Lyme Quadrangles," Quadrangle Report No. 31, State Geological and Natural History Survey, 1975. This booklet with maps can be purchased at the State Library. A similar report describing the bedrock geology of the area (Quadrangle Report No. 15) is also available at the State Library.

Six test holes were drilled with a hand auger to provide information about the character of ground materials and the levels of ground water. The locations of the test holes are scattered throughout the site. Although the test holes do not cover the whole site, it is believed that the information gained is representative for most areas of the non-marsh areas. The test holes indicated that the topsoil layer is from 8 inches to a foot thick over most of the site, and that this is underlain by a bluff colored layer of fine grained sandy and silty material which varies in thickness from 6 to 18 inches. Below this, 1.5 to 3 feet below the surface, the material becomes more coarse grained and ranges from a fine- to medium-grained sand. The deepest hole dug went to a depth of about 4 feet. It is estimated that the sandy material continues for at least five more feet but a deeper test boring should be made if the characteristics of the deeper material become important.

Ground water levels were measured at depths from 1 foot to a maximum of about 3 feet below the surface. Conversion of ground water depths to elevation places the elevation of ground water at about 6 feet above datum sea level in the central western part of the site, rising to an elevation of nearly 7 feet above sea level at the northeast part of the site.

SOILS

A detailed soil map of the site is given in the Appendix of this report. As the map is an enlargement from the original 1320'/inch scale to 660'/inch, the soil boundary lines shown should not be viewed as absolute boundaries, but rather as guidelines to the distribution of soil types on the property.

The soil map, and the accompanying chart indicating general soils limitations for various land uses (also found in the Appendix), indicate that with the exception of the very poorly drained tidal wetland soil, the majority of the site consists of the well to somewhat excessively well drained Agawam soils, 69A and 69B, developed in sandy or gravelly materials. Texture in the surface and subsoil is fine sandy loam grading to loamy sand or sand and gravel at about 24 inches in depth.

Permeability is moderately rapid in the upper horizons and rapid in the substratum. Slopes are nearly level to sloping with gradients varying very slightly at the site.

At the time test holes are dug, another determination of the water table may be made. There should be little problem with on-site septic systems located in the Agawam soils. One caution however: when engineers design systems for location in soils that have the excellent percolation rates such as those characteristic of Agawam soils, they tend to underdesign the system. These soils have a rapid permeability, and if underdesigned, pollution of the groundwater is a possibility; it would be advisable to suggest overdesigning the leaching fields to allow more soil material to be involved in filtering the effluent so as to afford a maximum of protection to the water table.

The tidal wetlands constitute the other major soil type of the site. These peaty soils of the Westbrook series occur at or near the coastline and are subject to periodic tidal flooding. They are composed of dark colored fibric or peaty material and have salt content that is usually in excess of 10,000 parts per million. Commonly these soils are underlain by loamy material at depths of 16 to 50 inches. The organic fibers are essentially herbaceous.

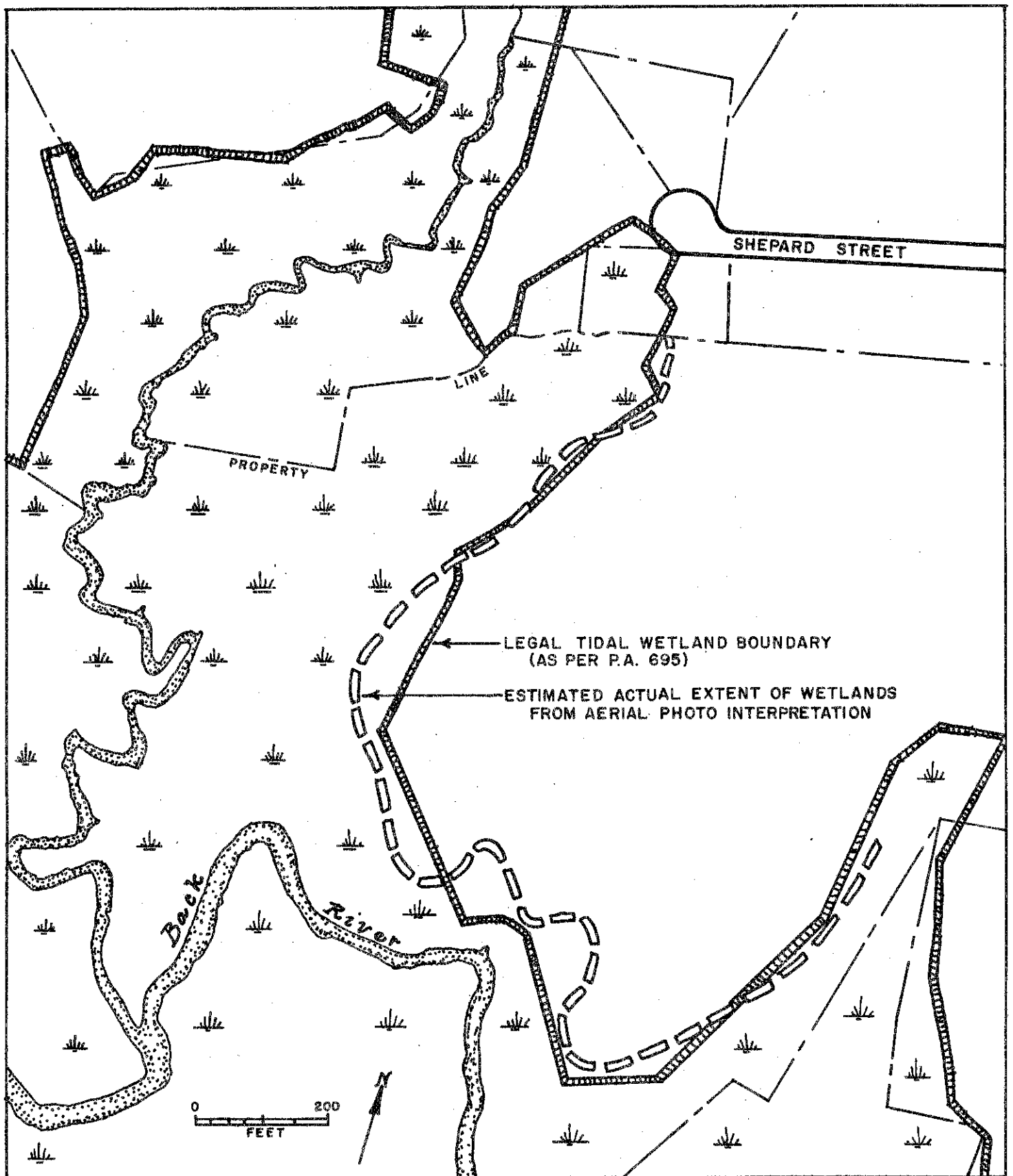
Land use of the designated tidal wetlands is regulated by permit through the the Connecticut Department of Environmental Protection (DEP). On a practical level it is impossible for the legal surveyed lines of the wetlands to follow exactly the curving and irregular boundary of the actual wetland. An approximation of the actual wetland perimeter has been overprinted on a copy of the DEP wetlands map on the following page. Areas where the actual wetlands extend landward of the tidal wetland boundary should be considered as wetlands and presumably they would be regulated under inland wetlands regulations. The line estimated from the aerial photographs, is only an estimate and is shown to illustrate that there are some differences between the legal and actual wetland line. It is suggested that the landowner contact the tidal wetlands section of DEP to walk the boundary if these differences seem significant.

WILDLIFE AND VEGETATION

This tidal wetland system is healthy, viable, and characteristic of Connecticut's upper marsh systems. Productive species of vegetation include Spartina alterniflora, Spartina patens, Juncus gerardi, and Distichlis spicata. Panicum virgatum and Iva border most of the transition area between the marsh and the upland. In the easterly section, Typha angustifolia is found.

The average depth of peat in this marsh is classified by Hill and Shearin as deep, i.e. in excess of 5 feet. Both the flora and fauna of this tidal marsh system testify to its healthy condition and high productivity with subsequent importance to the marine and estuarine ecological systems in this portion of Connecticut and Long Island Sound. Because of this marsh's direct access to the saline waters of Long Island Sound, the waterways of this marsh support abundant and healthy invertebrate populations and is important as a feeding, nursery and spawning area to important finfish species and avian species. Marine food chains and energy pathways are short. The marine and estuarine environment is a harsh but vital ecological system that has evolved species of flora and fauna capable of flourishing only in this type of natural system. Of particular note are the

COPY OF DEP TIDAL WETLANDS MAP
ECOLOGICAL UNIT #48-1-4



recurrence of two rare avian species, the glossy ibis and extremely rare Louisiana heron.

The placing of the condominium complex as far as possible from the wetland will create a separation of man's and fauna's necessary territory. The selective planting of low profile and aesthetically appealing flora will further the benefit of both inhabitants. Suggested plantings within a fifty foot border surrounding the marsh include Bittersweet, multiflora rose, autumn olive and black pine. This combination will attract desirable avian species to control mosquito and green fly populations that do bother humans desiring to inhabit coastal areas. The erection of a purple martin apartment dwelling on the marsh would attract this species if it is placed at least 25 feet high and is 30 feet from the nearest trees or upland shrub vegetation. These insect avors are not only pleasant to observe but also naturally control insect populations.

During the past two years, the DEP Marine Region V Unit has conducted a federally financed bird survey of Connecticut's coastline with one of the observation stations the Plum Bank Creek marsh.

In 1974, the following species were observed: Canada goose (migrating, feeding), scaup, sparrow hawk, marsh hawk, snowy egret, green heron, black crowned night heron, black billed plover, killdeer, greater lesser legs, least sandpiper, black backed gull, herring gull, least tern, common tern, rock dove, morning dove, chimney swift, eastern kingbird, barn swallow, tree swallow, common crow, robin, starling, red winged blackbird, grackle, sharp billed sparrow, song sparrow. But most important, the rare glossy ibis was frequently observed feeding in the marsh.

In 1975, there were significant and more frequent observations of the rare glossy ibis and the extremely rare Louisiana heron actively feeding in the marsh. All birds observed in 1974 were also observed in 1975 with the presence of the marsh hawk, greater yellow legs, eastern meadowlark, ruby turnstone plovers, house finch, mallard and black ducks, clapper rail, least tern, purple martin, goldfinch, great blue heron, double crested cormorants, common egret.

Benthic sampling of the wetlands and adjoining waterways show abundant populations of invertebrates and providing an ample food source for the wildlife observed. The populations and species observed give further evidence that this is a healthy viable wetlands. During this field inspection, fauna was not sampled because they characteristically burrow in winter beyond the capacity of sampling equipment available to this reviewer. However, in conjunction with the avian survey, samples taken at various stations in the marsh show abundant and healthy invertebrate populations.

CLIMATOLOGY

The following data was taken from The Climate of Connecticut, Connecticut Geological and Natural History Survey, Bulletin 99, 1965.

Mean Annual Precipitation: 48"
 Mean Annual Temperature: 51°F
 Average date of last occurrences of 32°F
 temperature in spring: April 15
 Average date of first occurrences of
 32°F temperature in fall: October 25
 Average length of freeze-free season: 190 days
 Average winter wind velocity and
 direction: 7.5 mph, south
 Average heating degree days: 5600

The major climate problem will be that of wind exposure. The site can expect considerably higher winds than the averages shown above. This in turn will cause considerably higher fuel usage in the buildings (depending upon their design). The winter heating demand on the buildings can be reduced 20 to 40% by properly planned windbreaks. A shelterbelt of dense coniferous trees - two to three rows to protect the N and NW sides of the site would protect the area during the winter. The trees must be planted in the 69B soil as they will not survive in the tidal marsh soil. A conifer buffer strip, juniper - cedar, pine, hemlock, or Norway spruce complex would be used. Although the species of trees used should eventually reach 40-60' in height for maximum protection, they will offer considerable protection when they reach approximately 1/2 the height of the buildings. The south edge of the property should be left open to allow as much cooling summer wind as possible.

WATER SUPPLY

The water supply for the proposed development is to be derived from the existing public water system of the Connecticut Water Company which services the general area. Supply services are a combination of surface reservoirs and wells. Although the water supply is currently adequate for the area served, the developer's engineer should determine the necessary volume needed to serve the approximate 80 proposed households, as well as any additional supply pipes and fire hydrants needed to support the development.

WASTE DISPOSAL

The area is not currently served by public sewers. The Old Saybrook Town Plan of Development shows residential-suburban areas south of Interstate 95 as a potential sewer service area. The Connecticut River Estuary Regional Planning Agency Waste Water Plan has identified the Saybrook Village/Business District as a future sewer service area as well.

As the town does not have a municipal sewerage system, sewage disposal for the development is to be attained by on-site subsurface septic tank and leaching systems. Soil survey mapping information provided in the soil map in the Appendix of this report, indicates that in the upland sections of the site proposed for the condominium development, the Agawam soils exhibit only slight limitations for on-site sewage disposal, with the underlying soil apparently consisting of well drained sand and sandy gravel. The major concern relative to the site is the question of elevated or periodic high ground water due to adjacent tidal waters, knowing that the ground water may have an adverse affect on the function-

ing of the leaching facilities. The Public Health Code states that the bottom of any leaching system is to be at least eighteen inches above the maximum ground water level. Under unusual flooding conditions, such as may happen during a severe storm or hurricane, the normally expected high water levels would be temporarily exceeded. It has therefore been generally recommended that in areas adjacent to tidal waters where subsurface sewage disposal systems are to be installed, the ground surface elevation should be at least elevation 10. While no actual perc tests have yet been made to observe for ground water levels and to determine seepage rates, it was stated that portions of the field areas which would be used for the complex had surface elevations below 10. Therefore, some regrading to obtain uniform higher ground grades would appear to be needed in order to obtain more favorable site conditions. The developer mentioned that consideration would be given to reshaping the land in an effort to make this flat area more attractive. This reshaping would be beneficial to the leaching fields as well as to give a rolling effect and to break up the current monotony of the landscape. During the possible reshaping of the land, it would also be advisable for a few settling ponds to be developed to catch the runoff from the roofs, parking areas and streets rather than to run directly into the tidal marsh.

There was also some mention of having more than one unit served by a common sewage disposal system. In accordance with Public Health Code requirements, each building is to be served by a separate subsurface sewage disposal system unless the system is approved as a public sewage system. This would necessitate the approval by several state agencies. Even with the suggested "over designing" of the leaching fields as mentioned earlier, it would be advisable to locate the systems as far back as possible from the tidal marsh.

HAZARDS

To prevent disturbance of wildlife in the marsh, a border strip of conifers or other shrubs should be planted in the transition area between tidal marsh and upland. This will also attract various avian species which can offer a natural mosquito control measure.

In an effort to control erosion and sedimentation into the tidal marsh, reasonable effort should be made to minimize the length of time that the area is exposed as bare ground.

The area lies within what has been mapped by the U.S. Geological Survey to be flood prone by the 100 year flood event. (Refer to following page, Map of Flood Prone areas, Essex, Connecticut quadrangle, U.S. Geological Survey, 1975, revised.) The HUD-FIA Flood Hazard Areas map also show the site as flood prone, and that map is on file in the Old Saybrook Town Hall.

The practical aspects of flooding relate to the site's proximity to tidal water and the site's general low elevation. Corps of Engineer's data for this part of the coast indicates statistically that storm flooding that will cover most of the site with water will occur several times per century and that the 100 year flood would put most of the site under 2 or 3 feet of water.

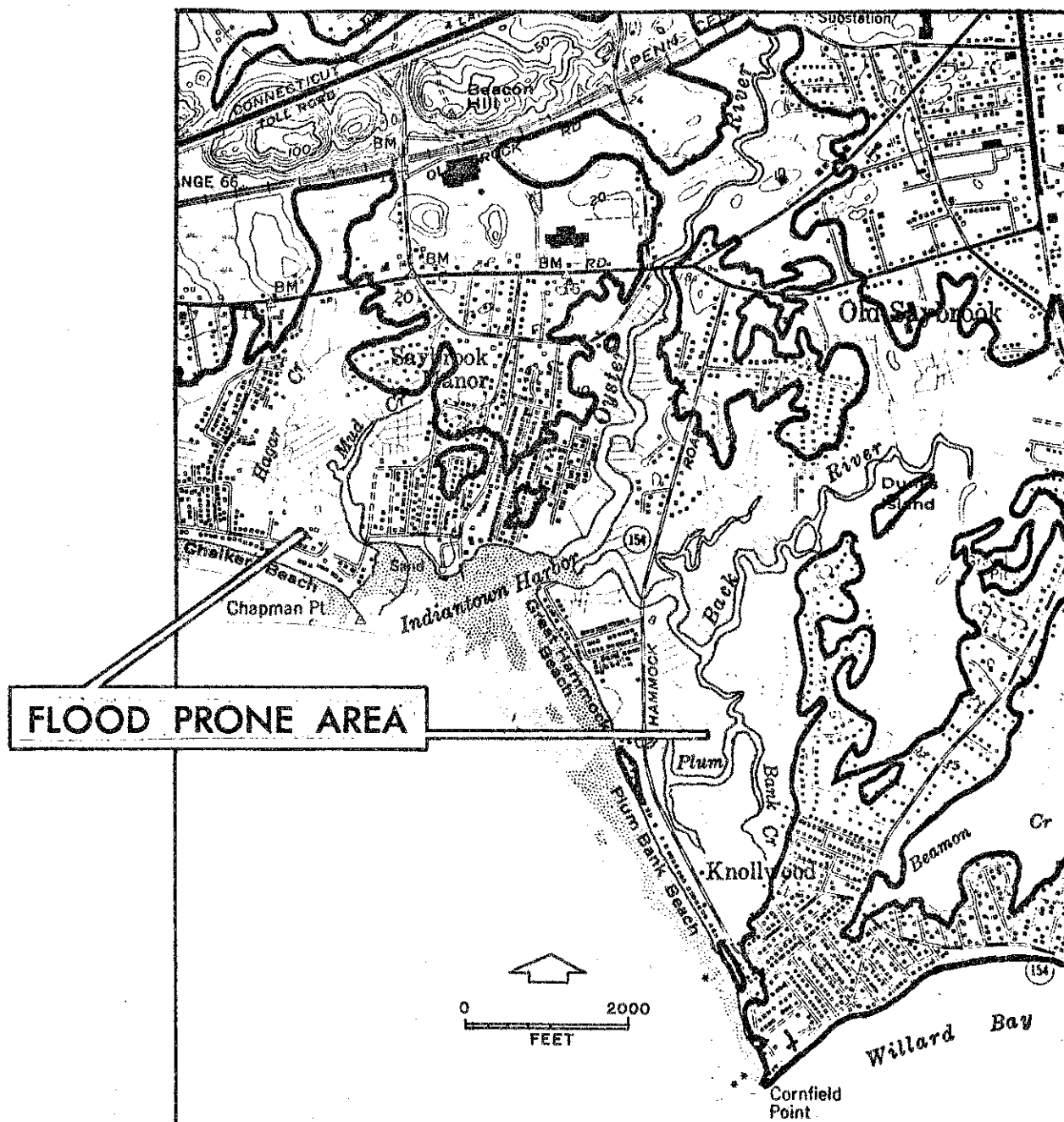
The risk of flooding represents a serious drawback to the use of the site for residential development. This part of the coast has had no major floods in the last twenty years or so, and a considerable amount of land development has taken place in low lying areas during that time.

FLOOD-PRONE AREA MAP

ESSEX QUADRANGLE, CONNECTICUT

U.S. GEOLOGICAL SURVEY, 1975

(revised)



Approximate boundaries of flood-prone areas are shown on this map. There is, on the average, about 1 chance in 100 that the designated areas will be inundated in any year. This information is important to public agencies and private citizens concerned with future land developments.

The flood-prone areas have been delineated through use of readily available information on past floods rather than from detailed field surveys and inspections. In general, the delineated areas are for natural conditions and do not take into consideration the possible effects of existing or proposed flood control structures except where those effects could be evaluated. Flood areas have been identified for drainage basins, depending on topography and potential use of the flood plains.

The 89th Congress, in House Document 465, recommended the preparation of flood-prone area maps to assist in minimizing flood losses by quickly identifying the areas of potential flood hazards. More detailed flood information may be required for other purposes such as structural designs, economic studies, or formulation of land-use regulations. Such detailed information may be obtained from the U.S. Geological Survey, other Federal agencies, or State, local, and private agencies.

Any prospective purchaser of a home in this area should be appropriately warned that there is a reasonable chance that he or she will be inconvenienced by tidal flooding and that there is an outside chance that there could be major flooding that could cause considerable property loss.

Although the town now has a mosquito control program, the feasibility of placing residential house units next to a salt marsh should not depend on the long term continuation of the mosquito control program. In the long term it may be environmentally unsound and/or economically unfeasible to continue mosquito control. The various elements of site design should be aimed at coping with the mosquitoes and other marsh residents as long term neighbors.

FOUNDATION DEVELOPMENT AND GRADED CONDITIONS

There should be a sediment and erosion control plan developed and implemented prior to construction of roads and grading. This will prevent siltation of the adjacent salt marshes. The soils of the upland portion of the site proposed for the development do not pose a problem for support of buildings with basements as these units are proposed to be built on supports or with crawl spaces.

Recommendations for the minimum elevation of the bottom of the leaching fields will, to a certain extent, determine the first floor elevations of the houses on the site. However, to provide some reduction of the risk of loss from flooding it is recommended that the first floor elevations be no lower than 12 to 13 feet above datum sea levels and that a first floor elevation of 13 to 14 feet above sea level would provide a much higher order of safety. It is recommended that no grading, filling, or excavating be done within 50 feet of the perimeter of the marsh.

Section 3.8.5 of the Old Saybrook Town Plan recommends limiting the aggregate extent of land coverage by buildings and paving in order to assure sufficient green space and vegetation to 25% maximum coverage in coastal plain residential areas.

AESTHETICS AND PRESERVATION

It is strongly recommended that site design give a high priority to providing a transition of land uses from the residential dwellings to the salt marsh. The site's proximity to the marsh presents an opportunity to allow the residents of the proposed development to appreciate the natural beauty of a marsh area. As future residents of this area will be interested in protecting the beauty of the marsh that they see, it is important that reasonable consideration be given to screen this development from the clear view of others. The land does sit on a peninsula and is prominently placed in the marsh. It is the responsibility of the site designer and the land owner to suitably screen the development from the marsh, and from the existing single-family homes in the immediate visual vicinity of the site. The use of the recommended natural buffer and the additional set back for structures would seem to provide ample provision for this consideration if building heights are kept low. The site's flat topography and total lack of trees or screening along the backyards on Shepard Street necessitates a concern

which should be addressed in the applicant's site plan. It is recommended that the site plan provide buffers with vegetative screening to visually separate and provide privacy for existing homes and the proposed development. Along the south and west sides of the site the design scheme should take advantage of the marsh vistas.

No land clearing, grading and filling should be permitted within the fifty foot buffer to the marsh, although some selective management of the vegetation could be done to provide an aesthetically pleasing and ecologically viable vegetation buffer. A marsh ecologist should be consulted to suggest the specific character of this buffer.

If the proposed natural vegetation buffer and the set back for structures are used, it is judged that the proposed land use will have minimal effect on the surrounding marsh. It is also important to consider the recommendations concerning the elevations of the septic leaching fields.

A significant impact will occur to the marsh if residents of the development conduct any large amount of activity in the marshes themselves. Although the channel in the Back River is quite deep at high tide, the area does not really have potential as a boating access area. It is strongly recommended that site design and all siting concepts not include active use of the marsh for the residents. If the developer is serious about his desire not to impact the marshes, this could be reinforced by his donating the marshland to a conservation agency, local or otherwise.

ROADS

Primary access to the site is from Shepard Street. A secondary access can be gained from Homestead Street via Maple Avenue. Homestead Street is presently a narrow dead end street which would need considerable improvement before it could be used for access to this site.

Shepard Street is the preferred access point as it is directly linked to Main Street, a major town thoroughfare. Entrance to the reviewed site is approximately 195 feet from the corner with Main Street. The close proximity of this site's entrance to a major town thoroughfare is an advantage because it should permit traffic flow almost directly into the development without disruption to a local residential street.

Runoff from roads should lead to storm drains. Provisions should be made for the drains to outlet to recharge basins rather than into the marsh. These basins would trap oil, road tar, etc., and prevent erosion. If there is a proposal to drain the roads to the wetlands, there should be a design to maximize dilution. A significant problem could develop if petroleum distillates are allowed to run onto the wetlands with a loss of flora and fauna.

SERVICES TO SUPPORT DEVELOPMENT

Sufficient town services exist to support the development. The site is located near Old Saybrook's village center. It is convenient to town facilities such as fire, police, town hall, library, and schools. Other community facilities

such as churches, and Old Saybrook's Historical Society's restored "Hart House" are nearby as well. Most of the town's retail and professional offices are within 1 to 1 1/2 miles of this site. Old Saybrook's new Solid Waste Transfer Station is adequate to accommodate the development. The school population should not be drastically affected as the developer has indicated the condominiums are primarily intended for the retirement market.

COMPATIBILITY OF SURROUNDING LAND USES

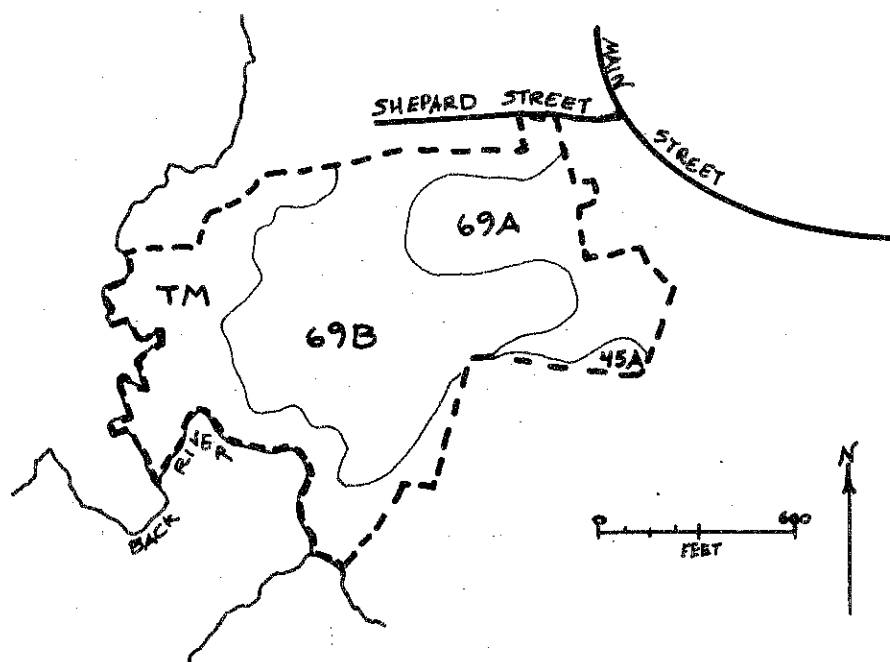
The surrounding land uses are single-family residential and permanent open space (as the State of Connecticut owns considerable tidal marsh acreage along the Back River). Residential use of this property is in harmony with the town's current zoning of the site, and with the town plan of development. Cluster development is encouraged with the Old Saybrook Town Plan of Development.

ALTERNATIVE LAND USES

Agricultural or open space use of this land would constitute viable alternatives to the proposed clustered residential development. Even with development of the upland portions of this site, the tidal marsh acreage could be donated or transferred to a local land trust or the Town of Old Saybrook as open space. Although the Agawam soils of the site constitute prime agricultural land, the area is small and isolated perhaps making continued agricultural use not economically feasible.

APPENDIX

SOIL MAP
CONDOMINIUM CLUSTER DEVELOPMENT
OLD SAYBROOK, CONNECTICUT



The map is an enlargement from the original 1320'/inch scale to 660'/inch.
Prepared by: UNITED STATES DEPARTMENT OF AGRICULTURE, Soil Conservation Service.

Advance Copy, Subject To Change

March 1976

OLD SAYBROOK: CONDOMINIUM CLUSTER

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
Agawam	A-1d	69A	8	23		1	1	1	1
Agawam	A-1d	69B	16	46		1	1	1	1
Tisbury	A-2	45A	1.2	3	Seasonal high water table	3	3	2	1
Tidal Marsh	F-2	TM	10	28	Tidal fluctuations	3	3	3	3
Total:			35.2	100%					

* 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.