HILLTOP ACRES SUBDIVISION

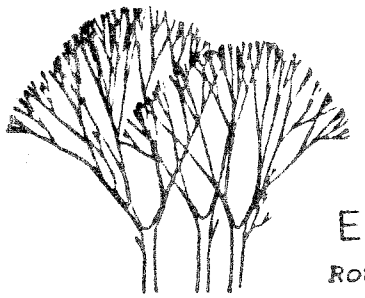
FRANKLIN, CONNECTICUT

OCTOBER, 1985

REVIEW DATE : OCTOBER 15, 1985

ENVIRONMENTAL REVIEW TEAM REPORT

EASTERN CONNECTICUT RESOURCE CONSERVATION & DEVELOPMENT AREA



Environmental Review Team

Eastern Connecticut Resource Conservation & Development Area
Route 205, Box 198 Brooklyn, Connecticut 06234 (203) 774-1253

October 29, 1985

Russel Beisiegal
Chairman, Planning and Zoning Commission
Town of Franklin
Franklin, Connecticut

Dear Mr. Beisiegal:

I was able to put together for you and the Commission a report containing all the ERT members reports. I received the last report today, so that it was impossible to put together the usual report that we give the towns.

This report contains the unedited reports of the Team members. It does not contain a table of contents, an introduction, or a summary. I apologize for the lack of finesse, but due to the time constraints I was limited in what I could do. I hope that this report is of use to you.

If you have any questions concerning this report please call me.

Sincerely,

Elaine A. Sych

Elaine A. Sych
ERT Coordinator

ENVIRONMENTAL REVIEW TEAM REPORT
ON
HILLTOP ACRES
FRANKLIN, CONNECTICUT

This report is an outgrowth from the Franklin Planning and Zoning Commission to the New London 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 Council for their consideration and approval. The request was approved and the measure reviewed by the Eastern Connecticut Environmental Review Team (ERT).

The ERT met and field checked the site on Tuesday, October 15, 1985. Team members participating on this review included:

Gerry Amt	-Regional Planner, Southeastern CT Regional Planning Agency
Don Capellaro	-Sanitarian - CT Department of Health
Liz Rogers	-Soil Conservationist - USDA, Soil Conservation Service
Carol Sacknoff	-Wildlife Biologist - Department of Environment Protection
Eric Schluntz	-Fisheries Biologist - Department of Environmental Protection
Elaine Sych	-Coordinator - Eastern CT Environmental Review Team
Bill Warzecha	-Geologist - DEP, Natural Resources Center

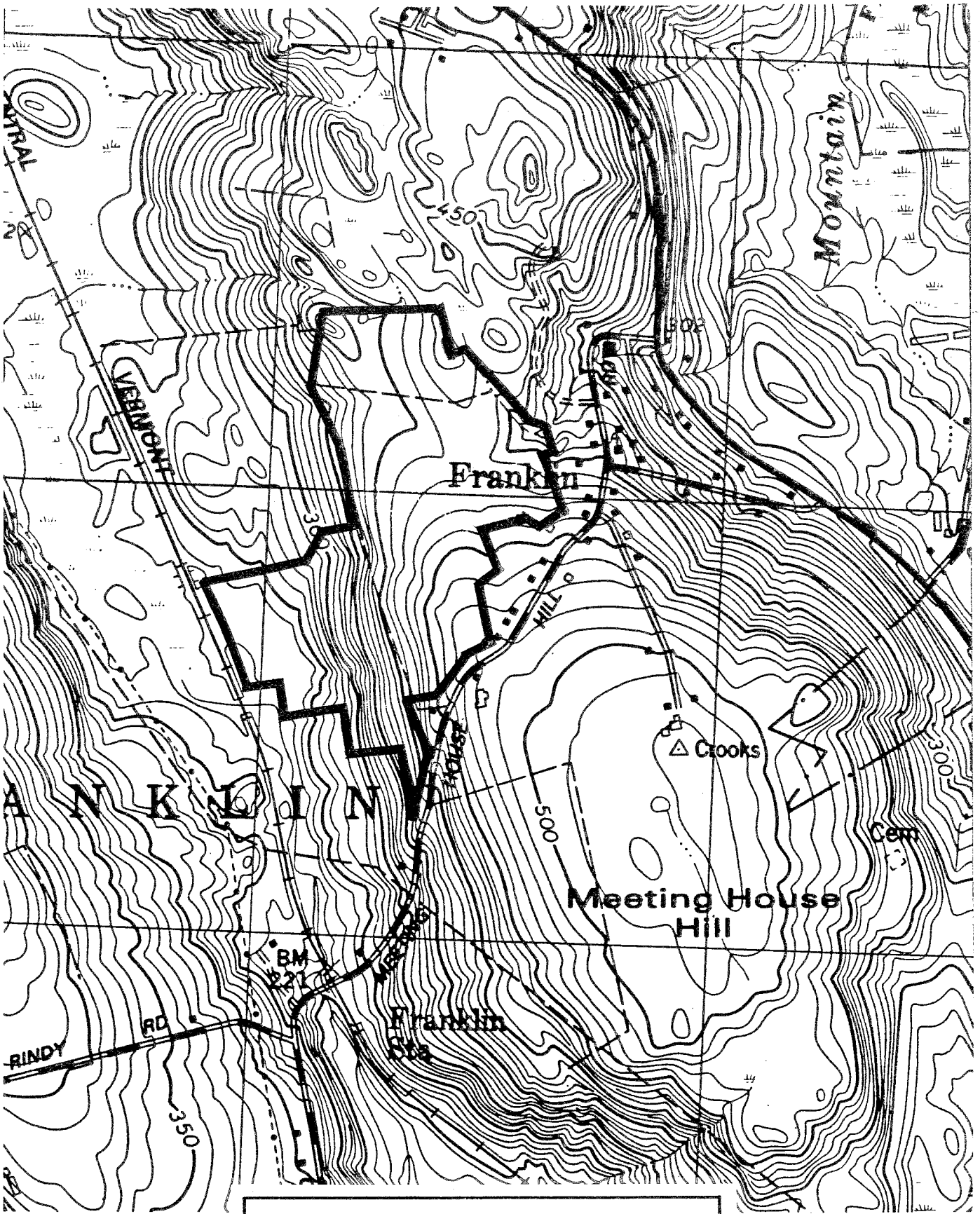
Prior to the review day, each team member reveived a summary of background information, a list of the Towns concerns, a location map, and a soils map. At the review large scale topographic maps and subdivision plans were given out. The Team met with, and were accompanied by Town officials, and representatives of the engineering firm for the applicant. Following the review, reports from each team member were submitted to the ERT Coordinator for compilation and editing into this final report.

This report represents the Team's findings. It is not meant to compete with private consultants by providing site designs or detailed solutions to development problems. The Team does not recommend what final action should be taken on a proposed project-all final decisions and conclusions rest with the Town and the landowner. 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 Town and the developer. The results of this Team action are oriented toward the development of better environmental quality and the long-term economics of land use.

The Eastern Connecticut Resource Conservation and Development Area hopes you will find this report of value and assistance in making your decisions concerning the Hilltop Acres subdivision.

If you require any additional information, please contact:

Elaine A. Sych
ERT Coordinator
Eastern CT RC&D Area
P. O. Box 198
Brooklyn, CT 06234
(203) 774-1253

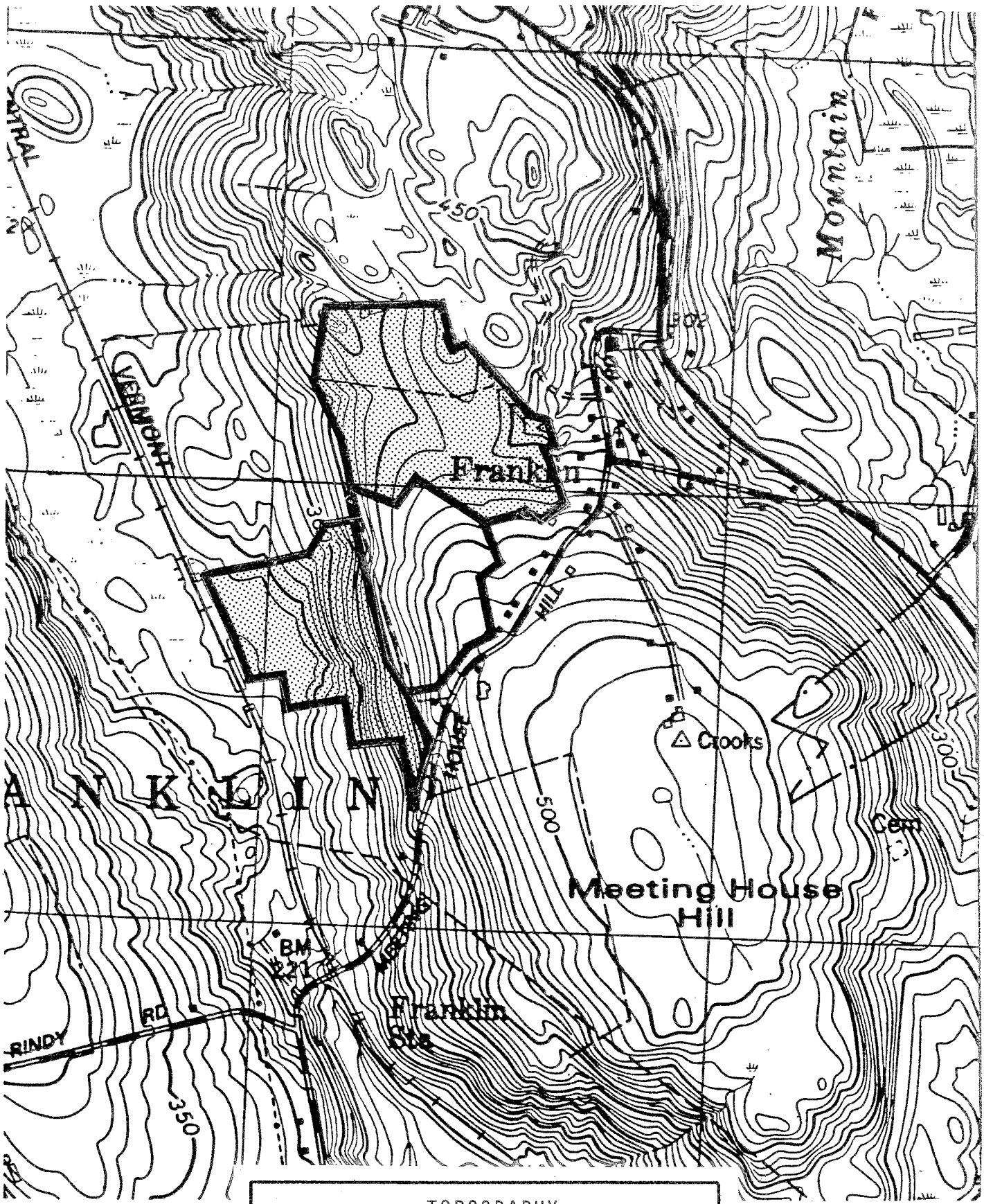


TOPOGRAPHY

SITE BOUNDARY*

*All land owned by Crossen Builders

1"=1000'



TOPOGRAPHY

SITE BOUNDARY

OTHER LAND OF CROSSEN BUILDERS - "Not a building lot at this time."

1"=1000'

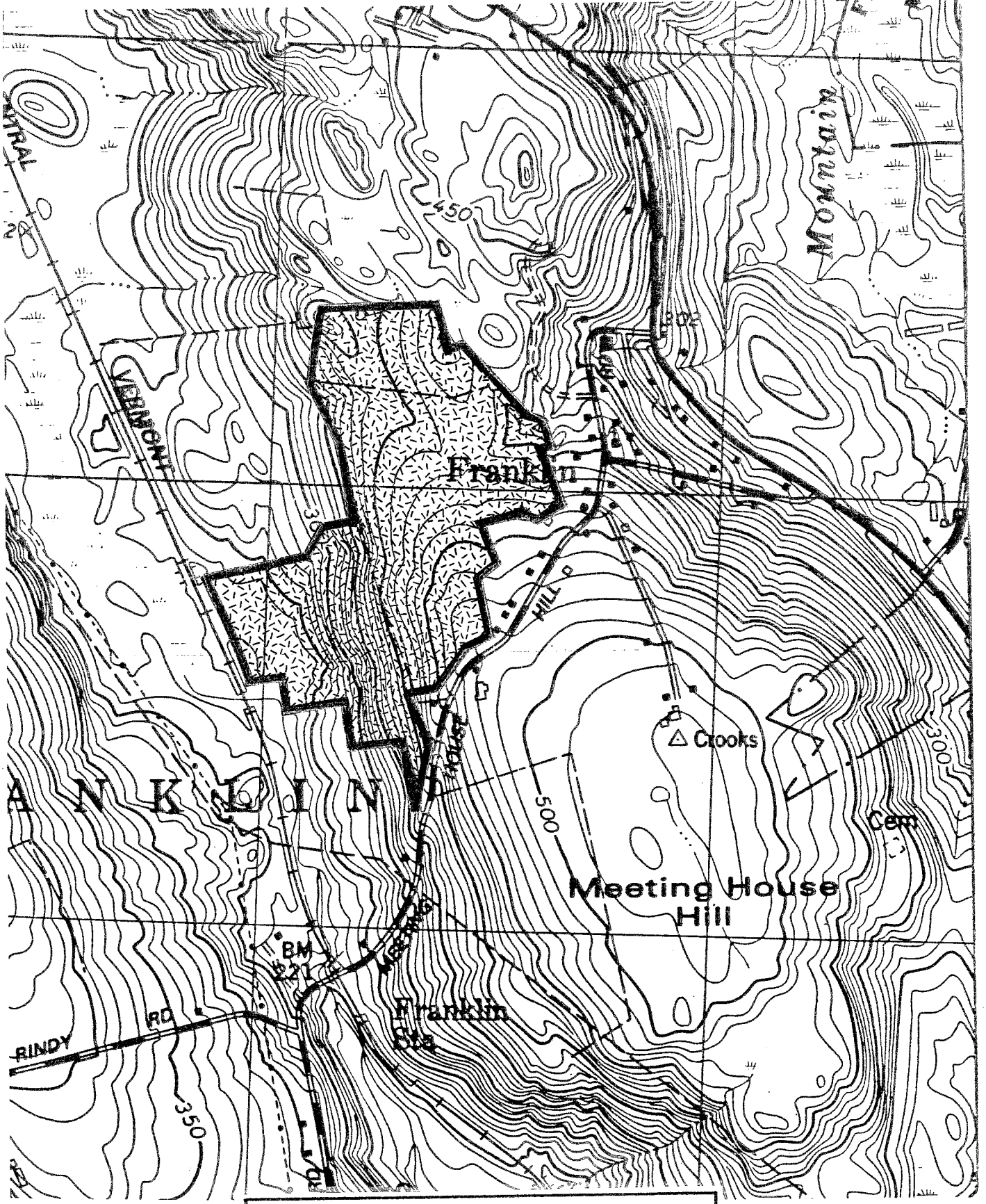
Eastern Connecticut Environmental Review Team
Re: "Hilltop Acres Subdivision" - Franklin, Connecticut
Date: October 15, 1985
Reviewer: Bill Warzecha, DEP Geologist

TOPOGRAPHY AND SETTING

The proposed ± 24 acre subdivision site is located in the southcentral parts of Franklin. It is irregularly shaped and will be accessed off of Meeting House Hill Road. Present plans (10/10/85) indicate the parcel will be subdivided into 9 lots. Lots 1-3 are about one acre in size, Lots 4-8 range in size from about 1.5 acres to 2 acres, and Lot 9 is about 2.5 acres.

The property flanks the west side and northern tip of Meeting House Hill. The eastern portions of the property, which are comprised largely of mowed open fields are characterized by a relatively flat to gently rolling terrain. The western half of the property slopes moderately to steeply westward towards Susquetonscut Brook. Maximum and minimum elevations on the site are about 480 feet and 230 feet above mean sea level, respectively. No major streamcourses were seen during the field review, however, Susquetonscut Brook forms a very small section of the western property line. Based on sheet 7 of the plans submitted to Team members on the field review day, regulated inland-wetland soils [redacted] cover some portions of the site in the western and northern parts [redacted].

The proposed subdivision lies within the Fitchville topographic quadrangle. A bedrock geologic map (by George L. Snyder, Geological Survey Bulletin 1161-I) and a surficial



BEDROCK GEOLOGY

Scotland Schist

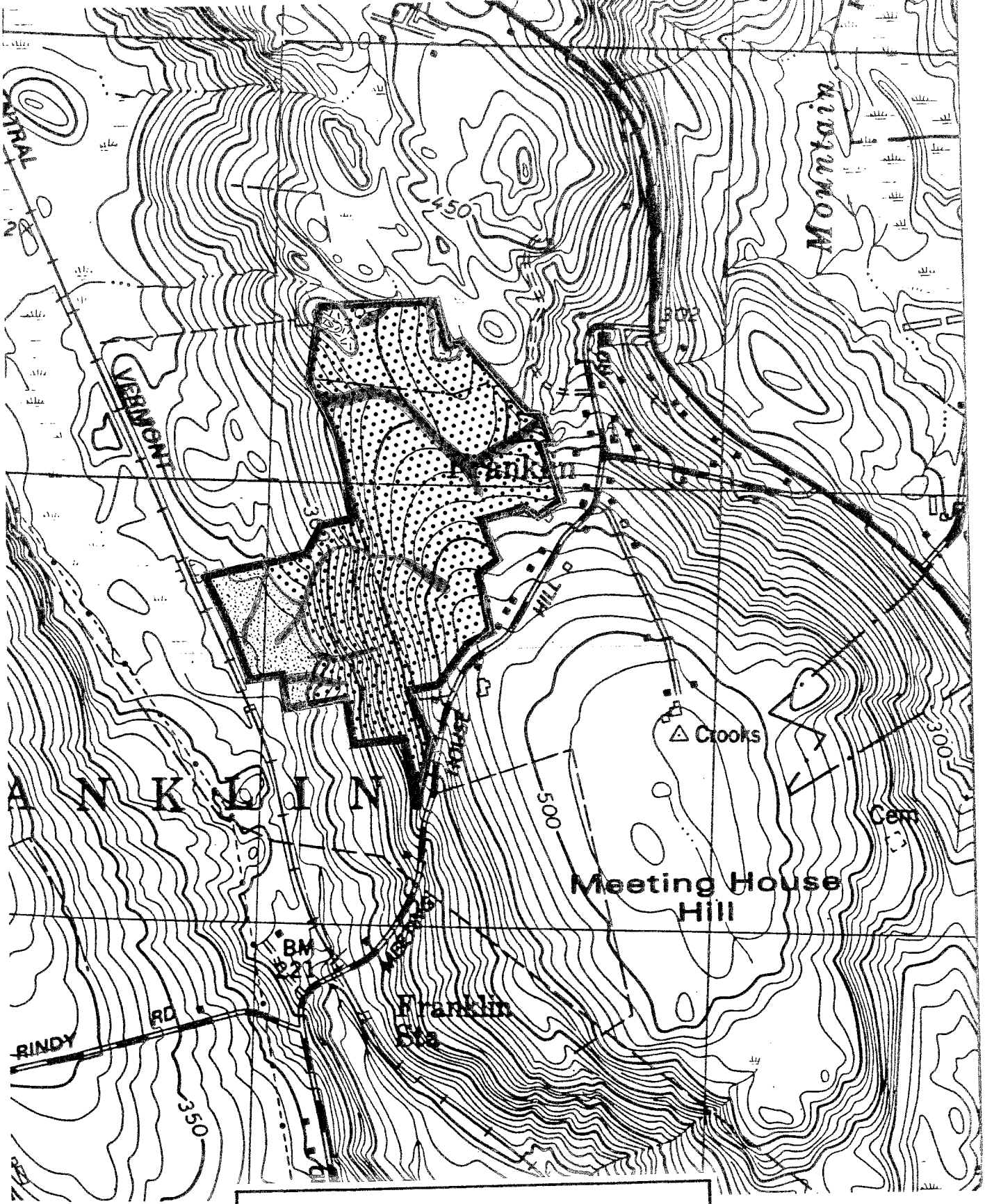
1"=1000'

geologic map (by Fred Pessl, GQ-485) for the Fitchville quadrangle have been published by the U.S. Geological Survey. It should be pointed out that the bedrock map is presently out of print, but a copy of it is available for review purposes only, at the Department of Environmental Protection's Natural Resources Center in Hartford.

Other references cited for this report included the "Soil Survey for New London County" and soils information pertaining to the 63 deep test pits excavated throughout the site. The soils information referenced was found on sheet 7 of the plans dated 10/10/85 (revision).

According to Snyder's map, the bedrock underlying the entire site has been identified as Scotland Schist. No continuous outcrops were observed during the field visit. However, two small, isolated exposures of rock, which appears to be characteristic of Scotland Schist is visible near test pit 29 on Lot 7. It is not possible, without excavating deep test pits in this area to determine whether or not the exposed rock is an outcrop or a large boulder. If a sewage disposal system is proposed in this area, it would be prudent for the town sanitarian to request more deep test pits in order to accurately assess the ledgerock profile in this area.

Based on deep test pit information, bedrock was not encountered in any of the 63 pits excavated on the site, which ranged between 7 feet and 8 feet below ground surface. The exact depth to bedrock is unknown, but it may be as much as 20 feet thick at some points on the site. Pessl's surficial geologic map



SURFICIAL GEOLOGY

Till

Stratified Drift

Shallow to Bedrock Areas

Seasonally Wet Areas

1"=1000'

(Map GQ-485) indicates some shallow to bedrock areas at the northern limits of the property.

The Scotland Schist formation consists of a silvery to rusty weathering rock composed of the minerals quartz, muscovite, biotite, oligoclase, staurolite and garnet. The term 'schist' refers to a crystalline, metamorphic rock in which platy minerals, primarily muscovite and biotite have aligned to form layers along which parting can easily occur. Metamorphic rocks are rocks which have been geologically altered under great heat and pressure within the earth's crust. Schist's are commonly identifiable by their wavy or crinkled surface.

Overlying bedrock on most of the site is a blanket of non-sorted, non-stratified rock particles. This material is known as till and was deposited directly from glacier ice, which formerly occupied the area. For the most part, the texture of the till throughout the site is generally loose and sandy in the upper portions (about 18"-24"). Below this depth, however, the till commonly becomes finer grained and more compact. As a result of this firm layer, a seasonally high groundwater table and low permeability is commonly encountered with these soils.

Another type of glacial deposit found on this site is stratified drift. Stratified drift consists primarily of sand and gravel. These particles were deposited by meltwater streams that issued from the wasting glacier area. The stratified drift covering the site consists mainly of a pebbly sand. Stratified drift on the site is found principally along Susquetonscut Brook in the western parts. These deposits are delineated as HkD

(Hinckley gravelly sand loam) and MyB (Merrimac sandy loam) on the accompanying soils map. The stratified drift deposits also underlie the the Ro (Rippowam fine sandy loam) soils on the soils map.

Seasonally and permanently wet areas have been mapped on the site by a certified soil scientist. It is presumed that these soils have been identified as Rd (Ridgebury fine sandy loam) soils, Rn (Ridgebury, Leicester, and Whitman series), and Ro (Rippowam, fine sandy loam) series. The latter soil series consists of an alluvial deposit which (is comprised) of silt, sand, and gravel deposited on floodplains by Susquetonsut Brook. These soils are also regulated inland-wetland soils. Therefore, any activity which involves filling, modifying or polluting a wetland will require a permit from the Town and may be subject to public hearings. The proposed 9-lot subdivision does not appear infringe on wetland soils at the present time. However, future phases of development in the northern parts of the property may infringe on inland-wetland soils. Because of accessibility problems (i.e., steep slopes), it seems likely that the inland-wetland soils in the western part of the site should not be disturbed by development.

WATER SUPPLY

Individual on-site water supply wells have been proposed to serve the subdivision. Bedrock appears to be the only suitable aquifer for such wells in the area. A shallow dug well in the till might be used as a source of additional supply, for example,

gardening purposes. Till reservoirs, however, may dry up during droughty weather conditions, particularly where the depth of the dug well is shallow.

Water is supplied to bedrock-floored wells chiefly through fractures in the rock. Because of the uneven distribution of the fractures, it is very difficult to predict the potential yield from any new well. A yield of a least 3 gpm (gallons per minute) is desirable and is adequate for most household needs. In a survey of 134 bedrock wells in the Shetucket River basin, it was found that 90 percent of the wells provided 3 gpm or more. Few wells supplied 50 gpm or more (source: Connecticut Water Resources Bulletin No. 11).

In general, wells should be located at the high side of lots properly separated from sewage disposal systems or other potential sources of pollution such as buried fuel oil tanks. They must also be properly separated from watercourses or drains and be protected from surface drainage and erosion.

Properly drilled and sealed deep wells will generally afford the most protection against possible sources of pollution and have the most reliable yield, particularly during seasonal or prolonged dry periods. Since there is always a possibility of very low yield or problems of insufficient supply, it is possible and prudent to have the well installed prior to the time of actual house construction. Increasing the depth of wells and/or by providing larger storage tank facilities are means by which low yielding wells can often be made to operate satisfactorily during peak demand or usage periods.

The Scotland Schist underlying the site contains manganese and iron-bearing minerals, i.e., garnet, staurolite, opaque minerals, etc., that may taint local well water. Hence, water from any new wells should be analyzed for chemical problems and, if necessary, appropriate filtration measures taken.

The open fields in the eastern parts may have been used for agriculture uses in the past. If the fields were heavily fertilized, there is a chance for elevated nitrate levels in the underlying bedrock or till aquifers. In general, the maximum level for nitrate in drinking water should not exceed 10 ppm. This level would be of particular concern for infants, rather than older children or adults, who might be subject to consuming water of such quality.

Town officials questioned on the review day whether or not the proposed wells serving each lot in the subdivision would deplete water levels and/or interfere with the yields of neighboring wells. As mentioned earlier, lots in the proposed subdivision will probably be served by individual drilled wells which tap the underlying bedrock. When a well is pumping, ground water flow around the well and within fractured zones in the bedrock changes direction. Instead of moving toward discharge zones, such as a stream, spring, seep, etc., the ground water moves towards the pumping well in every direction. The pumping well creates an artificial discharge area by lowering the water table around the well and withdrawing water from saturated fracture zones in the bedrock. This results in a cone of depression or an area of drawdown. Every type of pumping well

has a cone of depression. The size of the cone of depression or area of influence will depend upon the duration and rate of pumping, the aquifer's characteristics, the natural slope of the water table, and the availability of recharge to the aquifer. Even with the use of geophysical equipment, it is very difficult to determine the cone of depression for a particular bedrock well. Because bedrock wells commonly only require about 3 gallons per minute to adequately serve residential homes, it seems likely that a particular bedrock well's zones of influence should not be very large. Nevertheless, when several wells are drilled in an area, it is advisable to separate them by at least 300 feet to minimize the potential for mutual interference.

Bedrock wells serving the proposed subdivision would probably have little or no affect on neighboring dug wells. Dug wells are typically shallow and depend upon the local water table rather than water which saturates the fractures in the underlying bedrock.

GEOLOGIC DEVELOPMENT CONCERNS

In terms of the proposed subdivision development, the main geological limitations found on the parcel include; 1) the moderate to steep slopes in the western portions part (it appears these areas will be avoided in terms of present development plans); 2) the compact nature of the till based soils, which commonly results in seasonally high water tables and which also have medium to low permeability; 3) the presence of seasonally

and permanently wet soils, which are regulated inland-wetland soils, in the northern and western parts of the property (according to present plans wetlands in the wester parts will be avoided).

It was mentioned on the review day that there is a possibility that the proposed subdivision may expand to the northern parts of the parcel. In addition, there is a possibility that the developer may also purchase property (Calabretta Property) to the northwest. Generally speaking, the same geologic limitations, mentioned above would be encountered on the Calabretta Property. Some shallow to bedrock areas may also be encountered. Detailed soil testing would need to be conducted in order to accurately assess subsurface conditions in terms of residential development.

The geologic limitations mentioned above will weigh heaviest on the ability to provide adequate subsurface sewage disposal systems serving homes constructed in the subdivision, since public sewers are not available. In many cases, proper planning and engineering can overcome some of the limitations. For example, based on the deep test hole data made available to team members, it appears that the major limiting factor to address will be a seasonally high water table due to a firm soil layers at about 18-24. Engineering practices commonly used to overcome these limitation includes; 1) keeping the leaching system shallow; 2) the placement of proper fill material so that leaching systems are kept elevated above the high ground water level; 3) the installation of a ground water intercepting drain

uphill from the leaching system; and 4) to spread the leaching systems out over a wide area, rather than stacking the leaching trenches one after another. It seems likely that the larger lot sizes (greater than two acres) will allow the design engineer greater flexibility for placing the sewage disposal system while the smaller lots may be more difficult.

Based on deep test hole information, all of the proposed lots will require engineer designed septic systems. Once septic systems are engineered and approved by the proper authorities (i.e., state, local or district health department), it is MOST important that the systems be installed properly according to design specifications and also be properly maintained (e.g., pumped regularly (3 to 5 years) by the homeowner).

Because there is a high potential for wet basements, it is recommended that building footing drains be considered. This would hopefully help keep basements dry during wet periods.

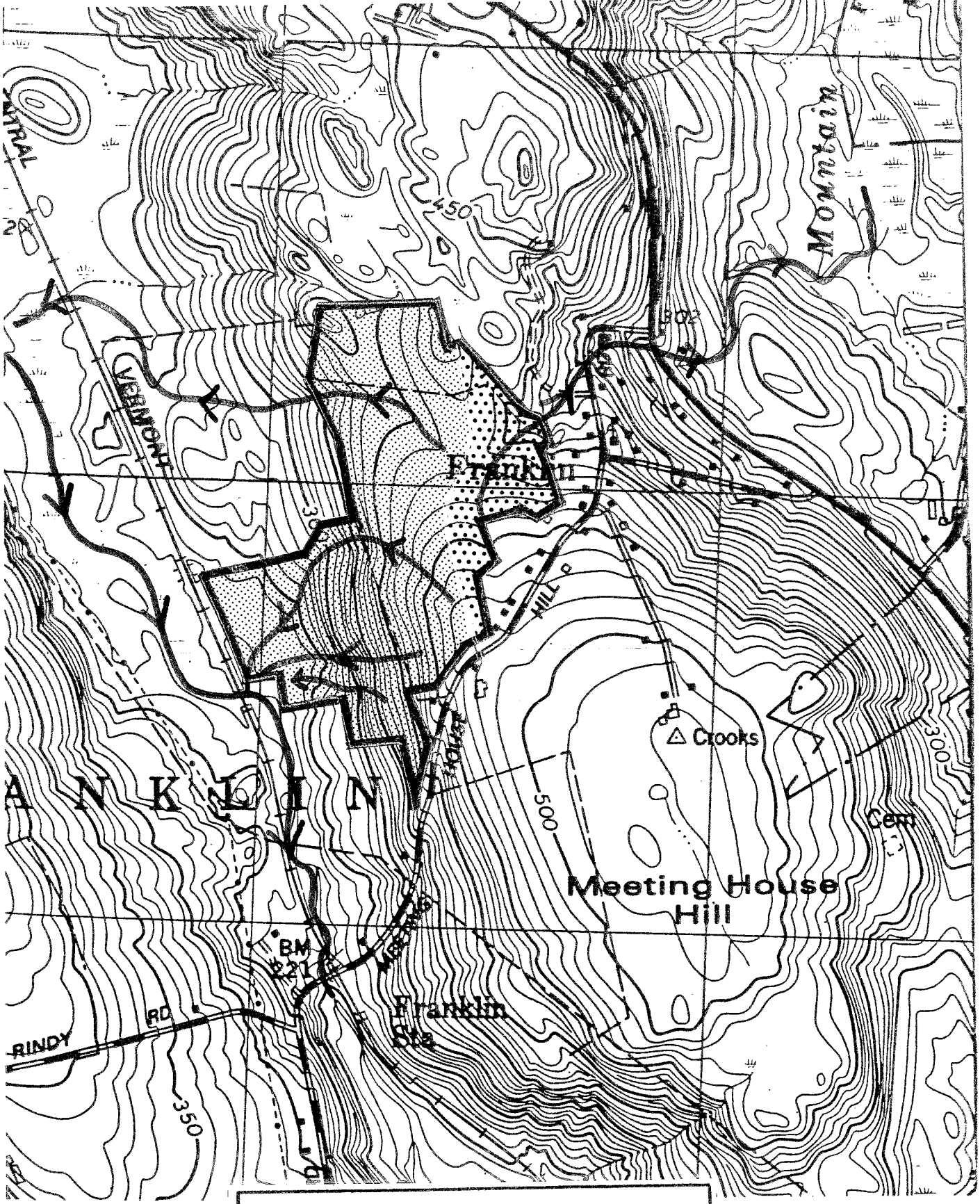
In view of the moderate to steep slopes on the site, it is recommended that disturbed areas be kept to a extreme minimum. Also, in this regard, it is recommended that a detailed erosion/sediment control be formulated prior to development and be implemented and strictly enforced during construction phases. This will help protect soils from being eroded on the site and ultimately carried to the Susquetonscut Brook. The latter is currently classified as B/A (ACCORDING TO) Connecticut Water Quality Standards and Criteria, State of Connecticut Department of Environmental Protection's Water Compliance Section. This classification means that Susquetonscut Brook is currently classified a B with hopes

of upgrading it to an A. A Class B surface water body is defined as suitable for bathing, other recreational purposes, agricultural uses, certain industrial processes and cooling, excellent fish and wildlife habitat, and good aesthetic value. A Class A surface water body may be suitable for drinking water supply and/or bathing, suitable for all other water uses, character uniformly excellent, may be subject to absolute restrictions on the discharge of pollutants. Therefore, every effort should be made to protect this valuable natural feature in the town.

HYDROLOGY

Most of the Crossen Property drains westward to Susquetonscut Brook, which is a tributary to Yantic River. Surface drainage in the eastern limits drains eastward to Mountain Brook. Mountain Brook ultimately drains into Mahoney Pond to the northeast. It appears that surface drainage from the proposed nine lot subdivision as well as possible future development on other lands owned by Crossen or on the Calabretta Property would drain mostly westward to Susquetonscut Brook.

Development of the site under the present proposal would be expected to increase the amount of surface runoff produced during periods of rainfall at least some. The increases will arise primarily from conversion of permeable soils to impermeable surfaces (roof tops, driveways, interior road system, etc.) and from removal of vegetation. The added runoff could cause increased overland and stream channel erosion (gullying). These


WATERSHED BOUNDARY
Portion of Crossen Property which drains to Mountain Brook.
Portion of Crossen Property which drains to the Susquetonscut Brook
Watercourses
1"=1000'
Franklin
Meeting House Hill
Crooks
Franklin Sta
RINDY
RD
VERMONT
HILL
Mountain
450
500
350
300
Cem
BM

potential problems will need to be properly addressed by formulating and implementing an effective erosion and sediment control plan for the project.

Because the proposed development which is ± 24 acres in size represents less than 1 percent of the Susquetonscut Brook watershed, it is not expected that post-development flows from the site would significantly increase the peak flows to Susquetonscut Brook during various storm events. While the hydrologic impact of the proposed development may be small for the lightly to moderately developed watershed, the cumulative impact of unregulated runoff from future developments in the watershed may be severe. For this reason, the town should require that each developer do his part to control runoff from future developments.

As depicted on the site plan (revised 10/10/85) stormwater drainage emanating from Lots 1-3 and on Hilltop Drive will be artificially collected by four proposed catch basins located on Hilltop Drive. Stormwater runoff collected in the catch basins will be piped northward to a point about 60' from the edge of Hilltop Drive. From this outlet, water will drain over land, ultimately into Susquetonscut Brook. It is recommended that this storm drain outlet include a designed energy dissipator to help protect areas below the outlet from gullying.

Prior to subdivision approval, it is recommended that the applicant be required to submit detailed hydrological information on pre- and post development runoff flows and peak flows from the site. Also, in this regard, consideration should probably be

given to future developments on the properties to the north and northwest. Estimates should be provided for 10, 25, 50 and 100 year design storm.

entirely within the underlying hardpan layer for proper evaluation. Where filling and regrading becomes an integral part of sewage systems, construction practices become more critical if potential problems are to be avoided. The bottom line for successful functioning sewage disposal facilities is having conditions where the surrounding naturally occurring soil is such that it can adequately handle the expected volume of sewage effluent to be discharged without creating a public health hazard, nuisance conditon or adverse effect on ground or surface water.

Provisions for taking care of the discharge from footing and ground water drains, particularly for proposed lots on the upper side of the drive, should be implemented. Also, because of slope, possible filling and runoff, means to prevent and/or minimize erosion during and following construction would be needed.

Sincerely,

Donald Capellaro

Donald Capellaro
Principal Sanitarian

DC:jc
cc: Sewage Disposal Section

STATE OF CONNECTICUT
STATE DEPARTMENT OF HEALTH
SOUTHEASTERN REGIONAL OFFICE
401 WEST THAMES ST. • NORWICH, CONN. 06360
OFFICE OF PUBLIC HEALTH
TELEPHONE 889-8341

October 29, 1985

Ms. Elaine Sych
Coordinator
Environmental Review Team
Route 205
Box 198
Brooklyn, Connecticut 06234

Dear Ms. Sych:

Re: Franklin, CT, Hilltop Acres Subdivision
Property of Crossen Builders, Inc.,
Meeting House Hill Road

This is relating to our observations and comments concerning the above referenced property in Franklin that was reviewed with the Environmental Review Team on October 15, 1985. Our remarks mainly pertain to water supply, sewage disposal and the general suitability for possible subdivision development.

The overal parcel, which consists of around 95 acres, is located on the north side of Meeting House Hill Road near (N.W. of) the high point of Meeting House Hill. The land consists of a number of large hay fields and wooded terrain beyond the open areas. The western side has the most pronounced slopeand the property at this side goes to the Central Vermont Railroad line. The Susquetongcut Brook also flows parallel with the railroad line and crosses a corner of the property. The eastern side is boarded by an old dirt roadway which goes in a northerly direction. The lower and more central north side encompasses a wetlands area.

At the present time about 25 acres of the property is being proposed for subdivision purposes. Gardner and Peterson Associates, consultants for the owners, have prepared a tentative layout plan for 9 lots. Apparently a total of 14 lots had been originally planned for the same acreage. It is understood that at the time the subdivision was presented for consideration zoning required minimum size lots of 1 acre. Since that time, the regulations have been changed to 2 acres minimum. Any rear lots, however, must have at least 4 acres.

As the rural town does not have municipal water supply or sewerage facilities, the lots in this proposed single-family development would be served with on site wells and subsurface sewage disposal systems.

WATER SUPPLY:

Wells for single-family houses would have a required withdrawal rate of under 10 gallons per minute to meet normal daily domestic needs. This, in turn, establishes the minimum required separating distance of at least 75 feet between a well and a sewage disposal system or other potential sources of pollution. With the present low density of lots proposed, it would not appear that on site sewage disposal should subsequently impair water quality from properly located and installed wells.

In general, wells should be located at or near the upper side of lots and in a direction away from the normally expected ground water flow from any probable source of pollution. It has been shown, in most cases, that wells of the drilled type will provide for more reliable yield during dry periods, allow more flexibility in location and afford greater protection of the water's sanitary quality. Drilled, rock wells, will usually yield sufficient quantity of water. Where yields tend to be rather low, means for increasing the storage capacity of the well by additional depth and providing larger size water tanks become necessary.

Also in cases where mineral components of the water, particularly iron and/or manganese, exceed recommended drinking water standards, water treatment facilities for the removal of these ingredients are needed in order to prevent objectionable color, staining or taste problems.

SEWAGE DISPOSAL:

Based on visual observations of the terrain, engineering test results and soil service mapping data the proposed subdivision acreage and the parcel in general, has evidence of a high seasonal (perched) ground water condition with underlying compact and slowly permeable soil. These conditions appear to intensify towards the lower northern part of the property where an area of wetlands becomes pronounced.

The State Public Health Code requires subsurface sewage disposal systems (bottom of leaching area) to be at least 18" above the maximum ground water level. Because of the water and soil limitations the disposal systems would be in an area of special concern and, therefore, would require engineering design before possible approval and construction.

In most cases when hardpan soils are involved systems should be made large, kept shallow in the better soils and spread out along the contour to further the lateral dispersal of effluent. Also ground water intercepting drains are generally needed to control perched ground water flowing over the top of the tight, compacted underlying soil during the wet season or after periods of considerable rainfall. If the hardpan layer tends to be only moderately restrictive then intercepting drains should be able to control seasonal high ground water within the actual moderately compacted layer itself. Thus it is important to have percolation tests made

entirely within the underlying hardpan layer for proper evaluation. Where filling and regrading becomes an integral part of sewage systems, construction practices become more critical if potential problems are to be avoided. The bottom line for successful functioning sewage disposal facilities is having conditions where the surrounding naturally occurring soil is such that it can adequately handle the expected volume of sewage effluent to be discharged without creating a public health hazard, nuisance conditon or adverse effect on ground or surface water.

Provisions for taking care of the discharge from footing and ground water drains, particularly for proposed lots on the upper side of the drive, should be implemented. Also, because of slope, possible filling and runoff, means to prevent and/or minimize erosion during and following construction would be needed.

Sincerely,

Donald Capellaro

Donald Capellaro
Principal Sanitarian

DC:jc
cc: Sewage Disposal Section

10·29·85

United States Department of Agriculture

Soil Conservation Service

October 26, 1985

Elaine Sych
EET Coordinator
NCRPA
Box 198
Brooklyn, CT. 06234

RE: Hilltop Acres, Franklin

Dear Elaine:

The Erosion and Sediment Control Plan that was included with the subdivision proposal was not complete. It is recommended that a plan be prepared and included as follows:

A. A narrative describing:

1. the development;

2. the schedule for grading and construction activities;

   a. start and completion dates;

   b. sequence of grading and construction activities;

   c. sequence for installation and/or application of soil erosion and sediment control measures;

   d. sequence for final stabilization of the project site;

3. the design criteria for proposed soil erosion and sediment control measures and storm water management facilities.

4. the construction details for proposed soil erosion and sediment control measures and storm water management facilities.

5. the installation and/or application procedures for proposed soil erosion and sediment control measures and storm water management facilities.

6. the operations maintenance program for proposed soil erosion and sediment control measures and storm water management facilities.

B. A site plan map at a sufficient scale to show:

1. the location of the proposed development and adjacent properties;

2. the existing and proposed topography including soil types, wetlands, watercourses and water bodies;

3. the existing structures on the project site, if any;

4. the proposed area alterations including cleared, excavated, filled or graded areas and proposed structures, utilities, roads and if applicable, new property lines;

5. the location of and design details for all proposed soil erosion and sediment control measures and storm water management facilities;

6. the sequence of grading and construction activities;

7. the sequence for installation and/or application of soil erosion and sediment control measures;

8. the sequence for final stabilization of the development site.

If you have any further questions, please contact our office.

Sincerely,

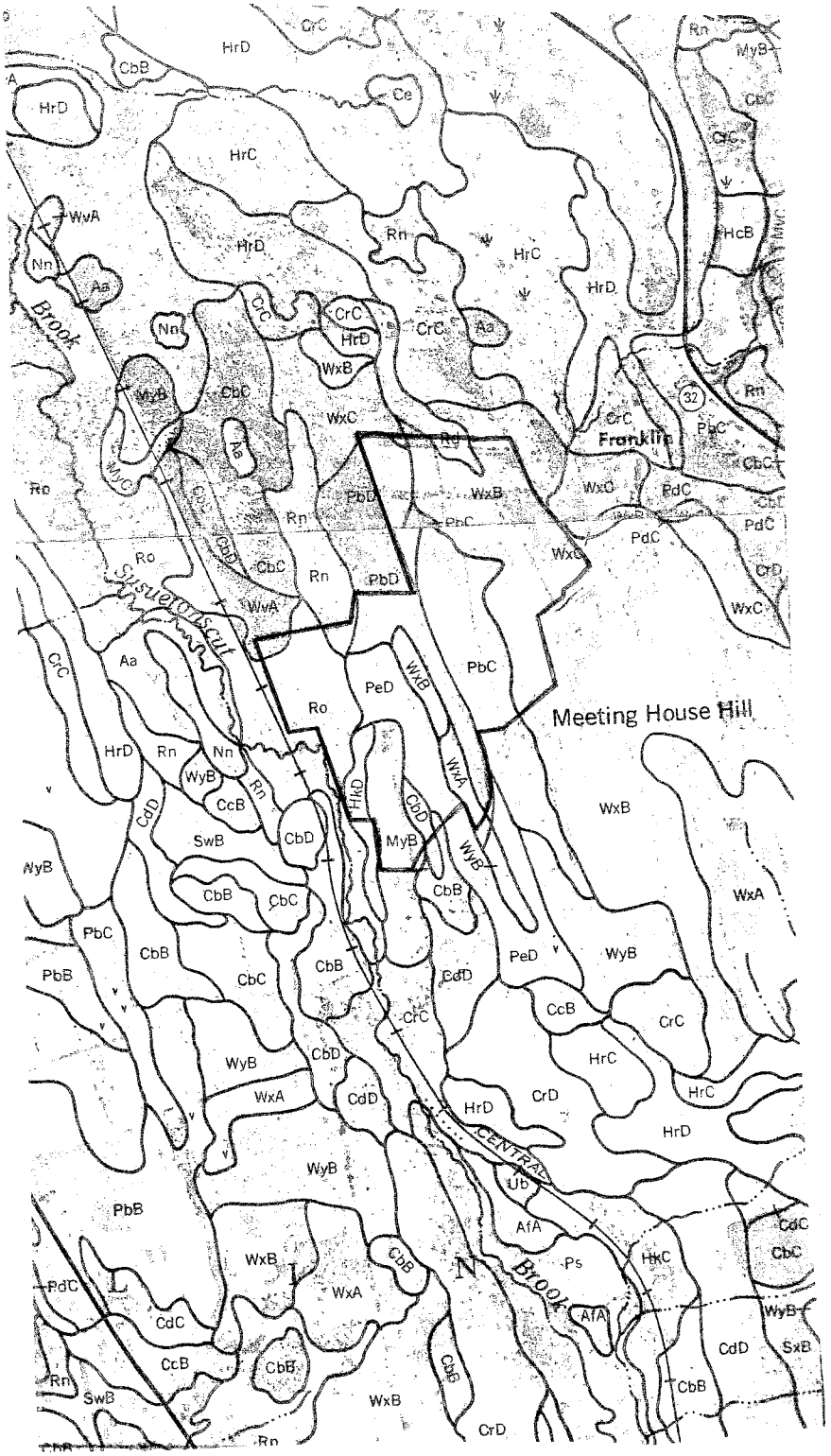
Elizabeth A. Rogers
Soil Conservationist

EAR/bs
Enc.

United States Department of Agriculture

Soil Conservation Service

NEW LONDON COUNTY SOIL SURVEY
SHEETS #9 and #18
SCALE: 1" = 1320'



ERT - REPORT - 10/26/85
HILLTOP ACRES, FRANKLIN, CONNECTICUT

Soils descriptions & limitations

Soil Symbol	Soil Name	BUILDING SITE DEVELOPMENT				
		Dwellings w/o Basements	Dwellings w/ Basements	Local Roads & Streets	Lawns & Landscaping	Shallow Excavations
CbD	Canton	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope, cutbanks cave.
	Charlton	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
HkD	Hinckley	Severe: slope	Severe: slope	Severe: slope	Severe: small stones, slope.	Severe: slope, cutbanks cave.
MyB	Merrimac	Slight	Slight	Slight	Slight	Severe: cutbanks cave.
PbD	Paxton	Severe: slope.	Severe: slope	Severe: slope	Severe: slope	Severe: slope.
	Montauk	Severe: slope.	Severe: slope	Severe: slope	Severe: slope	Severe: slope
PbC	Paxton	Moderate: slope, wetness.	Moderate: slope, wetness.	Moderate: slope frost action	Moderate: slope	Moderate: slope, dense layer, wetness.
PbC	Montauk	Moderate: slope, wetness.	Moderate: slope, wetness.	Moderate: slope, frost action, wetness.	Moderate: slope	Moderate: dense layer, wetness, slope.
PeD	Paxton	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
	Montauk	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Rd	Ridgebury	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness	Severe: wetness.
Ro	Rippowam	Severe: wetness, flooding.	Severe: wetness, flooding.	Severe: flooding, wetness, frost action.	Severe: wetness, flooding.	Severe: wetness, cutbanks cave.

ERT - REPORT - 10/26/85
HILLTOP ACRES, FRANKLIN, CONNECTICUT

Soils descriptions & limitations

Soil Symbol	Soil Name	BUILDING SITE DEVELOPMENT				
		Dwellings w/o Basements	Dwellings w/ Basements	Local Roads & Streets	Lawns & Landscaping	Shallow Excavations
WvA	Windsor	Slight	Slight	Slight	Moderate: droughty.	Severe: cutbanks cave.
WxA	Woodbridge	Moderate: wetness.	Severe: wetness.	Severe: frost action.	Moderate: wetness.	Severe: wetness.
WxB	Woodbridge	Moderate: wetness.	Severe: wetness.	Severe: action.	Moderate: wetness.	Severe: wetness.

CpD-Canton and Charlton fine sandy loams, 15 to 25 Percent slopes

These moderately steep well drained soils are on glacial till upland hills, plains, and ridges. These soils were mapped together because there are no major differences in use and management. Permeability of the Canton soil is moderately rapid in the surface layer and subsoil and rapid in the substratum. The available water capacity is moderate. Runoff is very rapid. This soil warms up and dries out rapidly in the spring. Unless limed, the soil is strongly acid or medium acid.

Permeability of the Charlton soil is moderate or moderately rapid. The available water capacity is moderate. Runoff is very rapid. This soil warms up and dries out rapidly in the spring. Unless limed, the soil is strongly acid or medium acid.

These soils are poorly suited to cultivated crops. The steepness of slope makes the use of farming equipment difficult. These soils are in capability subclass IVe.

HkD-Hinckley gravelly sandy loam, 15 to 35 percent slopes

This moderately steep and steep, excessively drained soil is on stream terraces, outwash plains, kames, and eskers. Permeability of the Hinckley soil is rapid in the surface layer and subsoil and very rapid in the substratum. The available water capacity is low. Runoff is very rapid. Hinckley soil warms up and dries out rapidly in the spring. It is strongly acid or medium acid. This soil is poorly suited to cultivated crops because of the steep slopes. Hinckley soil is droughty. The hazard of erosion is severe. This soil is in capability subclass VIIs

MyB-Merrimac sandy loam, 3 to 8 percent slopes

This gently sloping, somewhat excessively drained soil is on stream terraces, outwash plains, kames, and eskers. Permeability of the Merrimac soil is moderately rapid in the surface layer and subsoil and rapid in the substratum. The available water capacity is moderate. Runoff is medium. Merrimac soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid. This soil is well suited to cultivated crops. It is droughty during the drier periods in summer. This soil is in capability subclass IIs.

~~PaC-Paxton and Montauk extremely stony fine sandy loams,~~ 15 to 35 percent slopes

These moderately steep to steep, well drained soils are on drumloidal, glacial till, upland landforms. Stones and boulders cover 8 to 25 percent of the surface. These soils were mapped together because there are no major differences in use and management. Permeability of the Paxton soil is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is very rapid. Paxton soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

Permeability of the Montauk soil is moderate or moderately rapid in the surface layer and subsoil and slow or moderately slow in the substratum. The available water capacity is moderate. Runoff is very rapid. Montauk soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

These soils are not suited to cultivated crops. Stoniness makes the use of farming equipment impractical. The hazard of erosion is severe. These soils are in capability subclass VIIs.

PbC-Paxton and Montauk fine sandy loams, 8 to 15 percent slopes

These sloping, well drained soils are on drumloidal, galcial till, upland landforms. These soils were mapped together because there are no major differences in use and management. Permeability of the Paxton soil is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is rapid. Paxton soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

Permeability of the Montauk soil is moderate or moderately rapid in the surface layer and subsoil and slow or moderately slow in the substratum. The available water capacity is moderate. Runoff is rapid. Montauk soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

These soils are suited to cultivated crops. These soils are in capability subclass IIIe.

Rd-Ridgebury fine sandy loam

This nearly level, poorly drained soil is on drumloidal, glacial till, upland landforms. The Ridgebury soil has a seasonal high water table at a depth of about 6 inches. Permeability is moderate or moderately rapid in the surface layer andf subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is very slow or slow. Ridgebury soil warms up and dries out slowly in the spring. Unless limed, it is strongly acid through slightly acid. This soil is suited to cultivated crops. This soil is in capability subclass IIIw.

PbD-Paxton and Montauk fine sandy loams, 15 to 25 percent slopes

These moderately steep, well drained soils are on drumloidal, glacial till, upland landforms. These soils were mapped together because there are no major differences in use and management. Permeability of the Paxton soil is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is very rapid. Paxton soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

Permeability of the Montauk soil is moderate or moderately rapid in the surface layer and subsoil and slow or moderately slow in the substratum. The available water capacity is moderate. Runoff is very rapid. Montauk soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

These soils are poorly suited to cultivated crops. Steep slopes make the use of farming equipment difficult. The hazard of erosion is severe. These soils are in capability subclass IVe.

Ro-Rippowam fine sandy loam

This nearly level, poorly drained soil is on flood plains of major streams, rivers, and their tributaries. The Rippowam soil has a seasonal high water table at a depth of about 6 inches. It is subject to frequent flooding. Permeability is moderate or moderately rapid in the surface layer and subsoil and rapid or very rapid in the substratum. The available water capacity is moderate. Runoff is slow. Rippowam soil warms up and dries out slowly in the spring. It is strongly acid or medium acid but has a medium acid layer within a depth of 40 inches. This soil is suited to cultivated crops. This soil is in capability subclass IIIw.

WvA-Windsor loamy sand, 0 to 3 percent slopes

This nearly level, excessively drained soil is on stream terraces and outwash plains. The Windsor soil has rapid or very rapid permeability. The available water capacity is low. Runoff is slow. This soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid in the surface layer and subsoil and strongly acid through slightly acid in the substratum. This soil is suited to cultivated crops. This soil is in capability subclass IIIs.

WxA-Woodbridge fine sandy loam, 0 to 3 percent slopes

This nearly level, moderately well drained soil is on drumloidal, glacial till, upland landforms. The Woodbridge soil has a seasonal high water table at a depth of about 18 inches. Permeability is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is slow. This Woodbridge soil warms up and dries out slowly in the spring. Unless limed, it is strongly acid or medium acid in the surface layer and subsoil and strongly acid through slightly acid in the substratum. This soil is well suited to cultivated crops. This soil is in capability subclass IIw.

WyB-Woodbridge very stony fine sandy loam, 0 to 8 percent slopes

This nearly level to gently sloping, moderately well drained soil is on drumloidal, glacial till, upland landforms. Stones and bounders cover 1 to 8 percent of the surface. The Woodbridge soil has a seasonal high water table at a depth of about 18 inches. Permeability is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is medium. This Woodbridge soil warms up and dries out slowly in the spring. It is strongly acid or medium acid in the surface layer and subsoil and strongly acid through slightly acid in the substratum. This soil is not suited to cultivated crops because of stoniness. This soil is in capability subclass VIs.

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STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

October 23, 1985

Elaine A. Sych
Route 205, Box 198
Brooklyn, CT 06234

RE: Environmental Review: Hilltop Acres Subdivision, Franklin

DESCRIPTION OF AREA

The property is located on Meeting House Hill Road, approximately 1 mile west of the Franklin Town Hall. The area is 24.27 acres and contains 9 lots. Crossen Builders, Inc. also owns approximately 78.2 acres of land that is adjacent.

WILDLIFE CONSIDERATIONS

The area provides good habitat for many forms of wildlife. The woodland areas provide food and cover for many species such as white-tailed deer, ruffed grouse, woodcock, seasonal songbirds, woodpecker, gray squirrel, raccoon and fox.

Wetlands cover a portion of this property. Wetlands are essential to many species of wildlife including: fox, mink, muskrat, opossum, white-tailed deer and snowshoe hare. They provide many elements necessary for survival such as food and cover, and nesting and brood-rearing sites for waterfowl.

They are also very important to man because they act as water storage and absorption areas as well as helping to prevent flooding. Development in wetland areas is usually limited due to poorly drained soils.

WILDLIFE RECOMMENDATIONS

Proposed development of this area will have a negative impact on much of the habitat presently available for wildlife. Some species will be forced to move to new areas where there is adequate food and cover. However, certain wildlife species which are more adaptable such as raccoons, skunks, gray squirrels and mice may be attracted to the area after development.

The following recommendations may help to lessen the impact on wildlife:

Phone:
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

When clearing try to leave as many trees and shrubs as possible. Species especially useful to wildlife include:

white oak (Quercus alba)
red oak (Quercus rubra)
black cherry (Prunus Serotina)
quaking aspen (Populus tremuloides)
red-stemmed dogwood (Cornus stolonifera)
apple (Malus Spp)

This will be beneficial to wildlife and also be more aesthetically pleasing for homeowners.

Also try to leave as many snags (standing dead or dying trees) and den trees (trees with holes) as possible. These trees are used by insect-eating birds and cavity-nesting birds and animals.

When landscaping this area plant trees and shrubs which are useful to wildlife. These include:

Japanese barberry (Bergeris bulgaris)
flowering dogwood (Cornus florida)
honeysuckle (Lonicera spp.)
juniper (Juniperus spp.)
bayberry (Myrica pensylvanica)
red-osier dogwood (Cornus stolonifera)
maple-leaved birburnum (Biburnum acerifolium)
alternate leaf dogwood (Cornus stolonifera)
American holly (Ilex opaca)
American mountain ash (Sorbus americana)
autumn olive (Elaegnus umbellata)
winterberry (Ilex verticillata)
American cranberrybush (Veburnum trilobum)
red maple (Acer rubrum)
chokecherry (Prunus virginiana)

Sincerely,

Carol Sacknoff

Carol Sacknoff
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295-9523

Judy M. Wilson
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CS/JW/vp

HILLTOP ACRES SUBDIVISION, Franklin, CT

Fish Resources

The property borders a stretch of Susquetonscut Brook, a major trout stream stocked annually by the State. In addition to stocked fish, the brook supports populations of wild trout, dace, eels and suckers.

The proposed nine lot subdivision should have little adverse effect on existing fish populations or habitat. The gentle slope and location of the subdivision relative to the stream will limit the erosion and sedimentation impact on the stream.

Development of the remaining property will require greater care. The steep slopes and poor drainage of areas near the brook are susceptible to severe erosion and sedimentation problems. If remaining areas are developed, much care should be given to drainage planning and erosion control to preserve the quality fish habitat of Susquetonscut Brook.

Comments by G. Amt on the Proposed Hilltop Acres Subdivision, Franklin, Connecticut, 15 October 1985

Planning Concerns

Two factors work together to dictate the design of this subdivision. First, the property is large but has very little frontage on an existing road. Second, the Zoning and Subdivision Regulations have very specific dimensional standards which the subdivider must follow. In order to achieve more than one building lot, more street frontage has to be created. The resulting proposed dead-end street intersects with Meeting House Hill Road in the only location available to the applicant. The new street is intended to serve a row of lots on either side of its 650 feet of length. The number of lots is determined by the frontage requirements of the Zoning Regulations. If it is the objective of the applicant to obtain the maximum number of lots within the framework of the regulations, he has achieved his goal. The regulations present little opportunity for design alternatives in this setting.

From a planning viewpoint, the most significant impact of this proposed subdivision will be related to traffic. Assuming that all lots are built upon, the nine new homes will generate 90 vehicle trips per day. This is based on a factor of 10 trips per day per residence for such things as work, shopping, recreation, deliveries and the like.* This is likely to be viewed as a major increase by residents along Meeting House Hill Road, because the present traffic volumes on this road average only 150 vehicles per day.** The problem appears compounded by the steepness of the road and its numerous curves. Realistically, though, both the present and projected traffic volumes are relatively low and well within the capacity limits of the road.

The intersection of the proposed road with Meeting House Hill Road poses sight line problems in a northerly direction from the intersection. This can be improved by grading the land along the west side of Meeting House Hill Road to improve visibility from the proposed intersection to the curve at the top of the grade. This would provide approximately 250 feet of visibility up the hill from the intersection, a distance normally considered satisfactory for speeds up to 35 miles per hour. In view of the grade, however, it is recommended that a 25 or 30 mph speed limit be posted and enforced along Meeting House Hill Road.

A future expansion of this subdivision implies a connection of the proposed dead-end road with another road that would provide alternative access to the town's road system. Hopefully, the alternative access would be from the north, in the direction of Dobruki Road so that traffic generated by the new development would not be concentrated on Meeting House Hill Road. If all traffic from future development in this area uses Meeting House Hill Road, there will be corresponding increases in turning movements at the intersections of this road and Pound Road with the busy Route 32, compounding already-dangerous conditions.

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* Trip Generation, Third Edition, Institute of Transportation Engineers, 1983.

** Based on a 1984 traffic count by the Connecticut Department of Transportation on Meeting House Hill Road at a location northeast of Rindy Road.

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--an 86 town 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, a statement identifying the specific areas of concern the Team should address, and the time available for completion of the ERT study. 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 Elaine A. Sych (774-1253), Environmental Review Team Coordinator, Eastern Connecticut RC&D Area, P.O. Box 198, Brooklyn, Connecticut 06234.