PLANNING COMMISSION EXHIBIT 117

February 14, 2011

Harvey Luce, Ph. D., CPSS/SC
528 Bassetts Bridge Road
Mansfield Center, CT 06250

Town of Old Saybrook
Planning Commission and Staff
302 Main Street
Old Saybrook, Connecticut 06475

At the request of Ralph Gometz, I have reviewed a report dated January 19, 2011 which was submitted to you by REMA Ecological Services, LLC. In this report, REMA makes certain assertions regarding the potential for nutrients from septic systems proposed as part of a preliminary open space subdivision plan modification of the Preserve. While each of these assertions may be true in principle, they do not apply to this proposed subdivision.

For instance, it is true that nutrient enrichment of a wetland can result in algal proliferation and all of the adverse effects described by REMA but, given the proposed density and location of the septic systems shown in this proposal, measurable algal proliferation will not, in my opinion, occur. It is also true that certain floristically distinctive wetland plant communities with existing low nutrient levels are adversely affected by nutrient inputs. The biological survey conducted by Environmental Planning Services describes the down gradient wetlands. They are not low nutrient wetlands that are highly sensitive to nutrient inputs. In fact, based on the descriptions given by Environmental Planning Services, it is my interpretation that these wetlands have a fairly high capacity to remove nutrients via denitrification and plant uptake without the floristic composition of the wetlands being changed. REMA asserts that the adjacent wetlands and watercourses have low dilution capacities. I do not agree with this assertion. The only reason given for the assertion of low dilution capacity of the adjacent wetlands and water courses ir that they are headwater wetlands. I do not agree that all headwater wetlands have low dilution capacities.

In general, REMA grossly overstates the negative aspects of this proposed development. A more objective review is presented in the report submitted by Environmental Planning Services.

Respectively submitted,

Harvey Luce, Ph. D.
Professional Soil Scientist and Soil Classifier

RESUME

Harvey D. Luce, Ph. D, Certified Soil Scientist, Certified Soil Classifier

Educations:

B. S., University of Kentucky, 1966, Agronomy (Soils)
M.S. Iowa State University, 1973, Soil Genesis and Classification
Ph.D., Virginia Polytechnic Institute and State University, 1975, Soil Science

Employment Record:

2004- 2011, Private Consultant, Environmental Soil Science, 528 Bassetts Bridge Road, Mansfield Center, CT
1976- 2004, Assistant Professor of Soil Science, Department of Plant Science, University of Connecticut, Storrs, Connecticut
1975-1976, Assistant Professor, Department of Agriculture and Natural Resources, Florida A & M University, Tallahassee, Florida
1971-1974, Graduate Research and Teaching Assistant, Virginia Polytechnic Institute and State University, Blacksburg, Virginia
1968-1971, Research Assistant, Iowa State University, Ames, Iowa
1966-1968, Area Extension Agronomist, University of Kentucky Cooperative Extension Service, Maysville and West Liberty, Kentucky

Professional Societies:

Soil Science Society of America
Soil Science Society of Southern New England
American Society of Agronomy
Soil and Water Conservation Society of America

Professional Activities

Member of the Council of Soil Science Examiners, Soil Science Society of America
Member of Accredation Committee, Soil Science Society of Southern New England
Member of Scholarship Committee, Soil Science Society of Southern New England

Honorary Societies:

Alpha Zeta
Gamma Sigma Delta
Phi Sigma

Selected Publications and Presentations:

Luce, Harvey, and M.L. Pelleteir, (In Preparation), Physical properties of three Connecticut soils and their relationship to till stratigraphy, *Soil Science Society of America Journal*

Bicki, T J., T.E. Fenton, H.D, Luce, and T.A. Dewitt, (1988) Comparison of Percolation Test Results and Estimated Hydraulic Conductivity for Mollisols and Alfisols, *Soil Science Society of America Journal 52:1708-1714*

Morton, B.L., J.J. Kolega, and H. L. Luce, 1984, Groundwater monitoring of a lagoon facility in Connecticut, *Ground Water Monitoring Review*, Vol. 4, No. 2, pp. 45-50

Luce, H.D., 1985, Soil resources of the Northeast, In: D.E. Baker, Ed., Criteria and Recommendations for Land Application of Sludge in the Northeast, Northeast Regional Bulletin No. 851, The Pennsylvania Experiment Station, University Park, Pennsylvania

Luce, H.D., 1986, Movement of nitrates, phosphorus, and fecal coliform bacteria from sewage disposal systems installed in selected Connecticut soils, In: Vineman, L.M., Ed. On-Site Sewage Disposal-Symposium Proceedings, Society of Soil Scientists of Southern New England, Storrs, Connecticut

Luce, H.D., and Coultas, C.L., 1976, Effect of N and P fertilization on the growth, N content, and P content of a natural stand of Juncus roemerious near St. Marks, Florida, *Agronomy Abstracts*, p 108

Luce, H., D., T.W. Pietras, and T. W. Welling, 1983, Soluble n, Cl, and P in ground and stream waters of farmed, forested and residential watersheds , *Agronomy Abstracts*, p35

Consulting Experience:

Clients (partial listing):

Connecticut State Police Forensic Laboratory, Meridan, Connecticut
U.S. Federal Bureau of Investigation
Robbins Island Preservation Corp. New Suffolk, NY 11956
HRP Engineers, Geologists, and Scientists, Plainville, CT and Albany, NY
Robinson and Cole, Attorneys at Law, Hartford, CT
Megson and Heagle, Consulting Engineers, Glastonbury, CT
TRC Environmental Corporation, Windsor, CT
Marin Environmental, Higganum, CT.
Inland Wetlans Commission &Planning and Zoning Commission, Town of Sherman Sherman, CT
Inland Wetlands Commission, Town of North Stonington, CT
Town of Middlefield, CT
Office of the Building Inspector, Town of Preston, Preston, Ct

Inland Wetlands Commission, Town of Westport, Westport, CT
Fuss and O' Neill, Inc., Manchester, CT

Examples of Assignments:

Delineation of wetlands according to Connecticut statutes
Delineation of wetlands according to unified federal definition (Army Corps of Engineers)
Evaluation of wetland functions
Evaluation of potential impacts of residential storm waters on wetland values and function
Evaluation of potential impacts of on-site sewage disposal systems on wetland values and functions
Monitoring of soil lead content of upland and wetland soils impacted by lead arsenate (pesticide) and lead shot
Evaluation of potential impacts of golf course construction and operation on wetlands and watercourses including vernal pools and oligothropic lakes
Assessment of the potential effect of lead from a skeet field on wetland soils and water quality
Assessment of potential effects of lead contaminated soils on residential development
Evaluated seasonal water table variation, soil permeability, and provided other information to aid in the design of created wetlands and wet detention basins
Assisted Connecticut State Police in the suscessful prosecution of a homocide case (where did the soil under the car come from)
Assisted the Connecticut State Police and FBI in locating buried bodies