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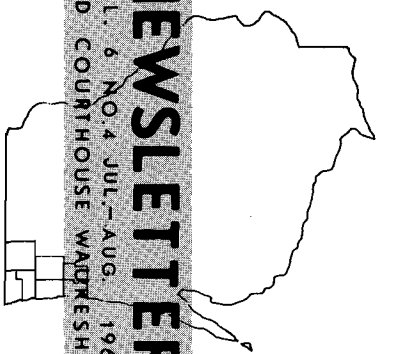
OLD COURTHOUSE WAUKESHA



REGIONAL PLANNING CONFERENCE: OCTOBER 26, 1966

Red Carpet Inn, Milwaukee, Wisconsin
Announcement and presentation of the SEWRPC recommended land use-transportation plan will be made at the regional Conference to be held on October 26, 1966. The plan will be presented at a plenary session, to be held in the morning, and discussed in county workshops, to be held in the afternoon. Interested public officials and citizens are urged to attend.

SOILS REPORT COMPLETED

In the Spring of 1963, the Commission requested the Soil Conservation Service (SCS) of the U. S. Department of Agriculture to undertake a detailed operational soil survey of the Region which would provide not only soils maps but also interpretations of the properties of the mapped soils for planning and engineering purposes. Over one million acres of land within the Region required mapping. Field work for this massive undertaking began in July 1963 and was completed in September 1965. The necessary correlation and analysis work was completed in May 1966, and the results of the survey are now available in SEWRPC Planning Report No. 8, The Soils of Southeastern Wisconsin. This report provides the Region with a basic tool for guiding development in the public interest and thereby attaining a more attractive as well as a more orderly and efficient Region. Copies of the report are presently being

sent to all participating units of government and to all libraries within the Region. The report is also available for general distribution within the Region at a price of $5.00 and outside the Region at a price of $10.00.

Regional Planning and the Need for Soils Information

The natural resources of a region are vital elements to its economic development and to its ability to provide a pleasant and habitable environment for human life. Moreover, the natural resources of a region not only condition, but are conditioned by, regional growth and urbanization. It is apparent, then, that comprehensive regional planning must recognize the existence of a limited natural resource base and that future urban and rural development must be carefully adjusted to that base if serious environmental problems are to be avoided.

An extensive effort has, therefore, been made by the Commission to relate regional development plans to the underlying and sustaining natural resource base and thereby to assist in attaining the wise use of the land and water resources of the Region. Such attainment is a stated objective of the Commission. Careful assessment of the natural resource base of the Region was a necessary first step toward the attainment of this objective. This assessment required the collection and analysis of a great deal of information about the ability of various components of the resource base to sustain urban development. The soils of the Region are one of the most important components of the resource base.

The Study of Soils

Soil properties exert a strong influence on the manner in which man uses and should use land. Because the soils of an area constitute an irreplaceable resource and because mounting pressures upon land are constantly making this resource more and more valuable, many studies of the properties of soil have been conducted over the years.

While the soil survey was established in the United States in 1899, historically, the study of soils has been directed primarily at single-purpose problems and solutions, such as determining the suitability of soils for agricultural use; and relatively little attention was given until very recently to the ways in which soil properties might influence urban uses

of land. Early soil conservationists saw that each of the many different kinds of soils requires its own care and skillful use and that the abuse of soil leads to eroded, worn-out land, which is both unproductive and ugly, and quite often leads to the abandonment of the land. The farmer who tried to exceed the limits imposed by the soil with respect to quality and location was often frustrated in his attempt to work the land. Soil conservationists, at first through basic knowledge gained through observation and experience (both George Washington and Thomas Jefferson were concerned with the problem of soil erosion and depletion; and Jefferson's son-in-law, Thomas Mann Randolph, introduced an early system of contour plowing) and later through scientific study, urged better management of the land to combat erosion and depletion of productive capability. Gradually their pleas were heard and such presently accepted rural land management practices as contour planting, fertilization, crop rotation, and construction of grassed waterways and erosion control structures resulted. Thus, over many years a valuable contribution was made to the development of a rural conservation ethic, which has been reflected in a highly organized institutional structure which includes the U. S. Soil Conservation Service, the State University Extension Services, the local Soil and Water Conservation Districts, and numerous private youth and adult conservation organizations.

A similar conservation ethic, together with its supporting institutional structure, has not as yet been developed in and for our urbanizing areas. Consequently, development in many urban communities ignores the limitations imposed by the soils and other related elements of the resource base. The costs of initial urban development, continuing maintenance, and sometimes redevelopment have, therefore, been high; and beauty, as well as efficiency, have often suffered.

As the Southeastern Wisconsin Region becomes increasingly urban, development pressures on rural land will become more acute. While urban development within the Region occupied 340 square miles in 1963, or 12 percent of the total area of the Region, this area is expected to double within the next 25 years under existing development trends. Land is being converted from rural to urban use within the Region at the rate of 10 to 15 square miles per year. The land being converted to urban use

is just as important to the urban dweller as agricultural land is to the farmer. The soils being converted to urban use are the foundation upon which the future communities of the Region are being built. Often these soils must in a relatively small area perform such diverse tasks as absorbing sewage, providing a source for domestic water, providing a means of surface and subsurface drainage, growing lawns, gardens, and ornamental trees and shrubs, and providing support for urban buildings, streets and highways, and utility systems. The experience of the past tells us that not all soils are able to do these things equally well.

A need, therefore, exists in the regional planning program to examine not only how land and soils are presently being used but also to determine how they can be best used and managed. To accomplish this end, a detailed operational soil survey was required. The results of this survey were to be used to: 1) aid in selecting and developing desirable spatial distribution patterns for industrial, commercial, residential, agricultural, and recreational development; 2) make preliminary estimates of the engineering properties of soils that would aid in selecting highway, railway, airport, pipeline, and cable locations; 3) make preliminary estimates of the agricultural and natural wildlife relationships properties of soils that would aid in planning for the reservation of permanent agricultural and recreational greenbelts and open spaces; 4) make preliminary estimates of the suitability of soils for private sewage disposal facilities, agricultural and urban drainage systems, embankments, and foundations for buildings and structures, including transportation facilities and water storage reservoirs, and identify the need for soil and water management practices, such as erosion control and drainage required in connection with planned development; 5) locate potential sources of sand, gravel, and other mineral resources; and 6) correlate performance of engineering properties with soil types to develop information for broad, areawide land use planning.

The application of soils information to the regional planning effort provides one of the most important tools through which the adjustment of areawide development to the supporting resource base can be accomplished. Moreover, the comprehensive knowledge of the character and suitability of the soils will be of immeasurable value in every phase of

the planning and development process, at every level of government, and to private investors as well.

About the Report

The report contains ten chapters comprising 403 pages of text, maps, figures, and tables. It is divided into two major sections. The first section, Chapters I through IV, presents background information essential to the proper understanding and utilization of the information collected in the soil survey, such as pertinent information on the geology, climate, and physiography of the Region and on the formation, classification, properties, and characteristics of soils. More than 100 soil series are described, which include over 450 phases or mapping units.

The second section, Chapters V through X, presents the results of the soil survey, including pertinent information on the physical, chemical, and biological properties of the mapped soils. In addition, the water management characteristics of soils, such as percolation rate, permeability, frost hazard, flooding hazard, drainage requirements, and limitations for such uses as irrigation, reservoir areas, and embankments, are presented in detailed tables. This section also contains tabular interpretations of the suitability of each soil mapping unit for engineering, rural and urban land use planning, agricultural, resource conservation, and recreation planning and development applications. Some concept of the tabular array of the interpretations can be gained from the attached sample table headings.

The Report Must Be Used

The completion of the soil survey and the publication of the report are only a beginning. The full value of the information collected can be realized only if the results of the survey are used as an aid to making the many community development decisions that must be made daily within a rapidly urbanizing region, such as Southeastern Wisconsin, by federal, state, and local public officials and by private investors as well. Definitive soils data are as essential to intelligent zoning, subdivision control, and official mapping activities at the local level of government as these data are to the intelligent preparation of regional land use plans, regional transportation plans, and comprehensive watershed plans. The soils data are also essential to the preparation of workable conservation

plans for the farm and to the preparation of sound private rural and urban development plans and programs.

In the regional land use-transportation and watershed planning programs, the soils data were essential to the preparation and evaluation of differing spatial distribution patterns for residential, commercial, industrial, agricultural, and recreational land uses. The soils data provided the basic link between development cost and geographic location, which was necessary to the development of the land use simulation model. In addition, knowledge gained through the survey concerning the character and suitability of soils for the various uses was essential to the preparation and application of planning standards; the analysis of existing land use patterns; and plan synthesis, test, and evaluation. In the regional watershed planning programs, the soils data are essential to determining rainfall-runoff relationships, evaluating the effects of urbanization on runoff, and developing streamflow simulation models. Perhaps most important of all, the data will be essential to sound plan implementation recommendations.

Town of Belgium Utilizes Soils Information

In August of 1966, the Town of Belgium in Ozaukee County adopted a zoning ordinance, which was based in part upon the results of the regional soil survey. The ordinance prohibits the use of on-site absorption sewage disposal facilities on certain soils which, according to the soil survey, have been found to possess severe or very severe limitations for such facilities because they have a high or fluctuating water table; are subject to flooding, ground water contamination, or silting; possess slow permeability; occur on steep slopes; or are proximal to bedrock. In addition to providing the necessary information for the Town officials to identify areas unsuited for residential development with septic tanks, the results of the soil survey were also utilized by the Town of Belgium to delineate conservancy zoning districts.

Many land developers, builders, engineers, planners, farmers, architects, conservationists, hydrologists, appraisers, realtors, and individual home buyers have been requesting the soils information so that they may better make decisions concerning community development.

Ordinance Utilizes Soils Information

In August of 1966, the Town of Belgium in Ozaukee County adopted a zoning ordinance, which was based in part upon the results of the regional soil survey. The ordinance prohibits the use of on-site absorption sewage disposal facilities on certain soils which, in the soil survey, have been found to possess severe or very severe limitations for such facilities because they have a high or fluctuating water table; are subject to flooding, ground water contamination, or silting; possess slow permeability; occur on steep slopes; or are proximal to bedrock. Septic systems, however, may be permitted on soils having severe limitations if the applicant demonstrates that the proposed septic system has overcome such limitations by certain corrective measures.

Ordinance Sets Aside Agricultural District

Over 80 percent of the area of the Town has been placed into a unique exclusive agricultural district in accordance with the preliminary regional land use plans. This exclusive district permits only agricultural uses with no residential land uses permitted other than farm homes, which are made uses accessory to the farming operations.

The Town intends to utilize this exclusive agricultural district both as a holding zone and also to preserve prime agricultural lands and protect the viability of farming operations on these lands. The recommended regional recreational site lying in Section 19 on Lake Michigan, as well as certain areas within the Town having good residential development potential, has been placed in the agricultural district until it becomes appropriate to re-zone these areas into Park or Residential Districts.

Many land developers, builders, engineers, planners, farmers, architects, conservationists, hydrologists, appraisers, realtors, and individual home buyers have been requesting the soils information from the Commission so that they may better make decisions concerning community development.

NEW SANITARY ORDINANCE

On June 14, 1966, the Walworth County Board of Supervisors, after finding that private septic tank systems had been and were being placed upon soils unsuitable for such systems with resulting contamination and pollution of lands and waters within Walworth County, by formal resolution authorized and directed the County Health and the County Zoning and Industrial Development Committees to prepare a County Sanitary Ordinance.

The general intent of this Ordinance is to regulate the location, construction, installation, alteration, design, and use of all private water supply and sewage disposal systems within Walworth County so as to protect the health of residents and transients; to secure safety from disease and pestilence; to further the appropriate use and conservation of land and water resources; and to preserve and promote the beauty of Walworth County and its communities. The County requested the assistance of the SEWRPC in the preparation of the ordinance, and the staff of the Commission working closely with the two County Board committees and the State Board of Health prepared a draft of such an ordinance. The two County Board committees and the county corporation counsel then carefully reviewed and revised the draft and recommended its adoption to the County Board. On September 14, 1966, the County Board adopted the recommended ordinance, effective January 1, 1967, and is planning to retain a sanitary inspector in the near future to administer the new ordinance.

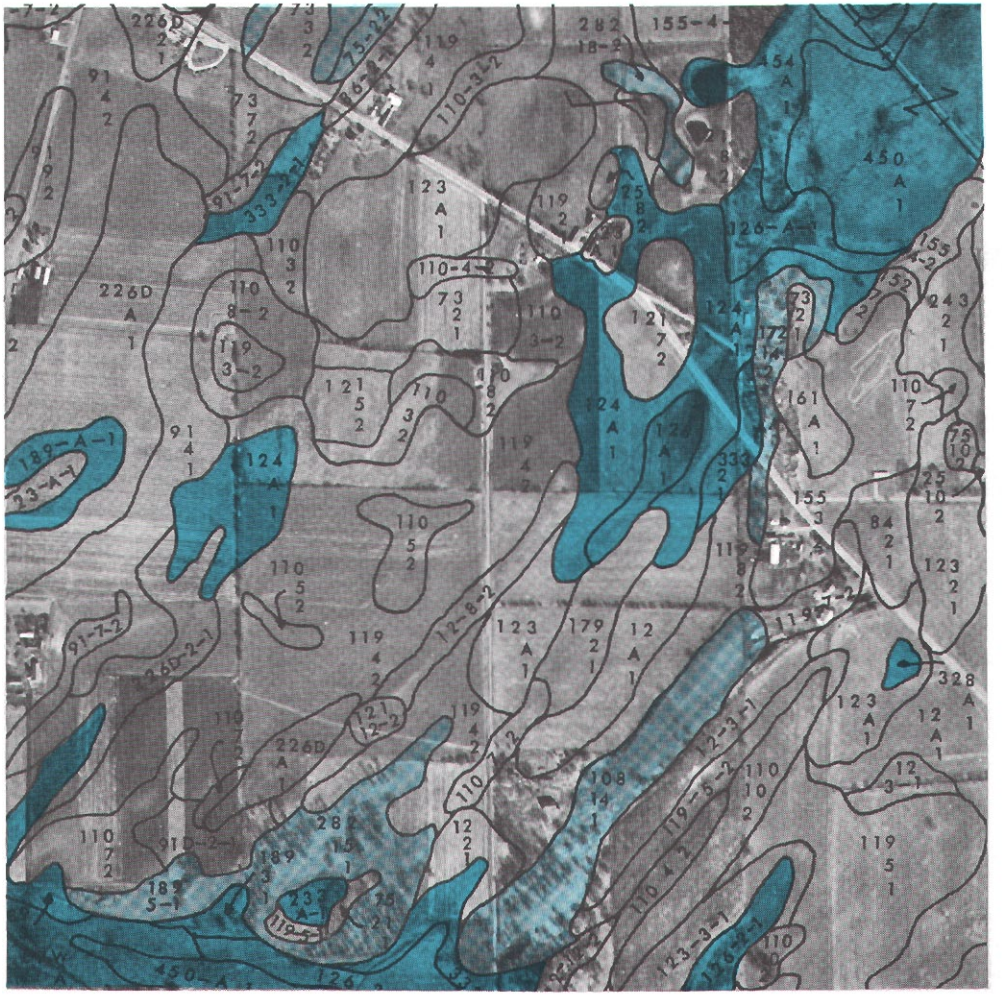
The ordinance as adopted makes good use of the regional soil survey. It prohibits on-site soil absorption sewage disposal systems on those soils rated in the survey as having very severe limitations for such systems, including organic soils, soils subject to flooding, and soils having a high or fluctuating water table (Map 1). Such systems are also prohibited on soils having severe limitations for such systems because of proximity to bedrock, slow permeability, or slopes exceeding 12 percent unless these limitations are overcome during land development by avoidance of shallow bedrock areas, provision of large absorption fields, terracing and reduction of steep slopes, or other corrective measures (Map 1). Other soils which have moderate, slight, or very slight limitations for such disposal systems are to have the type and size of system designed in accordance with the State Board of Health regulations.

Map 1

SAMPLE SOIL MAP

Of An Area Lying In The Town Of Bloomfield

Walworth County



Scale 1" = 1000'

LEGEND

Soils Having Very Severe Limitations For On-Site Soil Absorption Sewage Disposal Facilities.

Soils Having Severe Limitations For On-Site Soil Absorption Sewage Disposal Facilities Because of Slope.

SMALL BUSINESS ADMINISTRATION BRANCH OFFICE AREA MADE COTERMINOUS WITH REGION

With the appointment of Mr. Dennis C. Kelsey on September 22, 1965, a branch office of the U. S. Small Business Administration (SBA) was established in southeastern Wisconsin. This branch was established at the request of the. Wisconsin State Advisory Council to the Small Business Administration. This Council is composed of owners and representatives of small industries and businesses. Recognizing the high concentration of small industries and businesses in southeastern Wisconsin, and the importance of this area to the economic vitality of the state, this Council recommended that a branch office of the SBA be established in Milwaukee to serve southeastern Wisconsin. The Region was formerly served by the Madison branch office. The State Advisory Council also recommended that this branch office serve the same seven-county area as the Southeastern Wisconsin Regional Planning Commission in order to facilitate the collection and coordination of data and the planning and administration of economic development assistance by the SBA.

A branch office of the SBA has several important functions. The first is to give financial advice and assistance to small businessmen. In performing this function, the SBA seeks first to arrange a bank loan for the businessman. If a bank cannot provide the necessary funds, the SBA will participate with a bank in a loan to the businessman or, if necessary, make a direct loan to the businessman.

The second major function of the SBA is to counsel and advise small businessmen as to which federal agencies purchase products and services the businessman furnishes. This includes assisting the businessman in getting his name placed on governmental builders lists and helping him to obtain contract drawings and specifications for proposed governmental purchases.

A third major function of the SBA is to render management assistance. This includes counseling the businessman on problems of marketing, accounting, product analysis, production methods, and research and development. The SBA also cosponsors administrative management courses with public and private educational institutions, holds management conferences, encourages intra-industry management programs through which large industries assist their small business customers

and suppliers, and issues a wide range of management and technical publications.

The southeastern Wisconsin branch of the SBA office is located at 238 W. Wisconsin Avenue in Milwaukee and has available staff specialists in loans management and government procurement to assist small businessmen upon request.

QUESTION BOX

Are the results of the detailed operational soil survey superior to the standard percolation test for determining the suitability of a given site or area for septic tank sewage disposal systems?

The proper functioning of a septic tank sewage disposal system requires that the soil permit adequate absorption of the septic tank effluent, yet provide proper filtration and biological decomposition of the organic matter in the effluent. The septic tank itself merely conditions the sewage so that it may be more readily percolated into, and absorbed by, the soil. Many factors determine the ability of a given soil to properly filter and absorb septic tank effluent. These include soil texture, soil structure, shrink-swell potential, depth to water table, depth to bedrock, slope, susceptibility to flooding, and soil permeability.

The last of these factors just listed, permeability, may be defined as that quality of a soil that enables it to transmit water and it may be measured by percolation tests conducted in the field. These tests consist of determining the rate, expressed in minutes per inch, at which the water level in a saturated hole bored into the soil will drop. Historically, percolation test results were correlated to septic tank system performance and loading rates to develop required areas for filter fields. The use of percolation tests as the sole basis for determining the suitability of a soil for septic tank system utilization not only ignores the other important factors involved but also has the disadvantages of extreme variability in replicate tests; inability to recognize abnormal

Table I

SAMPLE TABLE HEADINGS FROM SOILS REPORT

Table 4

CHEMICAL AND PHYSICAL PROPERTIES OF SOILS

Soil Number And Soil Name	Brief Description	Soil Horizon		Classification			Mechanical Analysis Percent Passing Sieve			Maximum Dry Density	Optimum Moisture Content	Liquid Limit	Plasticity Index	Bea. Capacity
		Symbol	Depth (Inches)	USDA	UNIFIED	AASHO	No. 4 (4.70mm)	No. 10 (2.00mm)	No. 200 (.07mm)	(lbs. per cu. ft.)	(percent)			per Sq. Ft.
1 Rough broken land	Steep, raw clay banks near Lake Michigan	c	10+	cl	CL	A-6	100	98	77	119	13	26	11	1 to 2
2 Stinson	Alluvium			sil			100			109		32		1

Table 7

THE USE OF SOILS FOR ROAD CONSTRUCTION

Soil Number and Soil Name	Pedestrian Traffic	Vehicular Traffic	Adequate Compaction	Surface With
1 Rough broken land	SEVERE - steep slopes; erosive; soft and slippery when wet.	SEVERE - steep; soft and slippery when wet; fair bearing capacity.	MODERATE - poor stability; medium compressibility.	SEVERE - fair shear s compressibility.
2 Stinson	- wet for short ent overflo hen	EVERE - wet for ; frequent ipper	MODERATE - medium c	tability; ty.	SEV	air she it

Table 8

SELECTED URBAN AND RURAL USES OF SOILS

Soil Number And Soil Name	Cultivated Crops, Pasture and Trees	Residential Development With Public Sewer Service	On-site Soil Absorption Sewage Disposal Systems for Lots		Light Industry and Commercial Buildings	Highway, Rail and Airport Develop
			Less than 1 acre	1 acre or more		
1 Rough broken land	VERY SEVERE for crops or pasture; SEVERE for es; severe erosi	*SEVERE - steep slopes are* unstable.	VERY SEVERE - seepage beds im-practical on eep slopes.	VERY SEVERE - seep-age beds impractical ep slopes.	SEVERE - moderate bearing capacity; hrink-swell ; unstable opes.	SEVERE - subject to land slides and seve er

Table 9

ESTIMATED CROP YIELDS

Soil Number and Soil Name[1]	Corn				Oats		Alfalfa - Brome Hay-Tons Per Acre[3]	
	Grain - Bushels Per Acre		Silage Tons Per Acre		Grain - bushels Per Acre			
	High	Average	High	Average	High[2]	Average	High	Average
2 *Stinson* silt loam	95	60	16	12	65	45	4.0	2.0
5 Same as No. 54, Lawson silt loam								
5W Sawmill silt loam[4]	110	5/	18	5/	5/	5/	5/	5/

Table 11

DRAINAGE GUIDE FOR SOILS

Soil[4] Capability Units	Description of Capability Units	Subsurface Drains[1]		Surface Field Ditches Spacing[3] (feet)	Remarks
		Depth (feet)	Spacing[2] (feet)		
IIw-1	Deep, poorly drained, nearly level to sloping, moderate to slowly permeable loamy soils.	Tile Drain 3.0-4.0	Tile Drain 60-80	200-400	Divert upland runoff where possible. Surface drains needed to supplement tile. *Land smoothing is usually* beneficial.

Table 12
THE USE OF SOILS FOR WOODLAND

Woodland Suitability Group	Description	Hazards Affecting Seedling Survival			Erosion Hazard	Wind Hazar
		Drouth	Plant Competition	Wetness		
I	Moderately deep and deep, well to moderately well drained, medium textured soils, with less than 12 percent slopes.	Slight	Severe	Slight	Slight	Slight
	Soils in [illegible]	slopes of	orth-		Modera	

Table 15
GENERAL SHRUB AND VINE PLANTING GUIDE

Soil Capability Units	Brief Description of Units	Plant Species	Shade Tolerance	Uses					Growth		
				Landscape	Hedges Screens Windbreaks	Wildlife Food & Cover	Roadsides	Ground Cover	Height (feet)	Type	Thor
I	*Moderately deep* to deep, moderate	*Arborvitae (shrub types)* (Thuja species)	Some	x	x	x			3-7	Shrub	
IIe-1 IIe-2	drained, tured	Barb [illegible] nese [illegible] rgi)		x		x			6	ub	

Table 17
THE USE OF SOILS FOR RECREATIONAL DEVELOPMENT

Map Number and Soil Name	Playgrounds, Athletic Fields and Other Intensive Play Areas	Picnic Areas, Parks and Other Extensive Use Areas	*Bridle Paths,* Nature and Hiking Trails	Golf Course Fairways	
1 Rough broken land	VERY SEVERE - slopes are too steep; severe erosion hazard.	VERY SEVERE - slopes are too steep; severe erosion hazard.	VERY SEVERE - steep slopes; severe erosion hazard; trails and paths slippery when wet.	VERY SEVERE - steep slopes and severe erosion hazard.	s
2 Stinson	SEVERE - freq[illegible] low; seasonal hi[illegible]	MODERATE seas[illegible] ent overflow; r table.	- frequent o[illegible] paths sl[illegible]	MODERATE - fr[illegible] ery low r[illegible]	erflo f

The City of Milwaukee has just released an extremely attractive brochure entitled "there's MORE in Milwaukee." This brochure is directed toward people in business and industry and describes the economic and social advantages of locating an office or plant in Milwaukee. It points out such advantages as the availability of a skilled labor force; a supply of fresh water; a world famous park system; and a high quality educational system.

Copies of this brochure can be obtained by writing Kenneth E. Fry, Director, Division of Economic Development, Office of the Mayor, Milwaukee, Wisconsin 53202, or calling 414/276-3711, Extention 2201.

but critical conditions, such as a seasonally low water table; and relatively high expense, especially when applied to large areas.

The use of detailed operational soil survey maps as a basis for determining the suitability of an area for septic tank sewage disposal systems overcomes some of the disadvantages of the percolation test. In establishing the suitability rating of soil mapping units for septic tank systems, consideration is given to such important factors as soil texture, soil structure, shrink-swell potential, depth to water table, susceptibility to flooding, and slope, as well as to permeability. Most importantly, however, through the use of the soil surveys, prediction of future behavior of soils under actual septic tank system use can be based on past experience with similar soils. Thus, with the aid of an operational soils map, large areas of land can be quickly evaluated with respect to suitability for septic tank sewage disposal. Soils maps, however, must be used with caution when considering small areas, since map scale limitations and occasional inclusion of small areas of soils with different properties in larger mapped areas may affect suitability determinations for a small site. This disadvantage can, however, be overcome by on-site investigations by experienced soil scientists and the need for percolation tests thereby largely eliminated.

The advantages and disadvantages of the use of percolation tests and soils maps as the sole basis for determining the suitability of an area for septic tank systems are compared in summary form in Table 1.

From the comparison in Table 2, it is evident that the operational soil survey is a more complete method of determining the overall suitability of soils for on-site sewage disposal and a better aid to subdivision layout and design than is the percolation test. When considering small areas or specific sites, however, the soil survey should be supplemented either by on-site inspection by an experienced soil scientist or by supplementary percolation tests taken at strategic locations. Even here the soils maps can be a valuable aid in determining the most effective and efficient location of percolation test holes.

Table 2

COMPARISON OF PERCOLATION TEST AND OPERATIONAL SOIL SURVEY AS A BASIS FOR DETERMINING THE SUITABILITY OF SOILS FOR SEPTIC TANK SEWAGE DISPOSAL SYSTEMS

Factors Determining Suitability of Soils	Determinable By: Percolation Test	Determinable By: Soil Survey	Criterion for Soil Survey	Remarks
1. Absorption of Effluent	Yes	Yes	Texture, structure, shrink-swell potential	The soil must be able to absorb water, and either method can determine this ability
2. Peak Ground Water Level	No	Yes	Soil color	Soils with even occasional high ground water levels are unsuitable since these soils cannot absorb additional water during such peak ground water level periods. A filter field tends to become an unhealthy, ill-smelling bog during such peak water level periods if located over soil with a high ground water level.
3. Filtration of Effluent				
A. Composition of Soil	No	Yes	Laboratory analysis, field inspection and test, correlation	If the effluent moves too rapidly through the soil or substratum, polluted water will enter the ground water supply. Wells, often the source of supply in areas having on-site sewage disposal, will return this contaminated ground water, causing health hazards.
B. Depth of Soil to Bedrock	No	Yes	Measured if within six feet; estimated from knowledge of local geology if within approximately 20 feet of surface	
C. Type of Substratum	No	Yes	Observed	
4. Slope of Ground	No	Yes	Measured	If a slope is too steep or if a minor slope has nonpermeable subsoil, the effluent may flow laterally, coming to the surface soil downhill. Several septic systems too close together could cause a stream of polluted water in the valley
5. Location of Soils With Respect to Bodies of Water				
A. Seepage of Effluent into Bodies of Water	No	Yes	Composition of soil, slope of ground	If the effluent flowed into nearby bodies of water without sufficient filtration, these waters could become polluted causing a surface water pollution problem. Septic tank systems subject to flooding permit raw sewage to be moved about the area during floods, causing health problems.
B. Ground Water Level	No	Yes	Soil color	
C. Subject to Flooding.	No	Yes	Composition of soil	
6. Suitability for Subdivision Development	Partly[a]	Yes	Consideration of factors 1 through 5 as related to geographic area by soils maps	By using information gathered on the characteristics of soils and a soils map, developers can determine lot sizes, number of lots, and location of lots. This can result in a more efficient subdivision layout and avoid the possible sudden discovery after subdivision that the soil on certain lots cannot accept effluent from on-site sewage disposal systems.

[a] The Administrative Code sets forth lot sizes depending on percolation rates.

QUOTABLE QUOTE.....

"A harmonious relation to the land is more intricate and of more consequence to civilization than the historians seem to realize. Civilization is not, as they often assume, the enslavement of a stable and constant earth. It is a state of mutual and interdependent cooperation between human animals, other animals, plants and soils, which may be disrupted at any moment by the failure of any of them. Land spoilation has evicted nations and can do it again."

Aldo Leopold
October 1933

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53187

Phone: 542-8083

Kurt W. Bauer
Executive Director

RETURN REQUESTED

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