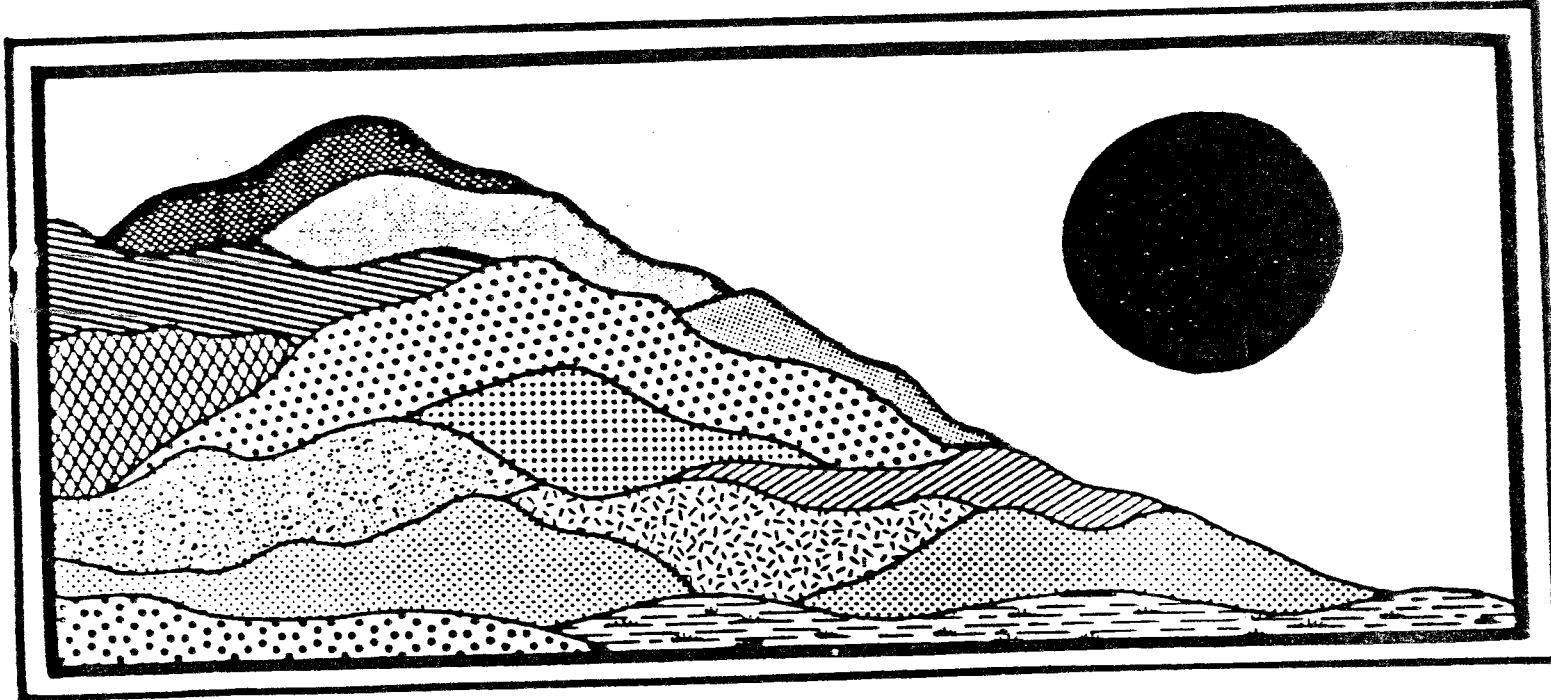


Coats Farm Estates East & West

North Stonington, Connecticut

August 1986



ENVIRONMENTAL

REVIEW TEAM

REPORT

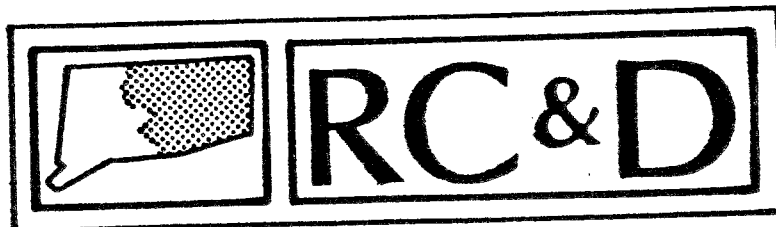
EASTERN CONNECTICUT RESOURCE CONSERVATION AND DEVELOPMENT AREA, INC.

Coats Farm Estates East & West

North Stonington, Connecticut

Review Date: JULY 8, 1986

Report Date: AUGUST 1986

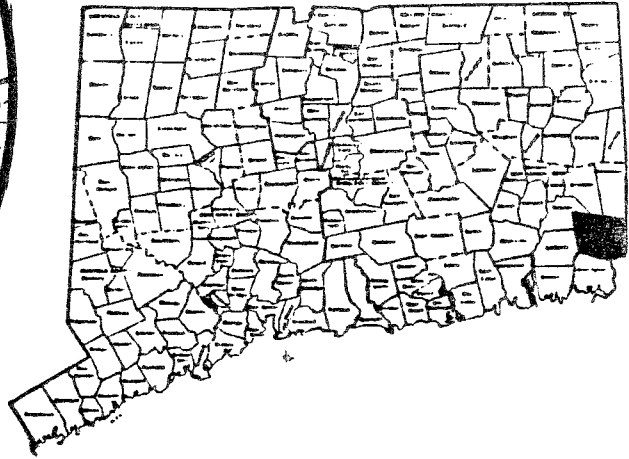
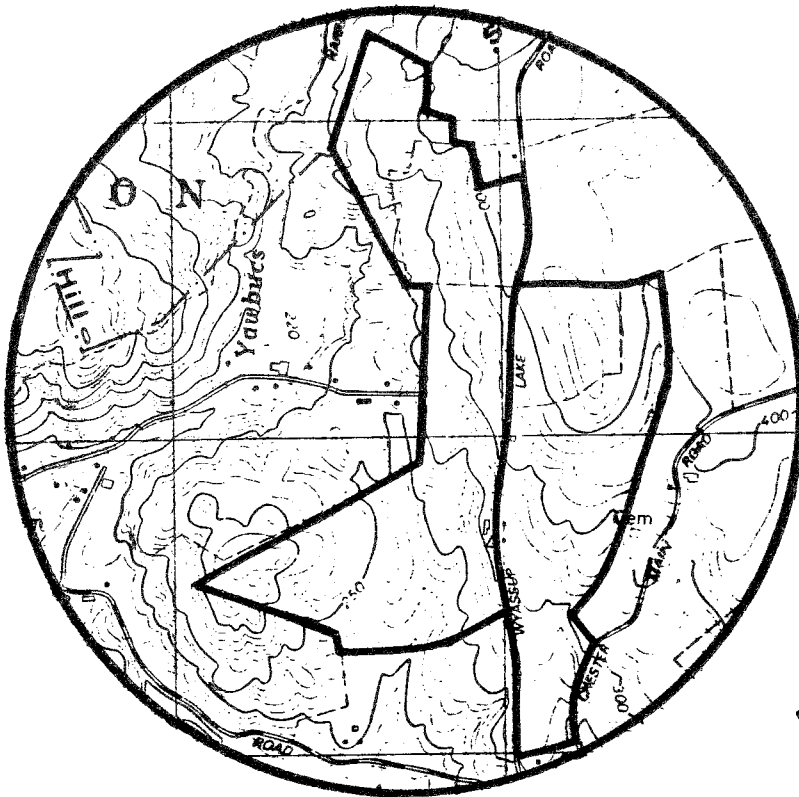


ENVIRONMENTAL REVIEW TEAM
PO BOX 198
BROOKLYN, CONNECTICUT 06234

Site Location

COATS FARM ESTATES
EAST AND WEST

NORTH STONINGTON, CONNECTICUT



ENVIRONMENTAL REVIEW TEAM REPORT

ON

COATS FARM ESTATES (EAST AND WEST)

NORTH STONINGTON, CONNECTICUT

THIS REPORT IS AN OUTGROWTH OF A REQUEST FROM NORTH STONINGTON INLAND WETLANDS AGENCY 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 COMMITTEE 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, JULY 8, 1986.
TEAM MEMBERS PARTICIPATING ON THIS REVIEW INCLUDED:

DON CAPELLARO	-SANITARIAN - CONNECTICUT DEPARTMENT OF HEALTH
BARRY CAVANNA	-DISTRICT CONSERVATIONIST - U.S.D.A. SOIL CONSERVATION SERVICE
PETE MERRILL	-FORESTER - CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION
AL ROBERTS	-SOIL SCIENTIST - U.S.D.A. SOIL CONSERVATION SERVICE
CHARLES STORROW	-PLANNER - SOUTHEASTERN CONNECTICUT REGIONAL PLANNING AGENCY
ELAINE SYCH	-ERT COORDINATOR - EASTERN CONNECTICUT RC&D AREA
BILL WARZECHA	-GEOLOGIST - NATURAL RESOURCES CENTER, DEPARTMENT OF ENVIRONMENTAL PROTECTION

PRIOR TO THE REVIEW DAY, EACH TEAM MEMBER RECEIVED A SUMMARY OF THE PROPOSED PROJECT, A LIST OF THE TOWN'S CONCERNS, A TOPOGRAPHIC MAP AND A SOILS MAP. DURING THE FIELD REVIEW THE TEAM MEMBERS WERE GIVEN SUBDIVISION PLANS. THE TEAM MET WITH, AND WERE ACCOMPANIED BY THE ACTING CHAIRMAN OF THE INLAND WETLANDS AGENCY, ANOTHER MEMBER OF THE AGENCY, THE TOWN SANITARIAN, THE DEVELOPER, THE APPLICANT'S SURVEYOR AND SOIL SCIENTIST. 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 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 DEVELOPER AND THE TOWN. 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 RC&D EXECUTIVE COMMITTEE HOPES YOU WILL FIND THIS REPORT OF VALUE AND ASSISTANCE IN MAKING YOUR DECISIONS ON THESE PROPOSED SUBDIVISIONS.

IF YOU REQUIRE ANY ADDITIONAL INFORMATION, PLEASE CONTACT:

ELAINE A. SYCH
ERT COORDINATOR
EASTERN CONNECTICUT RC&D AREA
P. O. BOX 198
BROOKLYN, CT 06234
(203) 774-1253

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1. INTRODUCTION

THE NORTH STONINGTON INLAND WETLANDS AGENCY REQUESTED ENVIRONMENTAL REVIEW TEAM ASSISTANCE IN REVIEWING TWO (2) PROPOSED SUBDIVISIONS TO BE NAMED COATS FARM ESTATES (EAST AND WEST).

IT IS UNDERSTOOD THE FARM PROPERTY, WHICH EXTENDS NORTH FROM ITS INTERSECTION WITH CHESTER MAIN AND RYDER ROADS, WOULD BE DIVIDED INTO TWO (2) PROPOSED SUBDIVISIONS. THE EASTERLY SUBDIVISION WOULD CONTAIN 17 LOTS ON SOME 114 ACRES. THE WESTERLY DEVELOPMENT WOULD HAVE 19 LOTS ON SOME 172 ACRES. BOTH DEVELOPMENTS WOULD HAVE SINGLE FAMILY DWELLINGS WHICH WOULD BE SERVICED BY ON SITE WELLS AND SUBSURFACE SEWAGE DISPOSAL SYSTEMS. AT THE PRESENT TIME THE FARM HOUSE IS LOCATED ON THE EAST SIDE OF WYASSUP LAKE ROAD, WHILE THE LARGER BARN AND OTHER OUT BUILDINGS ARE SITUATED ON THE OPPOSITE SIDE OF THE ROAD. THERE IS ONE ADDITIONAL PRIVATE DWELLING ON WYASSUP LAKE ROAD NORTH OF THE FARM HOUSE AND WITHIN THE PROPERTY IN QUESTION.

THE PROPERTY TO BE SUBDIVIDED CONSISTS OF OPEN FIELDS (HAY, CORN) AND SEMI-WOODED PASTURE LAND. THE LAND ON THE EAST SIDE OF WYASSUP LAKE ROAD, FOR THE MOST PART, TENDS TO RISE IN ELEVATION REACHING A HIGH POINT WITH A WIDE VIEW AT THE NORTHERN END. THE LAND ON THE WEST SIDE OF THE ROAD SLOPES IN FROM THE ROAD WITH THE TERRAIN NEAR THE BARN AREA HAVING THE MOST PRONOUNCED SLOPE. THERE ARE STREAMS ON BOTH SIDES OF THE ROADS WHICH FLOW IN A NORTH-SOUTH DIRECTION (PARALLEL WITH THE ROAD). THESE WATERWAYS EVENTUALLY ENTER THE SHUNOCK RIVER.

THE TEAM HAS ADDRESSED THE TOWN'S CONCERNS IN THE FOLLOWING SECTIONS. INFORMATION, COMMENTS AND RECOMMENDATIONS ARE DISCUSSED AND EXPLAINED IN THE BODY OF THE REPORT. THE SUMMARY CONTAINS BRIEF HIGHLIGHTS FROM EACH SECTION.

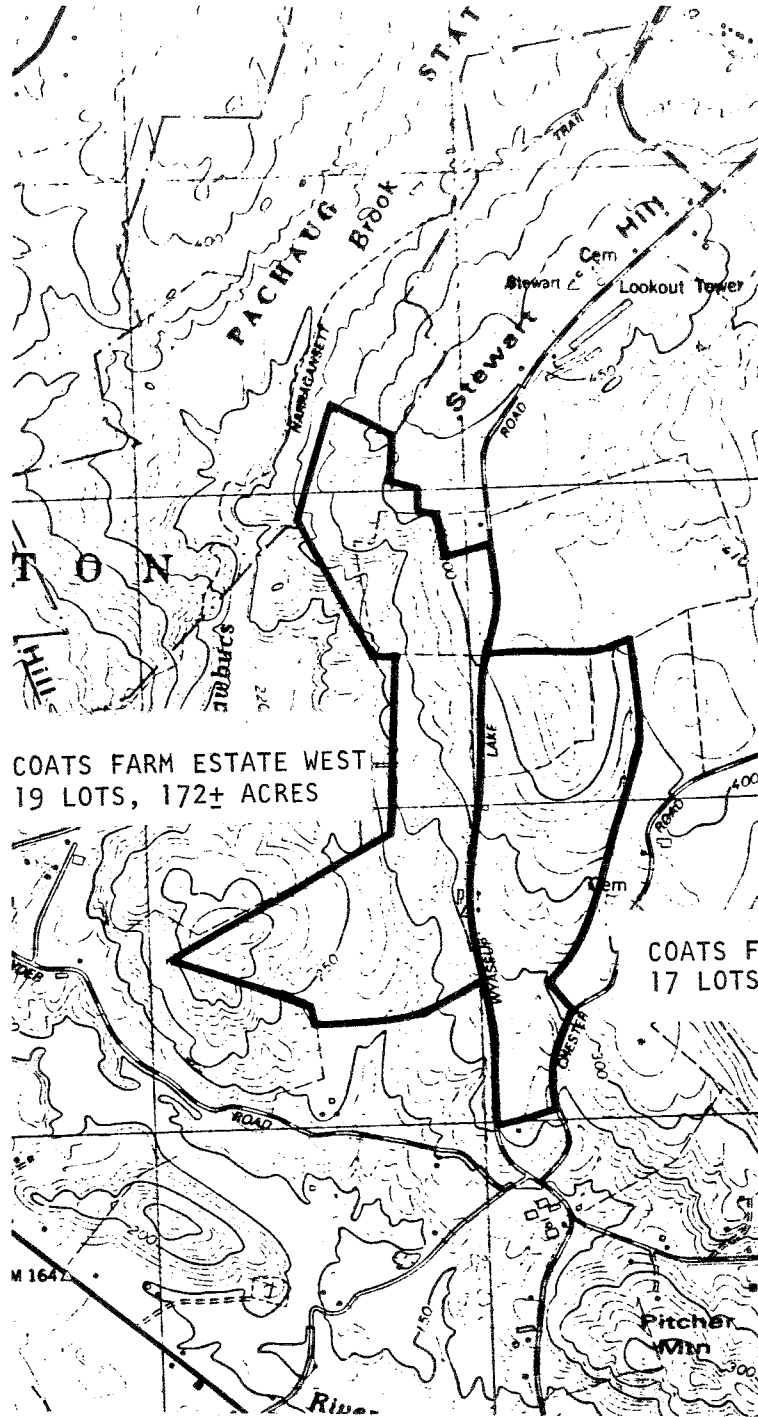
2. TOPOGRAPHY AND SETTING

A. COATS FARM EAST

THE PROPOSED SUBDIVISION LIES ON A GEOLOGIC FEATURE KNOWN AS A TILL DRUMLIN HILL. DRUMLINS ARE TYPICALLY STREAMLINED, ELONGATED HILLS CONSISTING OF GROUNDUP ROCK FRAGMENT PARTICLES (TILL) PLASTERED BY MOVING GLACIAL ICE ONTO THE UNDERLYING BEDROCK. THEY WERE FORMED WITH THE LONG AXIS OF THE HILL PARALLELING THE DIRECTION OF PAST GLACIER ICE MOVEMENTS. THE LONG AXIS OF THE HILL ON WHICH THE PROPERTY IS LOCATED IS ORIENTED IN THE APPARENT DIRECTION OF THE FORMER GLACIER'S ADVANCE; SOUTH-SOUTHEAST.

EXCEPT FOR THE COATS FARMHOUSE AND SOME OUTER BUILDINGS, THE LAND IS PRESENTLY UNDEVELOPED. IT CONSISTS LARGELY OF ACTIVE AGRICULTURAL LAND IN THE NORTHERN PARTS, SOUTHERN PARTS AND SCATTERED AREAS ALONG WYASSUP LAKE ROAD. THE CENTRAL PARTS CONSIST OF A MIXTURE OF OPEN AREAS, FORMER AGRI-

LOCATION MAP



CULTURAL LAND, AND MIXED HARDWOOD FORESTS.

THE PRESENCE OF STONEWALLS TRANSECTING THE PARCEL INDICATES THE LAND HAS A HISTORY OF AGRICULTURAL USE. LAND SURFACE WITHIN THE PARCEL SLOPES GENERALLY SOUTHWARDS. SLOPES ON THE SITE ARE MOSTLY GENTLE BUT BECOME MODERATE IN SEVERAL ISOLATED AREAS. MAXIMUM AND MINIMUM ELEVATIONS RANGE BETWEEN \pm 440 FEET AND 260 FEET ABOVE MEAN SEA LEVEL, RESPECTIVELY.

THE MAJOR WATERCOURSE ON THE SITE, WHICH IS TRIBUTARY TO SHUNOCK RIVER, GENERALLY PARALLELS THE EASTERN PROPERTY BOUNDARY OF THE SITE. SEVERAL INTERMITTENT STREAM CHANNELS WHICH FUNCTION AS DISCHARGE ZONES FOR SURFACE WATER ARE VISIBLE ON THE SITE. ALSO, OBSERVED WERE A FEW AREAS OF SMALL DEPRESSIONS WHICH WERE HOLDING SURFACE WATER ON THE REVIEW DAY.

B. COATS FARM WEST

SLOPES WITHIN THE PARCEL RANGE BETWEEN GENTLE AND MODERATELY STEEP WITH THE ROUGHEST TERRAIN IN THE NORTHERN LIMITS (OPEN SPACE LAND).

THE SOUTHERN HALF OF THE PARCEL LIES WITHIN A TOPOGRAPHIC SADDLE. THE LAND SURFACE SLOPES TO AN UNNAMED, INTERMITTENT STREAMCOURSE THAT BISECTS THE SOUTHERN HALF OF THE PARCEL. WITH THE EXCEPTION OF LOT 20, IT SEEMS LIKELY THAT MOST OF THE PROPOSED DEVELOPMENT IN THE SOUTHERN HALF WILL TAKE PLACE MAINLY ALONG WYASSUP LAKE ROAD. ALL LOTS ARE ACCESSIBLE VIA WYASSUP LAKE ROAD. MOST OF THE LAND IN THE SOUTHERN HALF IS CHARACTERIZED BY WOODLANDS WITH SOME SCATTERED OPEN AREAS.

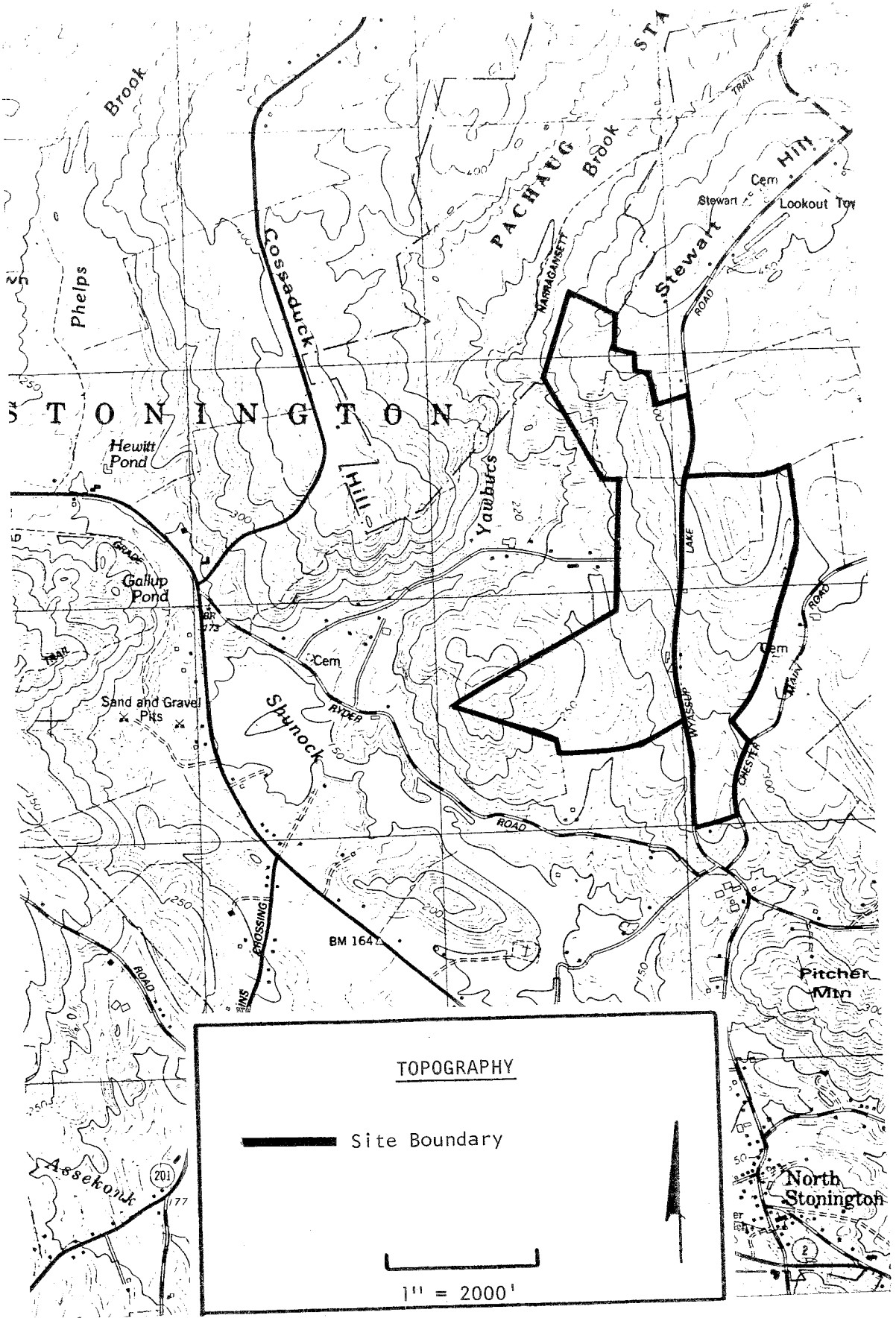
THE NORTHERN HALF OF THE PARCEL IS SEPARATED FROM THE SOUTHERN HALF BY A TOPOGRAPHIC HIGH JUST ABOVE YAWBUCS VALLEY ROAD. THE LAND SURFACE SLOPES MAINLY TO AN UNNAMED STREAMCOURSE THAT BISECTS THE NORTHERN HALF OF THE SITE. THIS STREAMCOURSE IS TRIBUTARY TO YAWBUCS BROOK. EXCEPT FOR \pm 7 ACRES OF ACTIVELY CULTIVATED CORNFIELD ALONG WYASSUP LAKE ROAD, MOST OF THE LAND IN THE NORTHERN HALF OF THE PARCEL IS FORESTED.

MAXIMUM AND MINIMUM ELEVATION ON THE SITE ARE \pm 420 FEET AND \pm 210 FEET ABOVE MEAN SEA LEVEL, RESPECTIVELY.

3. GEOLOGY

A. COATS FARM EAST

THE COATS FARM ESTATES (EAST) SITE IS LOCATED WITHIN THE OLD MYSTIC TOPOGRAPHIC QUADRANGLE. A SURFICIAL GEOLOGIC MAP FOR THE QUADRANGLE HAS NOT BEEN PUBLISHED TO DATE. PRELIMINARY SURFICIAL GEOLOGIC INFORMATION FOR THE QUADRANGLE IS AVAILABLE FOR REVIEW PURPOSES AT THE DEPARTMENT OF ENVIRONMENTAL PROTECTION'S NATURAL RESOURCES CENTER IN HARTFORD. PUBLICATIONS REFERENCED FOR THE SURFICIAL GEOLOGY SECTION OF THIS REPORT INCLUDE: (1) GLACIAL GEOLOGY OF THE OLD MYSTIC QUADRANGLE, NEW LONDON COUNTY, CONNECTICUT BY JOSEPH W. GAFFNEY (PRELIMINARY); (2) SOILS INFORMATION COMPILED FROM SITE INVESTIGATIONS



BY THE APPLICANTS ENGINEER; (3) THE SOIL SURVEY FOR NEW LONDON COUNTY CONNECTICUT AND (4) SURFICIAL MATERIALS MAP OF CONNECTICUT (OPEN FILE REPORT) U. S. GEOLOGICAL SURVEY 1986.

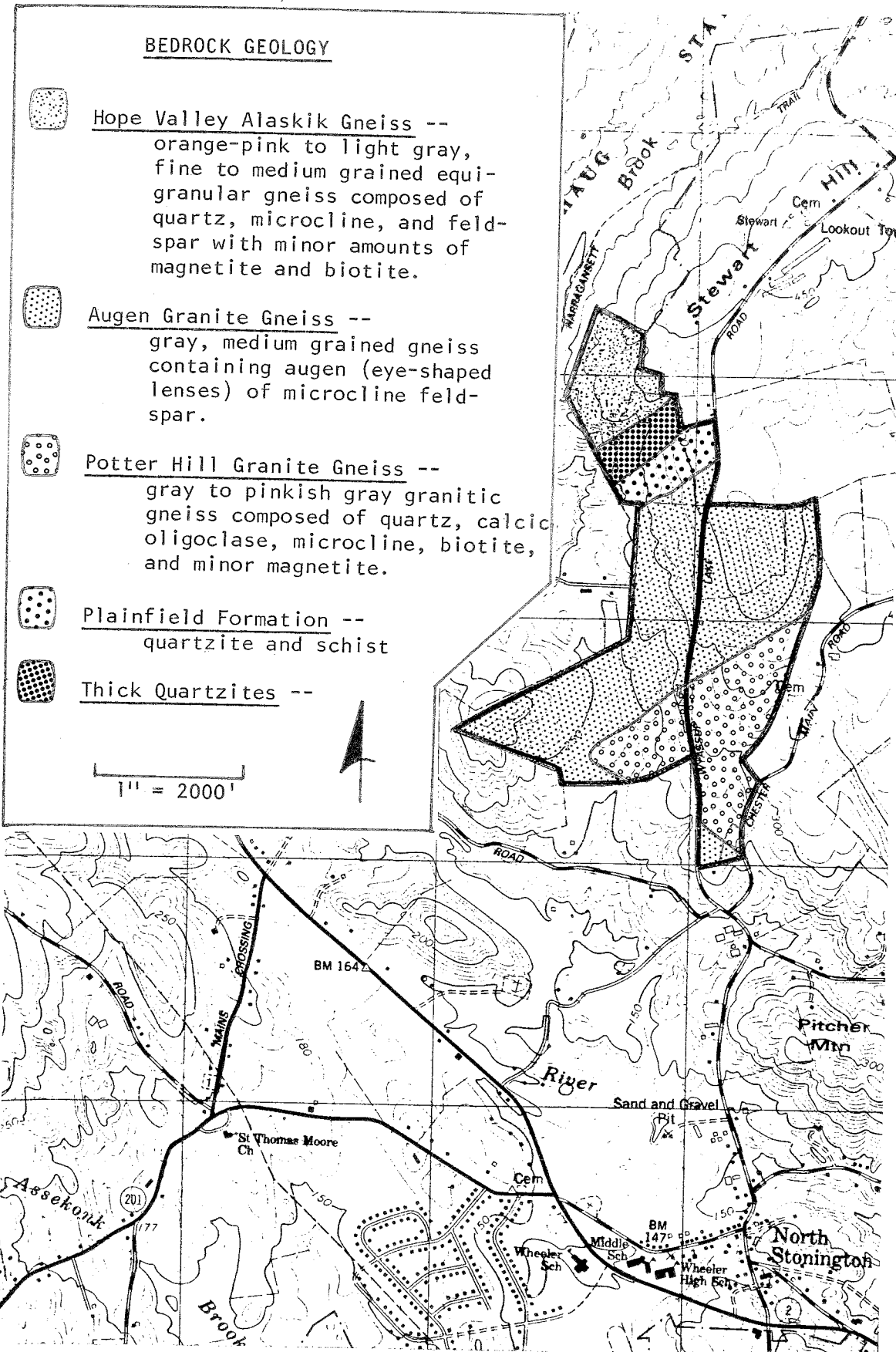
A BEDROCK GEOLOGIC MAP (MAP I-1524, BY RICHARD GOLDSMITH) FOR THE QUAD-RANGLE WAS RECENTLY PUBLISHED BY THE U. S. GEOLOGICAL SURVEY.

NO BEDROCK OUTCROPS WERE OBSERVED ON THE SITE DURING THE FIELD REVIEW. THE SURFICIAL MATERIALS MAP OF CONNECTICUT, CITED ABOVE, INFERS THAT THE UNCONSOLIDATED MATERIALS (TILL) OVERLYING BEDROCK ON MOST OF THE PROPERTY IS THICK (GREATER THAN 15 FEET). BEDROCK WAS NOT ENCOUNTERED IN ANY OF THE DEEP TEST HOLES EXCAVATED FOR SUBSURFACE SEWAGE DISPOSAL EXPLORATION ON THE SITE. THESE TEST HOLES WERE GENERALLY ABOUT 10 FEET DEEP. IT SHOULD BE POINTED OUT THAT THE DRILLED WELL SERVING CROSSWOOD'S WINERY, WHICH IS ABOUT 500 FEET EAST OF THE PARCEL, PENETRATED ABOUT 20 FEET OF UNCONSOLIDATED MATERIAL BEFORE REACHING THE BEDROCK SURFACE.

GOLDSMITH IDENTIFIES TWO (2) ROCK FORMATIONS UNDERLYING THE SITE; (1) POTTER HILL GRANITE GNEISS AND (2) AUGEN GRANITE GNEISS. "GRANITIC GNEISSES" ARE COARSE, CRYSTALLINE BANDED METAMORPHIC ROCKS (ROCKS GEOLOGICALLY DEFORMED BY GREAT HEAT AND PRESSURE) WHICH ARE COMMONLY CHARACTERIZED BY A HIGH PERCENTAGE OF THE MINERALS QUARTZ AND ALKALAI FELDSPAR, AND WHOSE MINERALS ARE APPROXIMATELY THE SAME SIZE. A MORE DETAILED DESCRIPTION OF THESE TWO (2) ROCK FORMATIONS MAY BE FOUND ON THE ACCOMPANYING BEDROCK GEOLOGIC MAP.

THE DIFFERENCES BETWEEN THE TWO (2) ROCK TYPES SHOULD HAVE LITTLE, IF ANY INFLUENCE ON THE POTENTIAL OF THE PROPERTY FOR THE PROPOSED USE. BECAUSE THE BEDROCK SURFACE APPEARS TO BE RELATIVELY DEEP THROUGHOUT THE SITE, IT SHOULD POSE NO MAJOR HINDRANCES IN TERMS OF DEVELOPING THE PROPERTY AS A RESIDENTIAL SUBDIVISION. IT SHOULD BE POINTED OUT, HOWEVER, THAT THE PROPOSED HOMES WILL NEED TO RELY ON THE METAMORPHIC ROCK UNDERLYING THE PROPERTY AS A SOURCE OF WATER. AS A RESULT, THE UNDERLYING BEDROCK WILL, UNDOUBTEDLY, HAVE SOME AFFECT ON THE QUALITY AND QUANTITY OF WATER FROM WHICH IT WILL BE WITHDRAWN. SEE WATER SUPPLY SECTION FOR FURTHER DISCUSSION.

THE TILL OVERLYING BEDROCK ON THE SITE CONSISTS OF A NON-SORTED MIXTURE OF SAND, SILT, CLAY, GRAVEL AND BOULDERS. THESE MATERIALS WERE COLLECTED, TRANSPORTED AND REDEPOSITED BY AN ICE SHEET AS IT MOVED THROUGH THE REGION MORE THAN 12,000 YEARS AGO. WHERE THE TILL IS MORE THAN FIVE (5) FEET THICK, THE UPPER FEW FEET ARE COMMONLY SANDY, AS ALREADY DESCRIBED, BUT THE LOWER PORTION OF THE DEPOSIT IS FREQUENTLY SILTIER AND TIGHTLY COMPACT. BASED ON DEEP TEST HOLE INFORMATION SUPPLIED TO TEAM MEMBERS, IT APPEARS THAT EVEN THOUGH THE TILL THROUGHOUT THE SITE IS GREATER THAN FIVE (5) FEET THICK, IT IS GENERALLY SANDY AND GRAVELLY AND LACKS THE COMPACT ZONE, WHICH IS TYPICALLY ENCOUNTERED WITHIN A FEW FEET OF THE GROUND SURFACE ON DRUMLIN HILLS IN CONNECTICUT. THIS SANDY AND GRAVELLY MATERIAL MAY HAVE BEEN LET DOWN FROM WITHIN OR FROM THE SURFACE OF THE ICE AS IT WAS WASTING DURING THE PERIOD OF GLACIAL RETREAT. AS A RESULT, THE MATERIAL WAS WATER WORKED RATHER THAN DEPOSITED DIRECTLY BY LODGEMENT BENEATH THE FORMER ICE SHEET. IT SHOULD BE



NOTED THAT DEEP TEST HOLE INFORMATION, SUPPLIED TO TEAM MEMBERS BY THE TOWN SANITARIAN, FOR THE SITE INDICATED SOME COMPACT SOIL ZONES WHICH WERE MAINLY ENCOUNTERED AT DEPTHS OF ABOUT TWO (2) FEET OR MORE. (SEE SECTION 4A, SOILS FOR FURTHER INFORMATION.)

BASED ON DEEP TEST PIT INFORMATION PROVIDED BY THE LANDOWNER'S ENGINEER AND CURSORY INSPECTION OF SOILS ON PARTS OF THE SITE, IT APPEARS THAT CONDITIONS ARE GENERALLY SUITABLE FOR SUBSURFACE SEWAGE DISPOSAL. ALSO, BECAUSE THE LOTS ARE RELATIVELY LARGE IN SIZE THIS SHOULD ALLOW THE DEVELOPER GREATER FLEXIBILITY FOR LOCATING THE SEWAGE DISPOSAL SYSTEM(S). IT SHOULD BE POINTED OUT THAT FINAL SEPTIC SYSTEM LOCATION WILL ULTIMATELY DEPEND UPON THE HOUSE LOCATION ON EACH LOT. SINCE SUBSURFACE CONDITIONS MAY CHANGE OVER A RELATIVELY SHORT DISTANCE, IT IS STRONGLY RECOMMENDED THAT FURTHER SOIL TESTING BE CONDUCTED IN THE AREA OF THE PROPOSED LEACHING SYSTEMS ONCE A HOUSE LOCATION HAS BEEN DETERMINED. SEPTIC SYSTEMS ON ALL LOTS SHOULD BE KEPT AS SHALLOW AS POSSIBLE AND SPREAD OUT. SEPTIC SYSTEMS AND HOUSE FOUNDATIONS SHOULD BE PROPERLY SEPARATED FROM THE INTERMITTENT DRAINAGE CHANNELS ON THE SITE.

IN CONCLUSION, IT SEEMS LIKELY THAT WITH CAREFUL DESIGN AND CONSTRUCTION, THE TOPOGRAPHIC AND SUBSURFACE CONDITIONS ON THE SITE SHOULD NOT POSE ANY EXTREME OR UNUSUAL PROBLEMS IN TERMS OF SUBSURFACE SEWAGE DISPOSAL. DEPENDING ON THE RESULTS OF FINAL SOIL TESTING ON EACH LOT BY THE TOWN SANITARIAN, THERE MAY BE SOME SUBSURFACE SEWAGE DISPOSAL SYSTEMS THAT MAY REQUIRE AN ENGINEERED DESIGN. (SEE SECTION 5, SEWAGE DISPOSAL FOR FURTHER DISCUSSION.)

B. COATS FARM WEST

COATS FARM ESTATES (WEST) LIKE COATS FARM ESTATES (EAST) IS LOCATED ENTIRELY WITHIN THE OLD MYSTIC TOPOGRAPHIC QUADRANGLE. THE SAME REFERENCES CITED IN THE COATS FARM ESTATES (EAST) SECTION WERE ALSO CITED FOR THIS SECTION.

BEDROCK IS AT OR NEAR GROUND SURFACE ON THE SITE AT THE NORTHERN LIMITS (OPEN SPACE LAND) AND IN THE WESTERN PORTIONS OF LOT 20. (REFER TO SUBDIVISION PLAN) THE SOUTHERN AND CENTRAL PARTS ARE UNDERLAIN BY THE SAME GRANITIC GNEISSES UNDERLYING COATS FARM ESTATES (EAST). A DESCRIPTION OF THESE ROCK TYPES MAY BE FOUND IN THAT SECTION. A BEDROCK GEOLOGIC MAP, WHICH WAS ADAPTED FROM GOLDSMITH'S MAP SHOWS THE DISTRIBUTION OF THESE ROCKS FOR THE SOUTHERN SECTION OF COATS FARM ESTATES (WEST).

ACCORDING TO GOLDSMITH, THE NORTHERN LIMITS OF COATS FARM ESTATES (WEST) ARE UNDERLAIN BY ALASKITE GNEISSES, SCHISTS AND QUARTZITES. ALL OF THESE ROCKS ARE VERY OLD CRYSTALLINE METAMORPHIC ROCKS (ROCKS WHICH HAVE BEEN GEOLOGICALLY ALTERED BY GREAT HEAT AND PRESSURE WITHIN THE EARTH'S CRUST). THESE ROCKS FORM NORTHEAST/SOUTHWEST TRENDING BELTS THROUGH THE NORTHERN HALF OF THE PARCEL. THE ADJECTIVE "ALASKITE" PRECEDING THE WORD GNEISS ABOVE REFERS TO ROCKS WHICH CONTAINS A HIGH PERCENTAGE OF THE FELDSPAR MINERALS, ORTHOCLASE AND MICROCLINE AND LESSER AMOUNTS OF THE MINERAL QUARTZ. IRON OR MANGANESE BEARING MINERALS ARE GENERALLY ABSENT. "SCHIST" IS A TEXTURAL

TERM GIVEN TO METAMORPHIC ROCKS WITH A STRONG FOLIATION (LAYERING) CAUSED BY THE ALIGNMENT OF FLAKY OR ELONGATE MINERAL GRAINS. "QUARTZITES" ARE METAMORPHIC ROCKS WHICH ARE COMMONLY LIGHT-COLORED TO GRAY, MASSIVE TO LAYERED AND MEDIUM GRAINED. THEY ARE COMPOSED PRIMARILY OF THE MINERAL QUARTZ. THESE ROCKS ORIGINALLY CONSISTED OF A SANDSTONE, WHICH WAS SUBJECTED TO METAMORPHIC PROCESSES AND SUBSEQUENTLY ALTERED TO A QUARTZITE.

SINCE IT DOES NOT APPEAR THAT THE SHALLOW TO BEDROCK AREAS OF THE SITE WILL BE DEVELOPED, THE UNDERLYING BEDROCK SHOULD NOT POSE ANY MAJOR PROBLEMS. IT SHOULD BE POINTED OUT, HOWEVER, THAT IT MAY AFFECT WATER QUALITY AND QUANTITY, SINCE BEDROCK WILL BE THE SOURCE OF WATER TO THE PROPOSED HOMES IN THE SUBDIVISION. SEE WATER SUPPLY SECTION OF REPORT FOR FURTHER DISCUSSION. BASED ON DEEP TEST PIT INFORMATION SUPPLIED BY THE PROJECT ENGINEER, BEDROCK WAS NOT ENCOUNTERED IN ANY OF THE DEEP TEST PITS.

GLACIAL TILL OVERLIES BEDROCK THROUGHOUT COATS FARM ESTATES (WEST). ACCORDING TO DEEP TEST PIT INFORMATION SUPPLIED TO TEAM MEMBERS, THE TEXTURE OF THE TILL IN COATS FARM ESTATES (WEST) IS SIMILAR TO THE TILL COVERING AT COATS FARM ESTATES (EAST). THERE ARE, HOWEVER, SOME WORDS SUCH AS "GRAY HARDPAN", "TIGHT-PACKED" AND "GRAY SILT" WHICH WERE USED BY THE PROJECT ENGINEER TO DESCRIBE THE TEXTURE OF THE TILL ENCOUNTERED IN DEEP TEST HOLES ON THE SITE. (SEE SECTION 4A, SOILS FOR FURTHER INFORMATION.) THE TEAM GEOLOGIST WOULD INTERPRET THESE WORDS TO MEAN THAT A COMPACT LAYER OF SOIL MAY HAVE BEEN ENCOUNTERED AT VARIOUS DEPTHS IN SOME OF THE DEEP TEST PITS. IT APPEARS THAT SOME OF THESE COMPACT ZONES WERE ENCOUNTERED IN MORE TEST PITS ON THE WEST SIDE OF WYASSUP LAKE ROAD THAN ON THE EAST SIDE. ALSO, PERCOLATION RATES SEEM TO BE SLOWER ON THE WEST SIDE THAN ON THE EAST WHICH INFERS THAT THE SOIL IS TIGHTER. IN FACT, ONE (1) LOT (19.01) HAD A VERY SLOW PERCOLATION RATE (50 MINUTES PER INCH). THIS WOULD INDICATE TO THE TEAM'S GEOLOGIST THAT THE SOILS IN WHICH THE PERCOLATION TEST WERE CONDUCTED WOULD BE RELATIVELY COMPACT AND PROBABLY HAVE A RELATIVELY HIGH PERCENTAGE OF FINE-GRAINED PARTICLES SUCH AS SILT.





BASED ON PRELIMINARY (SUBJECT TO CHANGE DEPENDING ON FINAL HOUSE LOCATION) SUBSURFACE DATA SUPPLIED TO TEAM MEMBERS, IT APPEARS THAT SATISFACTORY SUBSURFACE SEWAGE DISPOSAL SYSTEMS CAN BE INSTALLED ON THE TILL-BASED SOILS FOUND ON COATS FARM ESTATES (WEST). SINCE SUBSURFACE CONDITIONS MAY CHANGE OVER A RELATIVELY SHORT DISTANCE, IT MAY BE NECESSARY TO RETEST A PARTICULAR LOT PENDING THE FINAL DECISION ON THE HOUSE LOCATION. AS A RESULT, THERE IS A POSSIBILITY THAT AN ENGINEERED SEPTIC SYSTEM WOULD BE REQUIRED FOR A PARTICULAR LOT. THIS MAY BE A RESULT OF A SLOW PERCOLATION (30 MINUTES PER INCH OR SLOWER) OR A SEASONALLY HIGH GROUNDWATER LEVEL. HOWEVER, THIS CAN ONLY BE DETERMINED ONCE THE FINAL HOUSE LOCATION IS KNOWN. SOIL TESTING DURING THE SPRING TIME OF YEAR (FEBRUARY 1 TO MAY 31ST) WOULD BE MOST FAVORABLE FOR THE TILL BASED SOILS ON THE SITE. (SEE SECTION 5, SEWAGE DISPOSAL FOR FURTHER DISCUSSION.)



United States
Department of
Agriculture

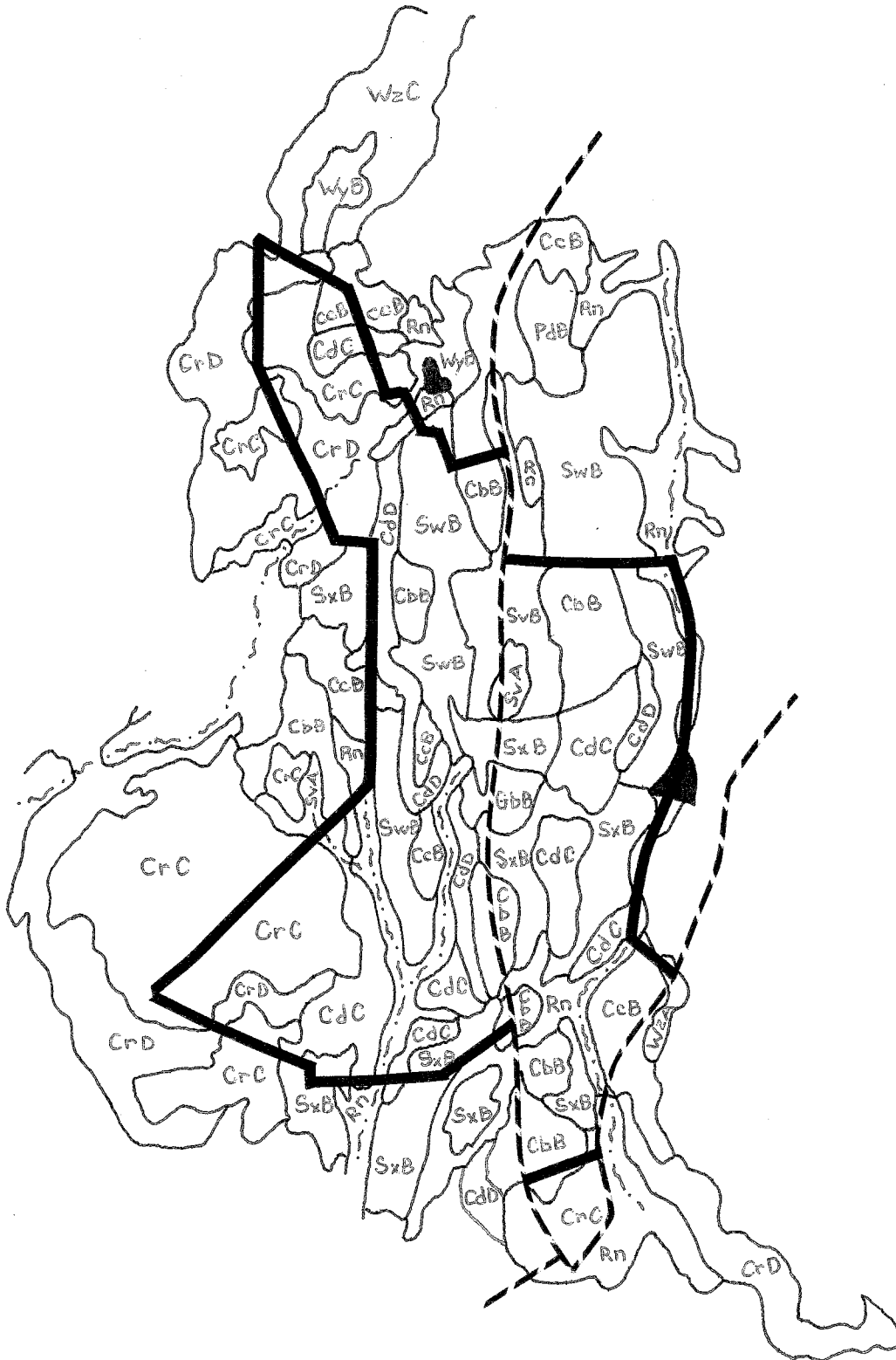
Soil
Conservation
Service

New London County USDA-SCS
562 New London Turnpike
Norwich, CT 06360
887-4163

-  Approximate Site Boundaries
-  Watercourse (Perennial or Intermittent)
-  Road
-  Body of Water



Scale 1" = 1320'



4. SOILS

A. DESCRIPTIONS AND LIMITATIONS

THE FIELD REVIEW AND SUBSEQUENT REVIEW OF PERC TEST DATA TAKEN AT THE SITE, RESULTED INTO SEVERAL ADJUSTMENTS TO THE PUBLISHED SOILS MAP.

THE MOST SIGNIFICANT ADJUSTMENT FOR THIS REPORT IS THE ABSENCE OF SOILS WITH A "HARDPAN". THIS LANDSCAPE MOSTLY HAS SOILS WITH LOAMY SUBSOILS AND LOAMY TO SANDY SUBSTRATUMS. AN AREA OF LOAMY SKELETAL SOILS WERE FOUND ON THE EASTERN PARCEL. THESE SOILS ARE IDENTIFIED ON THE MAP WITH THE SYMBOL G**b**B.

BOTH PARCELS ARE DISSECTED WITH A NUMBER OF INTERMITTENT STREAMS THAT FLOW EITHER TO THE SOUTH OR SOUTHWEST. ASSOCIATED WETLANDS WERE FLAGGED IN THE FIELD AND SHOULD SUBSEQUENTLY BE SURVEYED AND PLOTTED ONTO THE EXISTING PLAN MAPS. AREAS OF WET SOILS THAT WERE FIELD CHECKED WERE PROPERLY IDENTIFIED AND MARKED.

THE SOILS OVER THIS PROPERTY ARE DESCRIBED IN DETAIL BELOW. THE DELINEATIONS ON THE ENCLOSED SOIL SURVEY MAP ARE ONLY APPROXIMATE, AND IN MOST CASES CONTAIN SOILS OTHER THAN THE SOILS THAT THE AREA IS NAMED FOR. PLEASE REFER TO THE INCLUSION PARAGRAPH OF EACH MAP UNIT DESCRIPTION TO SEE WHAT SOILS MAY BE INCLUDED IN ANY ONE DELINEATION. ON-SITE EVALUATION OF EACH BUILDING AREA IS NECESSARY TO DETERMINE SIZE AND LOCATION OF SEPTIC SYSTEMS.

C**b**B - CANTON AND CHARLTON SOILS, 3 TO 8 PERCENT SLOPES

THESE GENTLY SLOPING, WELL DRAINED SOILS ARE ON GLACIAL TILL UPLAND HILLS, PLAINS, AND RIDGES. MAPPED AREAS ARE DOMINANTLY IRREGULAR IN SHAPE.

THIS MAP UNIT IS ABOUT 55 PERCENT CANTON SOIL, 25 PERCENT CHARLTON SOIL, AND 20 PERCENT OTHER SOILS. AREAS OF THIS UNIT CONSIST OF EITHER CANTON SOIL OR CHARLTON SOIL, OR BOTH. THESE SOILS WERE MAPPED TOGETHER BECAUSE THERE ARE NO SIGNIFICANT DIFFERENCES IN USE AND MANAGEMENT.

TYPICALLY, THE CANTON SOIL HAS A VERY DARK GRAYISH BROWN, FINE SANDY LOAM SURFACE LAYER 8 INCHES THICK. THE SUBSOIL IS DARK YELLOWISH BROWN FINE SANDY LOAM AND SANDY LOAM 16 INCHES THICK. THE SUBSTRATUM IS GRAYISH BROWN GRAVELLY SAND TO A DEPTH OF 60 INCHES OR MORE.

TYPICALLY, THE CHARLTON SOIL HAS A VERY DARK GRAYISH BROWN, FINE SANDY LOAM SURFACE LAYER 8 INCHES THICK. THE SUBSOIL IS DARK YELLOWISH BROWN, YELLOWISH BROWN, AND LIGHT OLIVE BROWN FINE SANDY LOAM 21 INCHES THICK. THE SUBSTRATUM IS GRAYISH BROWN FINE SANDY LOAM TO A DEPTH OF 60 INCHES OR MORE.

INCLUDED WITH THESE SOILS IN MAPPING ARE SMALL AREAS OF WELL DRAINED NARRAGANSETT, PAXTON, AND MONTAUK SOILS; MODERATELY WELL DRAINED SUTTON SOILS; AND POORLY DRAINED LEICESTER SOILS.

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 MEDIUM. THIS SOIL WARMS UP AND DRIES OUT RAPIDLY IN THE SPRING. PERMEABILITY OF THE CHARLTON SOIL IS MODERATE OR MODERATELY RAPID. THE AVAILABLE WATER CAPACITY IS MODERATE. RUNOFF IS MEDIUM. THIS SOIL WARMS UP AND DRIES OUT RAPIDLY IN THE SPRING.

ON-SITE SEPTIC SYSTEMS NEED CAREFUL DESIGN AND INSTALLATION. LAWNS ARE EASY TO ESTABLISH AND MAINTAIN. QUICKLY ESTABLISHING A PLANT COVER AND USING MULCH, TEMPORARY DIVERSIONS, AND SEDIMENT BASINS HELP CONTROL EROSION DURING CONSTRUCTION.

CcB - CANTON AND CHARLTON SOILS, 3 TO 8 PERCENT SLOPES, VERY STONY

THIS MAPPING UNIT CONSISTS OF GENTLY SLOPING, WELL DRAINED DEEP SOILS ON RIDGES, HILLS, AND SIDE SLOPES OF GLACIAL TILL UPLANDS. THE AREAS ARE MOSTLY IRREGULAR IN SHAPE. SLOPES ARE GENERALLY SMOOTH AND CONVEX AND LESS THAN 200 FEET LONG. ABOUT 45 PERCENT OF THIS UNIT IS CANTON SOILS, 40 PERCENT IS CHARLTON SOILS, AND 15 PERCENT IS OTHER SOILS. IN SOME AREAS, THIS UNIT WILL CONSIST ALMOST ENTIRELY OF CANTON SOILS OR ALMOST ENTIRELY OF CHARLTON SOILS. THE SOILS WERE MAPPED TOGETHER BECAUSE THEY HAVE NO SIGNIFICANT DIFFERENCES IN USE AND MANAGEMENT. STONES COVER 1 TO 8 PERCENT OF THE SOIL SURFACE.

TYPICALLY, THE CANTON SOILS HAVE A SURFACE LAYER OF VERY DARK GRAYISH BROWN FINE SANDY LOAM 2 INCHES THICK. THE SUBSOIL IS YELLOWISH BROWN FINE SANDY LOAM, GRAVELLY FINE SANDY LOAM, AND GRAVELLY SAND LOAM 21 INCHES THICK. THE SUBSTRATUM IS PALE BROWN GRAVELLY LOAM SAND TO A DEPTH OF 60 INCHES OR MORE.

TYPICALLY, THE CHARLTON SOILS HAVE A SURFACE LAYER OF DARK YELLOWISH BROWN FINE SANDY LOAM 5 INCHES THICK. THE SUBSOIL IS YELLOWISH BROWN FINE SANDY LOAM AND SANDY LOAM 20 INCHES THICK. THE SUBSTRATUM IS LIGHT YELLOWISH BROWN AND LIGHT BROWNISH GRAY SANDY LOAM TO A DEPTH OF 60 INCHES OR MORE.

INCLUDED WITH THESE SOILS IN MAPPING ARE SMALL AREAS OF SOMEWHAT EXCESSIVELY DRAINED GLOUCESTER AND HOLLIS SOILS; WELL DRAINED PAXTON SOILS; AND MODERATELY WELL DRAINED SUTTON SOILS. ALSO INCLUDED ARE A FEW AREAS THAT HAVE A COMPACT SUBSTRATUM AT A DEPTH OF 40 TO 50 INCHES.

THE WATER TABLE IN THESE SOILS IS COMMONLY AT A DEPTH OF MORE THAN SIX (6) FEET. THE PERMEABILITY OF THE CANTON SOILS IS MODERATELY RAPID IN THE SURFACE LAYER AND SUBSOIL AND RAPID IN THE SUBSTRATUM. THE PERMEABILITY OF THE CHARLTON SOILS IS MODERATE OR MODERATELY RAPID. BOTH SOILS HAVE MEDIUM OR RAPID RUNOFF, AND HAVE MODERATE AVAILABLE WATER CAPACITY.

INSTABILITY OF SOME EXCAVATIONS IN THE CANTON SOILS IS THE MAIN LIMITATION FOR COMMUNITY DEVELOPMENT. ON-SITE SEPTIC SYSTEMS NEED CAREFUL DESIGN AND INSTALLATION. STONES AND BOULDERS NEED TO BE REMOVED IN ORDER TO ESTABLISH LAWNS. QUICKLY ESTABLISHING A PLANT COVER AND USING MULCH, TEMPORARY DIVERSIONS, AND SEDIMENT BASINS HELP CONTROL EROSION DURING CONSTRUCTION.

CdC - CANTON AND CHARLTON SOILS, 3 TO 15 PERCENT SLOPES, EXTREMELY STONY

THESE GENTLY SLOPING AND SLOPING, WELL DRAINED SOILS ARE ON GLACIAL TILL UPLAND HILLS, PLAINS, AND RIDGES. STONES AND BOULDERS COVER 8 TO 25 PERCENT OF THE SURFACE. MAPPED AREAS ARE DOMINANTLY IRREGULAR IN SHAPE.

THIS MAP UNIT IS ABOUT 55 PERCENT CANTON SOIL, 25 PERCENT CHARLTON SOIL, AND 20 PERCENT OTHER SOILS. MAPPED AREAS CONSIST OF CANTON SOIL OR CHARLTON SOIL, OR BOTH. THESE SOILS WERE MAPPED TOGETHER BECAUSE THERE ARE NO SIGNIFICANT DIFFERENCES IN USE AND MANAGEMENT.

TYPICALLY, THE CANTON SOIL HAS A BLACK, FINE SANDY LOAM SURFACE LAYER 1 INCH THICK. THE SUBSOIL IS DARK YELLOWISH BROWN FINE SANDY LOAM AND SANDY LOAM 23 INCHES THICK. THE SUBSTRATUM IS GRAYISH BROWN GRAVELLY SAND TO A DEPTH OF 60 INCHES OR MORE.

TYPICALLY, THE CHARLTON SOIL HAS A VERY DARK GRAYISH BROWN, FINE SANDY LOAM SURFACE LAYER 3 INCHES THICK. THE SUBSOIL IS DARK YELLOWISH BROWN, YELLOWISH BROWN, AND LIGHT OLIVE BROWN FINE SANDY LOAM 26 INCHES THICK. THE SUBSTRATUM IS GRAYISH BROWN FINE SANDY LOAM TO A DEPTH OF 60 INCHES OR MORE.

INCLUDED WITH THESE SOILS IN MAPPING ARE SMALL AREAS OF WELL DRAINED NARRAGANSETT, PAXTON, AND MONTAUK SOILS; MODERATELY WELL DRAINED SUTTON SOILS; AND POORLY DRAINED LEICESTER SOILS.

PERMEABILITY OF THE CANTON SOIL IS MODERATELY RAPID IN THE SURFACE LAYER AND SUBSOIL AND RAPID IN THE SUBSTRATUM. PERMEABILITY OF THE CHARLTON SOIL IS MODERATE OR MODERATELY RAPID THROUGHOUT. BOTH SOILS HAVE MODERATE AVAILABLE WATER CAPACITY AND RUNOFF IS VERY RAPID. THE CANTON AND CHARLTON SOILS WARM UP AND DRY OUT RAPIDLY IN THE SPRING.

ON-SITE SEPTIC SYSTEMS NEED CAREFUL DESIGN AND INSTALLATION TO PREVENT EFFLUENT FROM SEEPING TO THE SURFACE IN AREAS DOWNSLOPE FROM THE LEACHING SYSTEM. STONES AND BOULDERS NEED TO BE REMOVED FROM LANDSCAPING. QUICKLY ESTABLISHING A PLANT COVER AND USING MULCH AND NETTING, TEMPORARY DIVERSIONS, AND SEDIMENT BASINS HELP TO CONTROL EROSION DURING CONSTRUCTION.

GbB - GLOUCESTER GRAVELLY SANDY LOAM, 3 TO 8 PERCENT SLOPES

THIS SOIL IS GENTLY SLOPING AND SOMEWHAT EXCESSIVELY DRAINED. IT IS ON RIDGES AND HILLS OF GLACIAL TILL UPLANDS. THE AREAS ARE MOSTLY LONG AND NARROW OR OVAL IN SHAPE. SLOPES ARE MOSTLY SMOOTH AND CONVEX AND ARE 200 TO 400 FEET LONG.

TYPICALLY, THE SURFACE LAYER IS VERY DARK GRAYISH BROWN SANDY LOAM 4 INCHES THICK. THE SUBSOIL IS DARK YELLOWISH BROWN AND YELLOWISH BROWN GRAVELLY SANDY LOAM AND LOAMY SAND 21 INCHES THICK. THE SUBSTRATUM IS LIGHT OLIVE BROWN AND LIGHT BROWNISH GRAY GRAVELLY LOAMY COARSE SAND TO A DEPTH OF 60 INCHES OR MORE.

INCLUDED WITH THIS SOIL IN MAPPING ARE SMALL AREAS OF EXCESSIVELY DRAINED HINCKLEY SOILS AND WELL DRAINED CANTON, CHARLTON, AND PAXTON SOILS. ALSO INCLUDED ARE A FEW NEARLY LEVEL AREAS AND A FEW AREAS WHERE STONES COVER LESS THAN 1 PERCENT OF THE SURFACE. INCLUDED AREAS MAKE UP ABOUT 10 PERCENT OF THE UNIT.

THE WATER TABLE IN THIS GLOUCESTER SOIL IS COMMONLY BELOW A DEPTH OF 6 FEET. THE AVAILABLE WATER CAPACITY IS LOW, RUNOFF IS SLOW TO MEDIUM, AND THE SOIL HAS RAPID PERMEABILITY.

THIS SOIL IS GENERALLY SUITED TO COMMUNITY DEVELOPMENT, BUT THE RAPID PERMEABILITY CAUSES A HAZARD OF GROUNDWATER POLLUTION IN SOME AREAS WHERE SEPTIC SYSTEMS ARE USED. SOME SLOPES OF EXCAVATIONS IN THIS SOIL ARE UNSUITABLE.

R₁ - RIDGEBURY, LEICESTER, AND WHITMAN SOILS, EXTREMELY STONY

THIS MAPPING UNIT CONSISTS OF NEARLY LEVEL, POORLY DRAINED, AND VERY POORLY DRAINED SOILS IN DEPRESSIONS AND DRAINAGEWAYS OF GLACIAL TILL UPLANDS. THE AREAS ARE MOSTLY LONG AND NARROW OR IRREGULAR IN SHAPE. SLOPES RANGE FROM 0 TO 3 PERCENT AND ARE COMMONLY 100 TO 300 FEET LONG. STONES COVER 8 TO 25 PERCENT OF THE SURFACE. ABOUT 40 PERCENT OF THIS UNIT IS RIDGEBURY SOILS, 25 PERCENT IS LEICESTER SOILS, 15 PERCENT IS WHITMAN SOILS, AND 10 PERCENT IS OTHER SOILS. SOME AREAS OF THIS UNIT WILL CONSIST OF ONE OF THESE SOILS, AND OTHER AREAS WILL CONSIST OF TWO OR ALL THREE. THE SOILS OF THIS UNIT WERE MAPPED TOGETHER BECAUSE THEY HAVE NO SIGNIFICANT DIFFERENCES IN USE AND MANAGEMENT.

THE RIDGEBURY SOILS HAVE A SEASONAL HIGH WATER TABLE AT A DEPTH OF ABOUT 10 INCHES FROM FALL THROUGH SPRING. THE PERMEABILITY OF THE SOILS IS MODERATE TO MODERATELY RAPID IN THE SURFACE LAYER AND THE SUBSOIL AND SLOW TO VERY SLOW IN THE SUBSTRATUM. RUNOFF IS SLOW. THE RIDGEBURY SOILS HAVE A MODERATE AVAILABLE WATER CAPACITY.

THE LEICESTER SOILS HAVE A SEASONAL HIGH WATER TABLE AT A DEPTH OF ABOUT 10 INCHES FROM FALL THROUGH SPRING. THE PERMEABILITY OF THE SOILS IS MODERATE OR MODERATELY RAPID THROUGHOUT. RUNOFF IS SLOW. THE LEICESTER SOILS HAVE A MODERATE AVAILABLE WATER CAPACITY.

THE WHITMAN SOILS HAVE A SEASONAL HIGH WATER TABLE AT OR NEAR THE SURFACE FROM FALL THROUGH SPRING. THE PERMEABILITY OF THE SOILS IS MODERATE OR MODERATELY RAPID IN THE SURFACE LAYER AND SUBSOIL AND SLOW TO VERY SLOW IN THE SUBSTRATUM. RUNOFF IS SLOW. THE WHITMAN SOILS HAVE A MODERATE AVAILABLE WATER CAPACITY.

THE HIGH WATER TABLE AND SLOW TO VERY SLOW PERMEABILITY ARE MAJOR LIMITATIONS OF THE SOILS OF THESE AREAS FOR COMMUNITY DEVELOPMENT. STEEP SLOPES OF EXCAVATIONS IN THESE SOILS SLUMP WHEN SATURATED. THE STONES ON THE SURFACE RESTRICT LANDSCAPING, AND LAWNS ARE SOGGY MOST OF THE YEAR.

SvA - SUTTON FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES

THIS NEARLY LEVEL, MODERATELY WELL DRAINED SOIL IS ON UPLAND GLACIAL TILL PLAINS, HILLS, AND RIDGES. AREAS ARE DOMINANTLY IRREGULAR IN SHAPE.

TYPICALLY, THIS SUTTON SOIL HAS A VERY DARK GRAYISH BROWN, FINE SANDY LOAM SURFACE LAYER 9 INCHES THICK. THE SUBSOIL IS YELLOWISH BROWN, DARK YELLOWISH BROWN, AND DARK BROWN, MOTTLED FINE SANDY LOAM AND SANDY LOAM 24 INCHES THICK. THE SUBSTRATUM IS OLIVE BROWN, MOTTLED SANDY LOAM TO A DEPTH OF 60 INCHES OR MORE.

INCLUDED WITH THIS SOIL IN MAPPING ARE SMALL AREAS OF WELL DRAINED CANTON AND CHARLTON SOILS; MODERATELY WELL DRAINED WOODBRIDGE SOILS; AND POORLY DRAINED LEICESTER SOILS. INCLUDED AREAS MAKE UP ABOUT 10 PERCENT OF THIS MAP UNIT.

THE SUTTON SOIL HAS A SEASONAL HIGH WATER TABLE AT A DEPTH OF ABOUT 18 INCHES. PERMEABILITY IS MODERATE OR MODERATELY RAPID. THE AVAILABLE WATER CAPACITY IS MODERATE. RUNOFF IS MEDIUM. SUTTON SOIL WARMS UP AND DRIES OUT SLOWLY IN THE SPRING.

THE MAJOR LIMITING FACTOR FOR COMMUNITY DEVELOPMENT IS THE SEASONAL HIGH WATER TABLE. ON-SITE SEPTIC SYSTEMS NEED SPECIAL DESIGN AND INSTALLATION TO PREVENT EFFLUENT FROM SEEPING TO THE SURFACE. FOUNDATION DRAINS HELP TO PREVENT WET BASEMENTS. LAWNS ARE WET AND SOGGY IN THE FALL AND SPRING. QUICKLY ESTABLISHING A PLANT COVER AND USING MULCH, TEMPORARY DIVERSIONS AND SEDIMENT BASINS ARE RECOMMENDED MEASURES TO HELP CONTROL EROSION DURING CONSTRUCTION.

SvB - SUTTON FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES

THIS GENTLY SLOPING, MODERATELY WELL DRAINED SOIL IS ON UPLAND GLACIAL TILL PLAINS, HILLS, AND RIDGES. AREAS ARE DOMINANTLY IRREGULAR IN SHAPE.

TYPICALLY, THIS SUTTON SOIL HAS A VERY DARK GRAYISH BROWN, FINE SANDY LOAM SURFACE LAYER 9 INCHES THICK. THE SUBSOIL IS YELLOWISH BROWN, DARK YELLOWISH BROWN, AND DARK BROWN, MOTTLED FINE SANDY LOAM AND SANDY LOAM 24 INCHES THICK. THE SUBSTRATUM IS OLIVE BROWN, MOTTLED SANDY LOAM TO A DEPTH OF 60 INCHES OR MORE.

INCLUDED WITH THIS SOIL IN MAPPING ARE SMALL AREAS OF WELL DRAINED CANTON AND CHARLTON SOILS; MODERATELY WELL DRAINED WOODBRIDGE SOILS; AND POORLY DRAINED LEICESTER SOILS. INCLUDED AREAS MAKE UP ABOUT 10 PERCENT OF THIS MAP UNIT.

THE SUTTON SOIL HAS A SEASONAL HIGH WATER TABLE AT A DEPTH OF ABOUT 18 INCHES. PERMEABILITY IS MODERATE OR MODERATELY RAPID.

THE AVAILABLE WATER CAPACITY IS MODERATE. RUNOFF IS MEDIUM. SUTTON SOIL WARMS UP AND DRIES OUT SLOWLY IN THE SPRING.

THE MAJOR LIMITING FACTOR FOR COMMUNITY DEVELOPMENT IS THE SEASONAL HIGH WATER TABLE. ON-SITE SEPTIC SYSTEMS NEED SPECIAL DESIGN AND INSTALLATION TO PREVENT EFFLUENT FROM SEEPING TO THE SURFACE. FOUNDATION DRAINS HELP TO PREVENT WET BASEMENTS. LAWNS ARE WET AND SOGGY IN THE FALL AND SPRING. QUICKLY ESTABLISHING A PLANT COVER AND USING MULCH, TEMPORARY DIVERSIONS AND SEDIMENT BASINS ARE RECOMMENDED MEASURES TO HELP CONTROL EROSION DURING CONSTRUCTION.

SxB - SUTTON FINE SANDY LOAM, 0 TO 8 PERCENT SLOPES, EXTREMELY STONY

THIS NEARLY LEVEL TO GENTLY SLOPING MODERATELY WELL DRAINED SOIL IS ON UPLAND GLACIAL TILL PLAINS, HILLS AND RIDGES. STONES AND BOULDERS COVER 8 TO 25 PERCENT OF THE SURFACE. MAPPED AREAS ARE DOMINANTLY IRREGULAR IN SHAPE.

TYPICALLY, THIS SUTTON SOIL HAS A VERY DARK GRAYISH BROWN, FINE SANDY LOAM SURFACE LAYER 4 INCHES THICK. THE SUBSOIL IS YELLOWISH BROWN, DARK YELLOWISH BROWN, AND DARK BROWN, MOTTLED FINE SANDY LOAM AND SANDY LOAM 29 INCHES THICK. THE SUBSTRATUM IS OLIVE BROWN, MOTTLED SANDY LOAM TO A DEPTH OF 60 INCHES OR MORE.

INCLUDED WITH THIS SOIL IN MAPPING ARE SMALL AREAS OF WELL DRAINED CANTON, CHARLTON, AND NARRAGANSETT SOILS; MODERATELY WELL DRAINED WOODBRIDGE AND RAINBOW SOILS; AND POORLY DRAINED LEICESTER SOILS. INCLUDED AREAS MAKE UP ABOUT 10 PERCENT OF THIS MAP UNIT.

THE SUTTON SOIL HAS A SEASONAL HIGH WATER TABLE AT A DEPTH OF ABOUT 18 INCHES. PERMEABILITY IS MODERATE OR MODERATELY RAPID. THE AVAILABLE WATER CAPACITY IS MODERATE. RUNOFF IS SLOW OR MEDIUM. SUTTON SOIL WARMS UP AND DRIES OUT SLOWLY IN THE SPRING.

THE MAJOR LIMITING FACTOR FOR COMMUNITY DEVELOPMENT IS THE SEASONAL HIGH WATER TABLE. ON-SITE SEPTIC SYSTEMS NEED SPECIAL DESIGN AND INSTALLATION TO PREVENT EFFLUENT FROM SEEPING TO THE SURFACE. FOUNDATION DRAINS HELP TO PREVENT WET BASEMENTS. STONES AND BOULDERS NEED TO BE REMOVED FOR LANDSCAPING. QUICKLY ESTABLISHING A PLANT COVER AND USING MULCH, TEMPORARY DIVERSIONS, AND SEDIMENT BASINS HELP CONTROL EROSION DURING CONSTRUCTION.

SwB - SUTTON FINE SANDY LOAM, 0 TO 8 PERCENT SLOPES, VERY STONY

THIS NEARLY LEVEL TO GENTLY SLOPING MODERATELY WELL DRAINED SOIL IS ON UPLAND GLACIAL TILL PLAINS, HILLS, AND RIDGES. STONES AND BOULDERS COVER 1 TO 8 PERCENT OF THE SURFACE. AREAS ARE DOMINANTLY IRREGULAR IN SHAPE.

TYPICALLY, THIS SUTTON SOIL HAS A VERY DARK GRAYISH BROWN, FINE SANDY LOAM SURFACE LAYER 4 INCHES THICK. THE SUBSOIL IS YELLOWISH BROWN, DARK YELLOWISH BROWN, AND DARK BROWN, MOTTLED FINE SANDY LOAM AND SANDY LOAM 29 INCHES THICK. THE SUBSTRATUM IS OLIVE BROWN MOTTLED SANDY LOAM TO A DEPTH OF 60 INCHES OR MORE.

INCLUDED WITH THIS SOIL IN MAPPING ARE SMALL AREAS OF WELL DRAINED CANTON AND CHARLTON SOILS; MODERATELY WELL DRAINED WOODBRIDGE SOILS; AND POORLY DRAINED LEICESTER SOILS. INCLUDED AREAS MAKE UP ABOUT 10 PERCENT OF THIS MAP UNIT.

THE SUTTON SOIL HAS A SEASONAL HIGH WATER TABLE AT A DEPTH OF ABOUT 18 INCHES. PEARMEABILITY IS MODERATE OR MODERATELY RAPID. THE AVAILABLE WATER CAPACITY IS MODERATE. RUNOFF IS SLOW OR MEDIUM. SUTTON SOIL WARMS UP AND DRIES OUT SLOWLY IN THE SPRING.

THE MAJOR LIMITING FACTOR FOR COMMUNITY DEVELOPMENT IS THE SEASONAL HIGH WATER TABLE. ON-SITE SEPTIC SYSTEMS NEED SPECIAL DESIGN AND INSTALLATION TO PREVENT EFFLUENT FROM SEEPING TO THE SURFACE. FOUNDATION DRAINS HELP TO PREVENT WET BASEMENTS. LAWNS ARE WET AND SOGGY IN THE FALL AND SPRING. QUICKLY ESTABLISHING A PLANT COVER AND USING MULCH, TEMPORARY DIVERSIONS, AND SEDIMENT BASINS HELP CONTROL EROSION DURING CONSTRUCTION.



IN VIEW OF THE FACT THAT LOT SIZES ARE FAIRLY LARGE, IT IS RECOMMENDED THAT SPECIFIC SITE TESTING BE CONDUCTED ON EACH LOT BEFORE SEPTIC SYSTEMS ARE DESIGNED.

B. EROSION AND SEDIMENT CONTROL

AN EROSION AND SEDIMENT CONTROL PLAN SHOULD BE INCLUDED WITH THE SUB-DIVISION PLANS. THE FOLLOWING IS NECESSARY INFORMATION THAT IT SHOULD CONTAIN:

1. A NARRATIVE - INCLUDING PROJECT DESCRIPTION, SCHEDULE FOR GRADING AND CONSTRUCTION ACTIVITIES, DESIGN CRITERIA AND CONSTRUCTION DETAILS FOR PROPOSED SOIL EROSION AND SEDIMENT CONTROL MEASURES AND STORM WATER MANAGEMENT FACILITIES; AND ALSO THE INSTALLATION AND MAINTENANCE PROCEDURES AND SCHEDULES FOR THE PROPOSED MEASURES AND FACILITIES.

2. A SITE PLAN - INCLUDING THE LOCATION OF THE PROPOSED DEVELOPMENT AND ADJACENT PROPERTIES. THE EXISTING AND PROPOSED TOPOGRAPHY INCLUDING SOIL TYPES, WETLANDS AND WATERCOURSES. ALSO, LOCATION OF THE PROPOSED AREAS TO BE CLEARED, EXCAVATED, FILLED OR GRADED AND PROPOSED STRUCTURES, UTILITIES AND ROADS AS WELL AS THE LOCATION OF ALL PROPOSED EROSION AND SEDIMENT CONTROL MEASURES.

IN ADDITION, THE PLAN SHOULD INCLUDE THE NAME OF THE PERSON RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF THE EROSION CONTROL MEASURES DURING CONSTRUCTION AS WELL AS THE PERSON RESPONSIBLE FOR THE MAINTENANCE OF PERMANENT MEASURES AFTER THE PROJECT IS COMPLETED.

THERE DID NOT SEEM TO BE ANY PROVISIONS FOR STORMWATER MANAGEMENT AND SURFACE OR SUBSURFACE RUNOFF ON THE PLANS. POTENTIAL PROBLEMS SHOULD BE ADDRESSED PRIOR TO SUBDIVISION APPROVAL, AND MITIGATING MEASURES SHOULD BE INSTALLED PRIOR TO THE SALE OF ANY LOTS.



5. SEWAGE DISPOSAL

A. COATS FARM EAST

BASED ON VISUAL OBSERVATIONS, REVIEW OF THE TOWN SANITARIAN'S TEST RESULTS AND CONSIDERATION OF SOIL CONSERVATION SERVICE MAPPING DATA, IT DOES APPEAR THAT SUBSURFACE DISPOSAL SHOULD BE FEASIBLE IN THE AREA IN QUESTION. OVERALL, PERCOLATION TESTS INDICATED PERMEABLE SOILS, ALTHOUGH CONSIDERABLE DIFFERENCES ARE NOTED IN RATE RANGES. THE MAJOR CONCERN FOR SUBSURFACE LEACHING SYSTEMS WOULD BE HIGH GROUNDWATER CONDITIONS WITH REDUCED PERCOLATION IN THE LOWER LAYER OF SOIL. FOR THE MOST PART IT WOULD APPEAR THAT SYSTEMS SHOULD BE KEPT SHALLOW AND SPREAD OUT WITH THE CONTOURS. SURFACE DRAINAGE FROM EXISTING NATURAL SWALES OR SEASONAL PERCHED GROUND-WATER NEEDS TO BE EXCLUDED FROM THE AREA OF THE LEACHING SYSTEMS BY GROUND-WATER INTERCEPTING DRAINS AND SURFACE SWALES.

IN GENERAL, AS THE LAND RISES FROM WYASSUP ROAD IT WOULD SEEM THAT HOUSES WOULD HAVE TO BE SET BACK A CONSIDERABLE DISTANCE FROM THE ROAD IN ORDER TO LEAVE SUFFICIENT AREA FOR SEWAGE DISPOSAL. AS HOUSES WOULD MOST LIKELY BE PROVIDED WITH FOOTING DRAINS, IT MAY BE POSSIBLE IN SOME CASES TO COMBINE SUCH A DRAIN WITH AN INTERCEPTING DRAIN IN ORDER TO PROTECT THE LEACH AREA FROM GROUNDWATER.

FOR THE MOST PART LOTS IN THIS SUBDIVISION WOULD HAVE QUALIFICATIONS FOR ENGINEERED DESIGN SEWERAGE SYSTEMS. IT IS NOTED THAT A FEW OF THE PROPOSED LOTS TOWARDS THE LOWER SOUTH END ARE AT OR NEAR EXTENSIVE WETLANDS, THESE APPARENTLY HAVE MORE PERMEABLE SOILS. IN ONE CASE, LOT 1.08, WHICH IS QUITE LARGE IS SURROUNDED BY WETLANDS EXCEPT FOR ABOUT AN ACRE AT THE FRONT OF THE SITE.

IN THIS REGARD, THE SOIL SCIENTIST MEMBER OF THE TEAM WAS GOING TO REVIEW AND VERIFY SOME OF THE SOILS AS SOME MAY BE BETTER DRAINED AND MORE SUITABLE FOR SEWAGE DISPOSAL PURPOSES THAN ORIGINALLY MAPPED. (SEE SECTION 4A, SOILS FOR FURTHER INFORMATION.)

B. COATS FARM WEST

THE PARCEL ON THE WEST SIDE IS GENERALLY LESS SUITABLE FOR SEWAGE DISPOSAL PURPOSES. THIS IS BASED ON THE TOPOGRAPHY AND GENERALLY SLOWER PERCOLATION RATES, ALTHOUGH ALL BUT ONE WAS IN THE ACCEPTABLE RANGE. THE MIDDLE PORTION (ALONG WYASSUP ROAD) OF THE PROPERTY APPEARS TO BE RATHER MARGINAL, PARTICULARLY LOT 19.02, WHICH HAD THE SLOWEST PERCOLATION RATE. IN GENERAL, SOILS WITH SLOW SEEPAGE RATES WILL REQUIRE LARGE LEACHING SYSTEMS. LIKewise, THEY SHOULD BE KEPT SHALLOW AND SPREAD OUT. ALSO, LEACHING TRENCHES SHOULD BE KEPT NARROW (2 FEET OR LESS) IN ORDER TO PROVIDE MORE SOIL INTERFACE AND TO PROMOTE BETTER DISPERSAL INTO THE MORE PERMEABLE UPPER SOIL LAYER(S). IN ORDER TO CONSTRUCT SUCH A SYSTEM REQUIRES SIZEABLE LAND AREA, WHICH IS NOT ENCUMBERED OR RESTRICTED BY BOULDERS, DRAINAGE SWALES OR OTHER NATURAL OBSTACLES, WHILE MEETING ALL REQUIRED PUBLIC HEALTH

CODE AND TOWN SEPARATING DISTANCES. ALSO, SOILS THAT HAVE SLOW SEEPAGE RATES TEND TO BE SUBJECT TO HIGH GROUNDWATER CONDITIONS. THEREFORE, IT IS IMPORTANT THAT GROUND OR SURFACE WATER IN THE AREA OF LEACHING SYSTEMS IS ADEQUATELY CONTROLLED IN ORDER NOT TO SATURATE THE SOILS, PARTICULARLY DURING THE WETTEST SEASON OR PERIOD OF THE YEAR. AGAIN IT APPEARS THAT MOST OF THE PROPOSED LOTS ON THIS SIDE (WEST) OF THE ROAD WOULD REQUIRE ENGINEERED DESIGN SEWAGE SYSTEMS.

6. HYDROLOGY

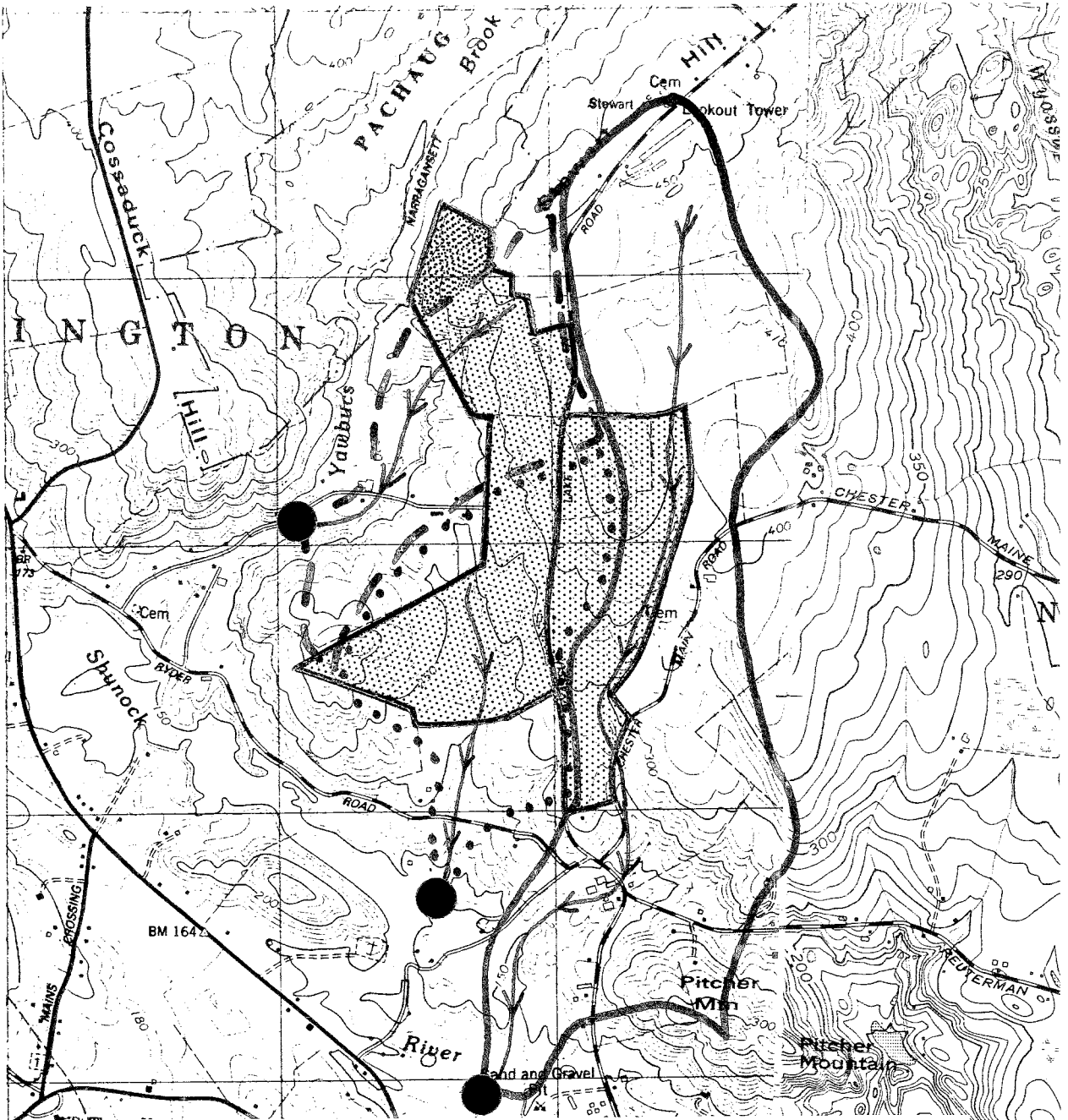
A. COATS FARM EAST

SURFACE RUNOFF IN THE EASTERN PARTS OF THE SITE FLOWS BY SHEETFLOW OR VIA INTERMITTENT STREAMS INTO THE UNNAMED WATERCOURSE WHICH FLOWS NEAR THE EASTERN PROPERTY BOUNDARY. THIS UNNAMED STREAM FLOWS IN A SOUTHERLY DIRECTION ENROUTE TO SHUNOCK RIVER. IT DRAINS A WATERSHED WHICH IS APPROXIMATELY 600 ACRES IN SIZE, AND WHICH IS ONLY LIGHTLY DEVELOPED. BASED ON PROPOSED PLANS, IT APPEARS THAT ONLY HOMES BUILT ON LOTS 1.04, 1.05 AND POSSIBLY 1.17 WOULD LIE WITHIN THIS WATERSHED.









SURFACE RUNOFF IN THE WESTERN PARTS OF THE SITE FLOWS BY SHEETFLOW OR VIA INTERMITTENT STREAMS IN A SOUTHERLY DIRECTION TOWARDS WYASSUP LAKE ROAD. SEVERAL ROAD CULVERTS AT POINTS ALONG WYASSUP LAKE ROAD INTERCEPT THE SURFACE RUNOFF AND ROUTE IT UNDER THE ROAD TO THE WEST SIDE OF THE ROAD. INTERMITTENT DRAINAGE CHANNELS THEN ROUTE THE WATER TO SHUNOCK RIVER. THE REMAINING LOTS IN COATS FARM EASTATES (EAST) LIE WITHIN THIS WATERSHED.


SUBDIVIDING OF THE SITE UNDER PRESENT PLANS, FOLLOWED BY THE CONSTRUCTION OF NEW HOMES AND DRIVEWAYS, WOULD BE EXPECTED TO LEAD TO SOME INCREASES IN RUNOFF FROM THE SITE. HOWEVER, BECAUSE NEARLY ONE THIRD OF THE PROPOSED SITE COMPRISES BARE SOILS (CULTIVATED CORNFIELDS) RUNOFF FROM THESE PARTS WOULD ALREADY BE EXPECTED TO BE MODERATELY HIGH. IF THE SUBDIVISION IS APPROVED, AND HOMES (WITH ESTABLISHED LAWNS) ARE SUBSEQUENTLY DEVELOPED ON THE BARE SOILS, THERE WOULD PROBABLY BE A REDUCTION IN THE AMOUNT OF RUNOFF SHED FROM THIS PART OF THE SITE. ALSO, BECAUSE THE PROPOSED DENSITY WILL BE LOW, THIS WILL HELP TO MINIMIZE THE CHANCE OF INCREASED RUNOFF FROM THE SITE. NEVERTHELESS, AS A SAFEGUARD, IT IS RECOMMENDED THAT THE APPLICANTS ENGINEER PREPARE A STORMWATER MANAGEMENT PLAN WHICH INCLUDES PRE- AND POST-DEVELOPMENT RUNOFF. SINCE IT APPEARS, AT THIS TIME, THAT ONLY 2 OR 3 HOUSES WOULD BE CONSTRUCTED IN THE EASTERN PARTS OF THE PROPERTY, THERE IS PROBABLY NO NEED TO PREPARE RUNOFF CALCULATIONS FOR THIS PORTION OF THE SITE UNLESS IT IS REQUIRED BY THE TOWN. CLOSE EXAMINATION OF ALL CULVERTS PASSING UNDER WYASSUP LAKE ROAD IS ADVISED TO ENSURE THAT PIPES ARE PROPERLY SIZED AND WILL BE ABLE TO HANDLE POST-DEVELOPMENT FLOWS WITHOUT CAUSING FLOODING PROBLEMS.

DEPENDING ON FINAL HOUSE LOCATION, THERE MAY BE A NEED TO CROSS DRAINAGE CHANNELS WITH DRIVEWAYS, MAINLY ON THE LOTS IN THE SOUTHERN HALF OF THE PROPERTY.



WATERSHED BOUNDARY

	Approximate boundary for Coates Farm Estates (East & West)
	Coates Farm Estates (East & West)
	Part of property which drains to Yawbuc Brook
	Design points
	Approximate watershed boundary for the unnamed stream which follows the eastern property line for Coates Farm Estate East
	Approximate watershed boundary for the unnamed tributary to Yawbuc Brook in the northern parts of Coates Farm Estate West
	Approximate watershed boundary for the unnamed tributary to Shunock River, which drains mainly the eastern parts of Coates Farm Estate East (along Wyassup Lake Road) and the southern half of Coates Farm Estate West
	Watercourses showing direction of flow



1" = 2000'

THESE DRAINAGE CHANNELS AS WELL AS THOSE AREAS WHICH CONTAIN POCKETS OF STANDING WATER MAY BE UNDERLAIN BY REGULATED INLAND-WETLAND SOILS. AS A RESULT, THEY MAY BE SUBJECT TO A PERMIT BY THE TOWN'S INLAND-WETLANDS COMMISSION. IT IS UNDERSTOOD THAT THE APPLICANT HAS ACQUIRED THE SERVICES OF A CERTIFIED SOIL SCIENTIST TO MAP THESE AREAS.

WETLAND ROAD CROSSINGS ARE FEASIBLE, PROVIDED THEY ARE PROPERLY ENGINEERED. PROVISIONS SHOULD BE MADE FOR REMOVING UNSTABLE MATERIAL BENEATH THE ROADBED, BACKFILLING WITH A PERMEABLE ROAD BASE FILL MATERIAL AND INSTALLING CULVERTS AS NECESSARY. WHEN CROSSING ANY WETLANDS, THE ROADS SHOULD BE AT LEAST 1.5 FEET AND PREFERABLY 2 FEET ABOVE THE SURFACE ELEVATION OF WETLANDS. THIS WILL ALLOW FOR BETTER DRAINAGE OF THE ROADS. IT WILL ALSO DECREASE THE FROST HEAVING POTENTIAL OF THE ROAD. ROAD CONSTRUCTION THROUGH WETLANDS SHOULD PREFERABLY BE DONE DURING THE DRY TIME OF THE YEAR AND SHOULD INCLUDE PROVISIONS FOR EFFECTIVE EROSION AND SEDIMENT CONTROL.

ANOTHER WATER RELATED CONCERN IS THE POSSIBILITY FOR EROSION AND SILTATION PROBLEMS ARISING DURING CONSTRUCTION PHASES, ESPECIALLY ON MODERATELY SLOPING AREAS WITH BARE SOILS. DISTURBING AREAS LIKE THE ONES MENTIONED IN THE PRECEDING SENTENCE WITH HEAVY CONSTRUCTION EQUIPMENT CAN LEAD TO THE MOBILIZATION OF FINE SOILS PARTICLES. EVERY EFFORT SHOULD BE MADE TO AVOID ENVIRONMENTAL DAMAGE AND COMPLAINTS FROM ADJOINING NEIGHBORS. ON JULY 2, 1985 SEDIMENT CONTROL ACT (P.A. NO. 83-388) WAS PUT INTO EFFECT. AS A RESULT, A DETAILED EROSION AND SEDIMENT CONTROL PLAN WILL BE REQUIRED AND SHOULD BE ENFORCED. (SEE SECTION 4B, SOILS FOR FURTHER INFORMATION.)

B. COATS FARM WEST

SURFACE DRAINAGE WITHIN COATS FARM ESTATES (WEST) UNDER NATURAL CONDITIONS CAN BE DIVIDED INTO THREE (3) DIFFERENT DRAINAGE AREAS ALL OF WHICH ULTIMATELY DISCHARGE TO SHUNOCK RIVER.

SURFACE RUNOFF IN THE SOUTHERN HALF OF THE COATS FARMS ESTATES (WEST) FLOWS DOWNSLOPE TO THE UNNAMED INTERMITTENT DRAINAGE WAY BISECTING THIS PART OF THE PARCEL. THIS WATERCOURSE FLOWS SOUTHERLY FROM THE SITE PASSING UNDER RYDER ROAD AND ULTIMATELY DISCHARGES INTO SHUNOCK RIVER. IT SHOULD BE NOTED THAT SURFACE DRAINAGE EMANATING FROM THE WESTERN PARTS OF COATS FARM ESTATES (EAST) ALSO CONTRIBUTES WATER VIA ROAD PIPES PASSING UNDER WYASSUP LAKE ROAD TO THIS PART OF THE WATERSHED.

SURFACE RUNOFF EMANATING FROM THE NORTHCENTRAL PARTS OF THE PARCEL FLOWS DOWNSLOPE TO AN UNNAMED TRIBUTARY TO YAWBUCKS BROOK. YAWBUCKS BROOK ULTIMATELY FLOWS INTO SHUNOCK RIVER.

LASTLY, SURFACE RUNOFF FROM THE NORTHERN LIMITS OF THE PARCEL, WHICH IS COMPRISED OF MAINLY OPEN SPACE LAND, FLOWS DOWNSLOPE BY SHEETFLOW OR VIA INTERMITTENT DRAINWAYS TO YAWBUCKS BROOK. SEE ATTACHED WATERSHED BOUNDARY MAP.

DEVELOPMENT OF COATS FARM ESTATES (WEST) FOR 19 RESIDENTIAL HOMES WOULD BE EXPECTED TO LEAD TO SOME INCREASES IN RUNOFF. HOWEVER, BECAUSE OF THE RELATIVELY LOW DENSITY PRESENTLY PROPOSED AND BECAUSE THE YAWBUCS BROOK WATERSHED IS ONLY LIGHTLY DEVELOPED, RUNOFF INCREASES SHOULD NOT CREATE ANY MAJOR FLOODING PROBLEMS. NEVERTHELESS, AS A MATTER OF POLICY, THE APPLICANT ENGINEER SHOULD PREPARE A STORMWATER MANAGEMENT PLAN WHICH INCLUDES PRE- AND POST-DEVELOPMENT RUNOFF AND WHICH TAKES INTO CONSIDERATION THE ADDITIONAL RUNOFF FROM THE WESTERN PARTS OF COATS FARM ESTATES (EAST).

PROVIDED A SOUND EROSION AND SEDIMENT CONTROL IS DEVISED AND FOLLOWED CLOSELY WITH IMPLEMENTATION OF THE PROJECT, MAJOR EROSION/SILTATION PROBLEMS CAN BE AVOIDED. SPECIAL ATTENTION IN TERMS OF EROSION AND SEDIMENT CONTROL SHOULD BE DIRECTED AT THE MODERATELY SLOPING ACTIVELY CULTIVATED CORNFIELDS IN THE NORTHCENTRAL PARTS OF THE PARCEL. VISUAL INSPECTION OF THESE MOSTLY UNVEGETATED SURFACES ON THE FIELD REVIEW DAY REVEALED SOME EROSION AND SILTATION PROBLEMS. ALSO, CONSIDERATION SHOULD BE GIVEN TO INSTALLING ENERGY DISSIPATERS AT THE OUTLETS OF PIPES THAT PASS UNDER WYASSUP LAKE ROAD.

LIKE COATS FARM ESTATES (EAST), THERE MAY BE A NEED TO CROSS SEASONALLY WET WATERCOURSES WITH DRIVEWAYS DEPENDING UPON FINAL HOUSE LOCATION. THE SAME COMMENTS REGARDING WETLAND CROSSINGS MADE IN THE COATS FARM ESTATES (EAST) REPORT APPLIES TO THE POTENTIAL WETLAND CROSSING ON THIS PARCEL.

7. WATER SUPPLY

A. GENERAL

LOTS IN THE SUBDIVISIONS ARE TO BE SERVICED BY PRIVATE ON-SITE WELLS. IN AREAS THAT UTILIZE BOTH ON-SITE WELLS AND SUBSURFACE SEWAGE DISPOSAL SYSTEMS IT HAS GENERALLY BEEN RECOGNIZED THAT LOT SIZES SHOULD BE AT LEAST A MINIMUM OF ONE (1) ACRE IN ORDER TO PROTECT WATER SUPPLIES AND PRESERVE GROUNDWATER QUALITY. OF COURSE TERRAIN AND ANY NUMBER OF ADVERSE FACTORS WHICH WOULD PLACE SEVERE RESTRICTIONS ON THE OVERALL SUITABILITY OF THE LAND FOR DEVELOPMENT PURPOSES SHOULD INFLUENCE LOT ACREAGE IN ORDER TO PROVIDE SUFFICIENT AND SUITABLE AREA FOR ALL NECESSARY FACILITIES. FOR THE LAND IN QUESTION IT IS UNDERSTOOD THAT LOTS WOULD HAVE TO BE AT LEAST 80,000 FEET (APPROXIMATELY TWO ACRES) IN SIZE. THESE LARGE LOTS, CERTAINLY, SHOULD CONTROL THE DENSITY OF SEPTIC TANK SYSTEMS WHICH ARE RECOGNIZED AS THE MAJOR CONTRIBUTORS OF WASTE WATER TO THE SUBSURFACE ENVIRONMENT. IN ORDER TO PREVENT GROUNDWATER CONTAMINATION IT IS NECESSARY THAT SEPTIC TANK EFFLUENT UNDERGO FILTRATION AND RENOVATION THROUGH SOIL AND ALSO RECEIVE ADEQUATE DILUTION, PARTICULARLY FOR NITRATES AND CHLORIDES. IT SHOULD BE NOTED THAT FARMLAND, WHICH HAS BEEN HEAVILY FERTILIZED OVER THE YEARS MAY HAVE ELEVATED NITRATES.

IN GENERAL, WELLS OF THE DRILLED TYPE WILL USUALLY AFFORD GREATER PROTECTION AND RELIABILITY OF THE SUPPLIES. WELL SITING SHOULD TAKE INTO CONSIDERATION THE NATURAL FEATURES AND SLOPE OF THE LOTS. WELLS SHOULD BE

LOCATED AT OR NEAR THE HIGH SIDE OF LOTS, IN A DIRECTION WHICH WOULD PROTECT THE WELL(S) FROM THE NORMALLY EXPECTED FLOW OR MOVEMENT OF CONTAMINANTS FROM SEWAGE SYSTEMS OR OTHER POTENTIAL SOURCES OF POLLUTION. IN ALL CASES COMPLIANCE WITH MINIMUM REQUIRED PUBLIC HEALTH CODE SEPARATING DISTANCES IS TO BE OBTAINED.

SOME WATER SUPPLIES, ALTHOUGH BEING CHEMICALLY AND BACTERIOLOGICALLY SAFE, MAY CONTAIN EXCESSIVE AMOUNTS OF MINERALS SUCH AS IRON AND/OR MANGANESE. IN ORDER TO PREVENT OBJECTIONABLE CONDITIONS OF COLOR, STAINING AND POSSIBLE TASTE PROBLEMS, APPROPRIATE WATER TREATMENT FACILITIES WOULD BE NEEDED IN ORDER TO REMOVE THESE COMPONENTS.

B. COATS FARM EAST

HOMES IN THE PROPOSED SUBDIVISION WOULD BE SUPPLIED WITH WATER BY ON-SITE WELLS. THE ONLY SUITABLE AQUIFER AVAILABLE IS BEDROCK. YIELDS FROM BEDROCK WELLS DEPEND UPON THE NUMBER AND SIZE OF WATER-BEARING FRACTURES THAT ARE INTERSECTED BY THE WELLS. DENSITY AND SIZE OF FRACTURES IN DIFFERENT BEDROCK ZONES VARY WIDELY, BUT IN GENERAL BOTH ARE GREATER IN GRANULAR ROCK, THE TYPE WHICH UNDERLIES THE SITE. BECAUSE OF THE UNEVEN DISTRIBUTION OF THE FRACTURES, IT IS VERY DIFFICULT TO PREDICT THE POTENTIAL YIELD FROM ANY NEW WELL. ACCORDING TO THE CONNECTICUT WATER RESOURCES BULLETIN #15 (LOWER THAMES AND SOUTHEASTERN COASTAL RIVER BASINS), NINE (9) OUT OF TEN (10) BEDROCK WELLS YIELD AT LEAST THREE (3) GALLONS PER MINUTE. A YIELD OF THREE (3) GALLONS PER MINUTE SHOULD PROVE ADEQUATE FOR THE HOUSEHOLD NEEDS OF AN AVERAGE FAMILY. IN MOST CASES NO MORE THAN 200 FEET OF BEDROCK SHOULD HAVE TO BE PENETRATED TO OBTAIN THESE YIELDS.

IF LESS THAN ONE (1) GALLON PER MINUTE IS ACHIEVED AFTER DRILLING THROUGH 200 FEET OF ROCK, IT MAY BE MORE FRUITFUL TO DRILL IN AN ALTERNATE LOCATION THAN TO EXTEND THE FIRST WELL, AS THE DENSITY AND SIZE OF FRACTURES DECREASES MARKEDLY AT SUCH DEPTHS. IT MUST BE REMEMBERED, HOWEVER, THAT THE 200 FEET REFERS TO BEDROCK ONLY AND DOES NOT INCLUDE OVERBURDEN. IN SOME PARTS OF THE SITE, THE OVERBURDEN ALONE MAY BE SEVERAL TENS OF FEET THICK.

A PROPERLY CASED WELL PROBABLY WOULD BE SAFE FROM EFFLUENT CONTAMINATION ON THIS SITE, PROVIDED SEPTIC SYSTEMS ARE PROPERLY DESIGNED AND INSTALLED AND PUBLIC HEALTH CODE SEPARATING DISTANCES MAINTAINED. ALSO, THE PRESENCE OF THICK TILL DEPOSITS OVER THE BEDROCK SHOULD HELP TO PROVIDE SATISFACTORY PROTECTION OF WELL WATER QUALITY FROM BEDROCK AQUIFER.

NATURAL GROUNDWATER QUALITY SHOULD BE GOOD, ALTHOUGH A REMOTE POSSIBILITY OF ELEVATED (PARTICULARLY IRON OR MANGANESE) CONTENT EXISTS. SHOULD WELL WATER PROVE TO BE HIGH IN MINERAL CONTENT, SEVERAL FILTRATION METHODS ARE AVAILABLE TO OVERCOME ANY PROBLEMS. ALSO, BECAUSE THE LAND HAS A HISTORY OF AGRICULTURAL USE, THERE MAY ALSO BE A CHANCE OF ELEVATED NITRATE LEVELS IN WATER WITHDRAWN FROM BEDROCK WELLS. NITRATE (NO_3) HAS CAUSED METHEMOGLOBINEMIA (INFANT CYANOSIS OR "BLUE BABY DISEASE") IN INFANTS WHO HAVE BEEN GIVEN WATER OR FED FORMULAS PREPARED WITH WATER HAVING HIGH NITRATES.

A DOMESTIC WATER SUPPLY SHOULD NOT CONTAIN NITRATE CONCENTRATIONS IN EXCESS OF TEN (10) PARTS PER MILLION. IN THIS REGARD, THE TOWN SANITARIAN SHOULD CAREFULLY REVIEW WATER QUALITY REPORTS WHICH WILL BE REQUIRED FOR EACH HOME PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE TOWN BUILDING OFFICIAL.

C. COATS FARM WEST

LIKE COATS FARMS ESTATES (EAST), WATER SUPPLY FOR ALL OF THE PROPOSED LOTS IN COATS FARMS ESTATES (WEST) WILL BE DERIVED FROM DRILLED WELLS, CASED WITH STEEL PIPE FIRMLY INTO THE UNDERLYING METAMORPHIC ROCK. AS MENTIONED IN THE WATER SUPPLY SECTION OF THE REPORT FOR COATS FARMS ESTATES (EAST), THE TYPICAL WELL WILL NEED TO PENETRATE ABOUT 200 FEET OR MORE OF ROCK (DOES NOT INCLUDE THE UNCONSOLIDATED MATERIALS OVERLYING THE BEDROCK). ALTHOUGH THE METAMORPHIC ROCK LYING BENEATH THE SITE IS NOT A PROLIFIC AQUIFER, IT IS GENERALLY CAPABLE OF YIELDING THREE (3) GALLONS OF WATER PER MINUTE OR MORE.

ALL WELLS SHOULD BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE SECTIONS OF THE STATE PUBLIC HEALTH CODE, THE CONNECTICUT WELL DRILLING BOARD AND ANY LOCAL REGULATIONS. THE TOWN SANITARIAN WILL NEED TO PROPERLY LOCATE AND INSPECT ALL WELLS DRILLED ON THE SITE. BECAUSE SEWAGE EFFLUENT WILL NEED TO VERTICALLY PENETRATE A RELATIVELY THICK LAYER (PROBABLY 15 FEET OR GREATER) OF TILL SOIL, WHICH PROBABLY BECOMES MORE COMPACT WITH DEPTH, THIS SHOULD HELP TO PROTECT THE BEDROCK AQUIFER.

8. VEGETATION

A. COATS FARM EAST

MUCH OF THIS AREA IS ABANDONED PASTURE LAND. BECAUSE OF THE EXTREME STONINESS OF THE AREA, THIS WAS MORE RANGE LAND THAN CULTIVATED PASTURE LAND. PRIMARY SPECIES INVADDED THE ROUGHER AREAS ONCE THE FARM WAS NO LONGER ACTIVELY MAINTAINED BY ANNUAL CUTTING OR CLIPPING OF THE BRUSH AND WEEDS. ALTHOUGH THERE ARE EIGHT (8) TO TEN (10) ACRES OF HAY LAND AND ABOUT 25 ACRES OF CORN LAND, MOST OF THE REMAINING 125 ± ACRES CONSIST OF RED MAPLE AND BLACK GUM ALONG THE WET CORRIDORS. THERE ARE ALSO A FEW BLACK AND SCARLET OAKS AND AN OCCASIONAL SYCAMORE. THE UPLAND SITES HAVE CLUMPS AND PATCHES OF RED MAPLE, BLACK GUM, BLACK CHERRY, SASSAFRAS, AND SCARLET OAK. THERE USUALLY IS GLAUCCOUS GREENBRIER (CAT BRIER), BULLBRIER GREENBRIER, AND CLIMBING BITTERSWEET CLIMBING THE LOWER CROWNS OF THESE TREES. SOMETIMES THERE IS ALSO POISON IVY GROWING INTO THE TREES. PATCHES OF BRUSH AND SHRUBS INCLUDE SMOOTH AND WINGED SUMAC, POISON IVY, MULTIFLORA ROSE, BARBERRY (AMERICAN AND JAPANESE), BAYBERRY, WILD APPLE, SHAD BUSH, HIGHBUSH BLUEBERRY, ARROWWOOD, AND RED CEDAR.

WETLAND SOILS ARE WELL OUTLINED AND IF PLANNED AROUND DURING SITE DEVELOPMENT, THESE LARGE LOTS SHOULD NOT CREATE ANY PROBLEMS. LOT OWNERS, ESPECIALLY LOTS 11, 14 AND 17, SHOULD BE AWARE OF THE LAND USE MANAGEMENT PLANNING ASSISTANCE THROUGH BOTH THE STATE FORESTRY DEPARTMENT AND THE SOIL CONSERVATION SERVICE; EXAMPLE, TREE PLANTING, WATER-WILDLIFE DEVELOPMENT, AGRICULTURE, ETC.

B. COATS FARM WEST

THIS IS MUCH MORE WOODED THAN THE EAST SIDE. LOT 20.0 IS WOODLAND PASTURE ALONG WYASSUP ROAD, BUT THE REST OF THE ACREAGE IS HEAVILY WOODED AND SHOULD BE MANAGED FOR TIMBER MANAGEMENT. THERE IS SOME DEAD AND DYING TIMBER IN THE AREA AT THIS TIME.

MOST OF THE OVERSTORY IS BLACK AND SCARLET OAK WITH SOME WHITE OAK, BLACK BIRCH, AND HICKORY IN THE OVERSTORY. THE AREA THAT HAS BEEN PASTURED HAS NO WOODY UNDERSTORY, BUT THE REST OF THE AREA HAS SEEDLING-SAPLINGS OF BLACK BIRCH, HICKORY, RED MAPLE AND FLOWERING DOGWOOD.

LOTS 20.07 -- 20.09 AND 20.1 ARE SIMILAR ALTHOUGH THE TREES ARE SMALLER, MOSTLY SCARLET OAK, AND THERE IS CONSIDERABLE MAPLE-LEAF VIBURNAM IN THE UNDERSTORY ALSO. MOST OF THE REST OF THE AREA IS SO-CALLED WOODLAND PASTURE. IT CONSISTS OF A SERIES OF FAIRLY STEEP WEST FACING SLOPES AND SHORT PLATEAUS. THERE ARE SOME 12--18 INCH STEMS OF RED--BLACK OAK, SOME BLACK BIRCH AND SOME RED MAPLE, BUT ALL THE UPPER SLOPES AND UPPER PLATEAUS ARE SEEDLING-SAPLING SIZE BLACK BIRCH, RED CEDAR, RED MAPLE, BLACK OAK, GRAY BIRCH, BLACK CHERRY AND SASSAFRAS. THERE IS A LOT OF BULLBRIER, CATBRIER, AND BITTERSWEET BOTH IN THE TREES AND ON THE GROUND. THERE ARE PATCHES OF AMERICAN BARBERRY, AND MULTIFLORA ROSE WITH SOME SMOOTH SUMMAC IN PLACES. THERE ARE ONLY ABOUT ELEVEN ACRES OF CORN FIELD ON THIS SIDE OF THE ROAD.

ON THIS SIDE OF THE ROAD ALSO, DEVELOPMENT SHOULD NOT INTERFERE WITH TREE GROWTH, EXCEPT THAT BREAKING THE AREA INTO SMALL LOTS WILL HAVE AN AFFECT ON THE WILDLIFE PRODUCTION POTENTIAL OF THE AREA. NATURAL WATER COURSES MUST BE PLANNED FOR TO PREVENT FLOODING. AGAIN, THE BUYERS OF THESE LOTS, ESPECIALLY 20.0, 19.02, 19.07, SHOULD BE AWARE OF THE LAND MANAGEMENT ASSISTANCE AVAILABLE TO THEM THROUGH THE BUREAU OF FORESTRY OF THE SOIL CONSERVATION SERVICE.

LOT 19.10 IS BORDERED ON TWO (2) SIDES BY THE PACHAUG STATE FOREST, STATE OF CONNECTICUT. ON THE MAPS SUPPLIED, THIS IS NOTED AS "OPEN SPACE". "TO BE RESERVED FOR COMMON USE BY ALL OWNERS OF THE COATS FARM ESTATES". ALTHOUGH IT IS ONLY SUGGESTED--FOR THOUGHT, IF THIS WAS IN SOME WAY TRANSFERRED TO THE STATE FOREST SYSTEM, IT WOULD STILL BE AVAILABLE TO THE PERSONS OF THIS DEVELOPMENT, ALTHOUGH NOT EXCLUSIVELY; HOWEVER, LIABILITY AND MANAGEMENT WOULD BE TRANSFERRED TO THE STATE OF CONNECTICUT. USE OF THE AREA FOR CUTTING AND MANAGING OF THE FOREST RESOURCES WOULD BE WITH THE STATE OF CONNECTICUT, BUREAU OF FORESTRY.

9. PLANNING CONCERNS

THE PROPOSED PROJECT UNDER CONSIDERATION HERE CONSISTS OF TWO (2) SUBDIVISIONS ON WYASSUP ROAD IN NORTH STONINGTON, ENTITLED COATS FARM ESTATES EAST, WHICH WILL CONTAIN SEVENTEEN (17) LOTS AND COATS FARM ESTATES WEST, WHICH WILL CONTAIN NINETEEN (19) LOTS. THE TWO (2) SUBDIVISIONS ARE TO BE

LOCATED ACROSS FROM EACH OTHER ON OPPOSITE SIDES OF WYASSUP LAKE ROAD, IN A RELATIVELY RURAL PART OF THE TOWN.

THE AREA IS ZONED R-80. IN THIS DISTRICT, THE MINIMUM LOT SIZE IS 80,000 SQUARE FEET, ALMOST TWO (2) ACRES, AND THE MINIMUM LOT WIDTH AT THE FRONT LOT LINE IS 250 FEET. ALL OF THE LOTS IN THE SUBDIVISION ARE WELL OVER 80,000 SQUARE FEET IN AREA AND ALL COMPLY WITH THE FRONTAGE REQUIREMENT, ALTHOUGH MOST HAVE FRONTAGES ONLY SLIGHTLY GREATER THAN WHAT IS REQUIRED. THE MAJORITY OF THE LOTS ARE IN THE 2.5--3 ACRE SIZE RANGE, ALTHOUGH EACH SUBDIVISION CONTAINS SEVERAL WHICH ARE CONSIDERABLY LARGER, RANGING IN SIZE FROM ABOUT SIX (6) ACRES TO ABOUT SIXTY (60) ACRES. IN ADDITION, THERE IS AN OPEN SPACE AREA OF ABOUT THIRTY (30) ACRES PROPOSED AT THE NORTHERN END OF THE COATS FARM ESTATES WEST SUBDIVISION. THE OPEN SPACE AREA IS TO BE REACHED BY A 25-FOOT RIGHT-OF-WAY WHICH SKIRTS THE PERIMETER OF LOT 19.09. THIS LATTER LOT IS ONE OF THE LARGER ONES, CONTAINING ABOUT 5.7 ACRES. THE ACCESS TO THE OPEN SPACE WOULD SEEM TO ADVERSELY IMPACT THE DRIVEWAY TO THIS LOT SINCE THE ACCESS IS LOCATED PARTLY WITHIN A 50-FOOT WIDE STRIP WHICH GIVES ACCESS TO THE LOT FROM WYASSUP LAKE ROAD. IT HAS BEEN SUGGESTED BY THE DEVELOPER THAT THE OPEN SPACE AREA MIGHT BE DEEDED TO A LAND TRUST. IF THIS IS TO BE DONE, IT SEEMS LIKELY THAT THE TRUST WOULD NEED TO HAVE A MORE DIRECT PUBLIC ACCESS ROUTE. PERHAPS THE LOT LINES COULD BE REARRANGED TO ACCOMPLISH THIS AND ALSO TO IMPROVE LOT 19.09.

IT IS LEGALLY POSSIBLE THAT THE LARGER LOTS COULD BE RESUBDIVIDED AT SOME TIME IN THE FUTURE, SINCE THEY CONTAIN SUFFICIENT AREA FOR THIS TO BE DONE UNDER THE CURRENT ZONING REGULATIONS. HOWEVER, IN ORDER TO MEET THE FRONTAGE REQUIREMENTS, ROAD CONSTRUCTION WOULD BE NECESSARY. SINCE THE SUBDIVISION REGULATIONS REQUIRE A 50-FOOT ROAD RIGHT-OF-WAY WIDTH, AND A 30-FOOT WIDE PAVEMENT, RESUBDIVISION OF THESE LOTS DOES NOT SEEM ECONOMICALLY FEASIBLE AT THE PRESENT TIME WHEN THERE ARE MANY AREAS IN THE TOWN WHICH CAN BE SUBDIVIDED WITH NO ROAD CONSTRUCTION. A LOT OF DEVELOPMENT WILL HAVE TO TAKE PLACE BEFORE THE DEMAND WILL EXIST TO RESUBDIVIDE THE LOTS IN THE SUBDIVISIONS WE ARE CONSIDERING HERE.

TWO (2) ASPECTS OF THE TRAFFIC IMPACT OF THE PROPOSED DEVELOPMENT ARE CONSIDERED HERE, THE DRIVEWAY SEPARATION DISTANCE AND TRIP GENERATION.

THE DRIVEWAY SEPARATION DISTANCE WILL BE ROUGHLY THE SAME AS THE WIDTHS OF THE LOTS ALONG WYASSUP LAKE ROAD, OR ABOUT 250 FEET. THE TABLE BELOW SUGGESTS THAT THIS SPACING IS ADEQUATE FOR A 45 MILES PER HOUR SPEED.

MINIMUM SEPARATION OF ADJACENT DRIVEWAYS*

<u>Highway Speed</u>	<u>Rate of Deceleration</u>	<u>Rate of Acceleration</u>	<u>Minimum Spacing</u>
20 mph	8.5 fps ²	3.0 fps ²	85
25 mph	8.5 fps ²	2.5 fps ²	105
30 mph	8.5 fps ²	2.1 fps ²	125
35 mph	8.5 fps ²	1.7 fps ²	150
40 mph	8.5 fps ²	1.7 fps ²	185
45 mph	8.5 fps ²	1.7 fps ²	230
50 mph	8.5 fps ²	1.7 fps ²	275

WHILE THERE IS NO POSTED SPEED LIMIT ON WYASSUP LAKE ROAD, 45 MILES PER HOUR SEEMS AS FAST AS ANY DRIVER IS LIKELY TO TRAVEL AND, THEREFORE, THE PROPOSED DRIVEWAY SPACING SHOULD BE ACCEPTABLE. IT IS DESIRABLE THAT DRIVEWAYS NOT BE LOCATED OPPOSITE EACH OTHER ALONG THE ROAD, BUT SHOULD BE STAGGERED SO THAT A VEHICLE ENTERING OR EXITING ONE DRIVEWAY IS NOT INTERFERRED WITH BY ANOTHER VEHICLE USING AN OPPOSITE DRIVEWAY.

STATISTICAL DATA CONTAINED IN A PUBLICATION BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION** INDICATE THAT IN SUBDIVISIONS CONTAINING SINGLE-FAMILY HOUSES, IT CAN BE EXPECTED THAT ON THE AVERAGE, EACH HOUSE WILL GENERATE 10.6 TRIPS PER 24-HOUR DAY. BY TRIP IS MEANT A JOURNEY TO OR FROM THE HOUSE IN QUESTION. FOR EXAMPLE, A JOURNEY BY A HOUSEPERSON TO THE GROCERY STORE AND RETURN WOULD RESULT IN TWO (2) TRIPS. THE SAME PUBLICATION STATES THAT 7.9% OF THOSE TRIPS WILL TAKE PLACE DURING THE MORNING PEAK HOUR WHEN RESIDENTS ARE LEAVING FOR WORK, AND 10.1% WILL TAKE PLACE DURING THE AFTERNOON PEAK HOUR WHEN THEY ARE RETURNING. SINCE THIRTY-SIX (36) LOTS ARE PROPOSED, THE ABOVE FIGURES RESULT IN 381.6 TRIPS PER DAY TO BE GENERATED BY THE DEVELOPMENT, OF WHICH ABOUT THIRTY (30) WOULD OCCUR IN THE MORNING PEAK AND THIRTY-NINE (39) IN THE AFTERNOON PEAK HOUR. IT DOES NOT SEEM THAT TRAFFIC VOLUMES OF THIS MAGNITUDE WOULD ADVERSELY AFFECT CONDITIONS ON WYASSUP LAKE ROAD.

THE POINTS MADE ABOVE CAN BE SUMMARIZED AS FOLLOWS: FIRST, IT SEEMS THAT ACCESS TO THE OPEN SPACE AREA SHOULD BE RESTUDIED. SECOND, ALTHOUGH IT IS LEGALLY POSSIBLE THAT THE LARGER LOTS IN THIS SUBDIVISION COULD BE SUBDIVIDED, THIS APPEARS UNLIKELY IN THE FORESEEABLE FUTURE FOR ECONOMIC REASONS. THIRD, DRIVEWAY SPACING APPEARS ADEQUATE; AND FOURTH, THE IMPACT OF TRAFFIC FROM THE PROPOSED SUBDIVISION DOES NOT APPEAR TO BE GREAT.

*FROM REPORT TECHNICAL GUIDELINES FOR THE CONTROL OF DIRECT ACCESS TO ARTERIAL HIGHWAYS, FEDERAL HIGHWAY ADMINISTRATION REPORT NO. FHWA-RD-76-87

**TRIP GENERATION STUDY OF VARIOUS LAND USES, BY ISRAEL ZEVIN, CONNDOT, 1974.

10. SUMMARY

NOTE: THIS IS A BRIEF SUMMARY OF THE MAJOR POINTS, CONCERNS AND RECOMMENDATIONS OF THE TEAM. YOU ARE STRONGLY URGED TO READ THE ENTIRE REPORT, AND TO REFER BACK TO THE SPECIFIC SECTIONS IN ORDER TO OBTAIN ALL THE INFORMATION ABOUT A CERTAIN TOPIC.

GEOLOGY

COATS FARM ESTATES (EAST)

1. THE BEDROCK SURFACE THROUGHOUT THE SITE APPEARS TO BE RELATIVELY DEEP AND SHOULD POSE NO MAJOR HINDRANCES IN TERMS OF DEVELOPING THE SITE FOR RESIDENTIAL USE.
2. IT SEEMS LIKELY THAT WITH CAREFUL DESIGN AND CONSTRUCTION THAT THE TOPOGRAPHIC AND SUBSURFACE CONDITIONS ON THE SITE SHOULD NOT POSE ANY EXTREME OR UNUSUAL PROBLEMS IN TERMS OF SUBSURFACE SEWAGE DISPOSAL.

COATS FARM ESTATES (WEST)

1. IT APPEARS THAT THE SHALLOW TO BEDROCK AREAS OF THE SITE WILL NOT BE DEVELOPED SO THEY SHOULD NOT POSE ANY PROBLEMS.
2. BASED ON PRELIMINARY SUBSURFACE DATA IT APPEARS THAT SATISFACTORY SUBSURFACE SEWAGE DISPOSAL SYSTEMS CAN BE INSTALLED ON THE TILL BASED SOILS.

SOILS

1. THE FIELD REVIEW AND SUBSEQUENT REVIEW OF PERC TEST DATA TAKEN AT THE SITE HAS RESULTED IN SEVERAL ADJUSTMENTS TO THE PUBLISHED SOILS MAP. THE MOST SIGNIFICANT ADJUSTMENT IS THE ABSENCE OF SOILS WITH A "HARDPAN".
2. WETLANDS FLAGGED IN THE FIELD SHOULD BE SURVEYED AND PLOTTED ONTO EXISTING PLANS. AREAS OF WET SOILS THAT WERE FIELD CHECKED WERE PROPERLY IDENTIFIED AND MARKED.
3. BECAUSE OF THE LARGE LOT SIZES IT IS RECOMMENDED THAT SPECIFIC SITE TESTING BE CONDUCTED ON EACH LOT BEFORE SEPTIC SYSTEMS ARE DESIGNED.
4. AN EROSION AND SEDIMENT CONTROL PLAN SHOULD BE INCLUDED WITH THE SUBDIVISION PLANS CONTAINING ALL NECESSARY INFORMATION.
5. A STORMWATER MANAGEMENT SHOULD BE PROVIDED. POTENTIAL PROBLEM AREAS SHOULD BE ADDRESSED PRIOR TO SUBDIVISION APPROVAL, AND ALL MITIGATING MEASURES SHOULD BE INSTALLED PRIOR TO THE SALE OF ANY LOTS.

SEWAGE DISPOSAL

COATS FARM ESTATES (EAST)

1. SUBSURFACE SEWAGE DISPOSAL SHOULD BE FEASIBLE.
2. GENERALLY, IT WOULD APPEAR THAT SYSTEMS SHOULD BE KEPT SHALLOW AND SPREAD OUT WITH THE CONTOURS.
3. IN GENERAL, AS THE LAND RISES FROM WYASSUP LAKE ROAD IT WOULD SEEM THAT THE HOUSES WOULD HAVE TO BE SET BACK A CONSIDERABLE DISTANCE FROM THE ROAD IN ORDER TO LEAVE SUFFICIENT AREA FOR SEWAGE DISPOSAL.
4. IT IS STRONGLY RECOMMENDED THAT FURTHER SOIL TESTING BE CONDUCTED IN THE AREA OF THE PROPOSED LEACHING SYSTEMS ONCE A HOUSE LOCATION HAS BEEN DETERMINED.
5. FOR THE MOST PART LOTS IN THIS SUBDIVISION WOULD HAVE QUALIFICATIONS FOR ENGINEERED DESIGN SEWERAGE SYSTEMS.

COATS FARM ESTATES (WEST)

1. THIS SITE IS GENERALLY LESS SUITABLE FOR SEWAGE DISPOSAL PURPOSES THAN THE EAST SUBDIVISION, ALTHOUGH ALL BUT ONE WAS IN THE ACCEPTABLE RANGE.
2. IT APPEARS THAT MOST OF THE LOTS WILL REQUIRE ENGINEERED SYSTEMS.
3. SEE #4 ABOVE.
4. SOILS WITH SLOW SEEPAGE RATES WILL REQUIRE LARGE LEACHING SYSTEMS, AND THEY SHOULD BE KEPT SHALLOW AND SPREAD OUT. THESE SOILS ALSO TEND TO BE SUBJECT TO HIGH GROUNDWATER CONDITIONS SO IT IS IMPORTANT THAT GROUND OR SURFACE WATER IN THE AREA OF LEACHING SYSTEMS IS ADEQUATELY CONTROLLED.
5. SOIL TESTING DURING THE SPRING TIME OF YEAR (FEBRUARY 1 TO MAY 31) WOULD BE MOST FAVORABLE FOR THE TILL BASED SOILS ON THE SITE.

HYDROLOGY

COATS FARM ESTATES (EAST)

1. CONSTRUCTION OF NEW HOMES AND DRIVEWAYS WOULD BE EXPECTED TO LEAD TO SOME INCREASES IN RUNOFF FROM THE SITE. HOWEVER, SINCE APPROXIMATELY 1/3 OF SITE IS PRESENTLY BARE SOILS, RUNOFF WOULD BE EXPECTED TO BE MODERATELY HIGH. ONCE LAWNS ARE ESTABLISHED ON THESE BARE SOILS THERE MAY BE A REDUCTION IN RUNOFF FROM THIS PART OF THE SITE.
2. AS A SAFEGUARD IT IS RECOMMENDED THAT A STORMWATER MANAGEMENT PLAN BE DEVELOPED WHICH INCLUDES PRE- AND POST-DEVELOPMENT RUNOFF.
3. CLOSE EXAMINATION OF ALL CULVERTS PASSING UNDER WYASSUP LAKE ROAD IS ADVISED TO INSURE THAT PIPES ARE PROPERLY SIZED TO HANDLE POST-DEVELOPMENT FLOWS.
4. THERE MAY BE A NEED TO CROSS DRAINAGE CHANNELS TO BUILD DRIVEWAYS AND IF THESE AREAS ARE UNDERLAIN BY REGULATED INLAND-WETLAND SOILS, THEY MAY BE SUBJECT TO A PERMIT FROM THE TOWN'S INLAND WETLANDS AGENCY.
5. A DETAILED EROSION AND SEDIMENT PLAN IS REQUIRED TO PREVENT POSSIBLE EROSION AND SILTATION PROBLEMS ARISING DURING CONSTRUCTION.

COATS FARM ESTATES (WEST)

1. RUNOFF INCREASES SHOULD NOT CREATE ANY MAJOR FLOODING PROBLEMS, BUT A STORMWATER MANAGEMENT PLAN SHOULD BE DEVELOPED TO TAKE INTO CONSIDERATION PRE- AND POST-DEVELOPMENT RUNOFF AND ADDITIONAL RUNOFF FROM COATS FARM ESTATES (EAST).
2. SPECIAL ATTENTION IN TERMS OF EROSION AND SEDIMENT CONTROL SHOULD BE DIRECTED AT THE MODERATELY SLOPING ACTIVELY CULTIVATED CORN FIELD IN THE NORTHCENTRAL PARTS OF THE SITE.
3. CONSIDERATION SHOULD BE GIVEN TO INSTALLING ENERGY DISSIPATORS AT THE OUTLETS OF PIPES THAT PASS UNDER WYASSUP LAKE ROAD.
4. SEE #4 ABOVE.

WATER SUPPLY

COATS FARM ESTATES (EAST)

1. NATURAL GROUNDWATER QUALITY SHOULD BE GOOD, ALTHOUGH THERE IS A REMOTE POSSIBILITY OF ELEVATED IRON OR MANGANESE CONTENT EXISTS. SEVERAL FILTRATION METHODS ARE AVAILABLE TO OVERCOME ANY PROBLEMS.
2. THE TOWN SANITARIAN SHOULD CAREFULLY REVIEW WATER QUALITY REPORTS PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY. IT SHOULD BE NOTED THAT FARMLAND MAY HAVE ELEVATED NITRATE LEVELS DUE TO PAST HEAVY FERTILIZATION.

COATS FARM ESTATES (WEST)

1. SEE #1, #2 ABOVE

VEGETATION

COATS FARM ESTATES (EAST)

1. WETLAND AREAS IF PLANNED AROUND SHOULD NOT CREATE ANY PROBLEMS.
2. LARGE LOT OWNERS SHOULD BE AWARE OF THE LAND USE MANAGEMENT ASSISTANCE AVAILABLE THROUGH THE STATE FORESTRY DEPARTMENT AND THE SOIL CONSERVATION SERVICE.

COATS FARM ESTATES (WEST)

1. DEVELOPMENT SHOULD NOT INTERFERE WITH TREE GROWTH BUT BREAKING THE AREA INTO SMALL LOTS WILL HAVE AN EFFECT ON THE WILDLIFE PRODUCTION OF THE AREA.
2. SEE #2 ABOVE.
3. SOME THOUGHT SHOULD BE GIVEN TO TRANSFERRING THE "OPEN SPACE" LOT TO THE STATE FOREST SYSTEM, LIABILITY AND MANAGEMENT WOULD THEN BE TRANSFERRED TO THE STATE OF CONNECTICUT.

PLANNING CONCERNS

1. ACCESS TO THE OPEN SPACE SHOULD BE RESTUDIED.
2. IT IS LEGALLY POSSIBLE THAT THE LARGER LOTS COULD BE SUBDIVIDED BUT THIS APPEARS UNLIKELY IN THE FORESEEABLE FUTURE FOR ECONOMIC REASONS.
3. DRIVEWAY SPACING APPEARS ADEQUATE.
4. THE TRAFFIC IMPACT FROM THESE SUBDIVISIONS DOES NOT APPEAR TO BE GREAT.

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.