UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

WATER RESOURCES INVESTIGATIONS REPORT 84-4031
PLATE 5- GENERALIZED SOIL PERMEABILITY

GENERALIZED SOIL PERMEABILITY

The infiltration rates presented here are derived from soil-survey data from Montgomery, Schenectady, Monroe, Chenango, and Cayuga Counties and are applied to soil associations mapped in Saratoga County by R. L. Landry (1974). These infiltration rates are general estimates of the rates at which water moves vertically in the "A" and "B" horizons of the soils, generally to about 40 inches below land surface. This classification is based primarily on soil-percolation tests and field observations of soil texture, structure, and drainage. In soils where the "B" horizon has a significantly lower permeability than the surface soil (because of claypans, fragipans, silty zones, etc.), the lower value is given as the controlling soil permeability. The estimates of soil permeability do not take into account transient soil features such as "plowpans" and surface crusts.

The boundaries of soil permeability units do not necessarily coincide with geologic units. For example, the "B" horizon of soils in glacial till may be several times more permeable than the underlying unweathered surficial material as a result of freeze-thaw action, root penetration, and animal and insect burrowing. Conversely, the "B" horizon of a permeable sand and gravel unit typically becomes less permeable as a result of the accumulation of clay, iron, aluminum, and other compounds leached from the "A" horizon.

EXPLANATION

Soil-permeability unit	Classification	Infiltration rate, in inches per hour
1	Very low	less than 0.20
2	Low	0.20 to 0.60
3	Moderate	0.60 to 2.0
4	High	2.0 to 6.0
5	Very high	greater than 6.0

BOUNDARY OF SOIL-PERMEABILITY UNITS--approximately located

w OPEN-WATER AREAS

SELECTED REFERENCES

Davis, L. B., and Landry, R. J., 1978, Soil survey of Montgomery and Schenectady Counties, New York: U.S. Department of Agriculture, Soil Conservation Service, 167 p.

Heffner, R. L., and Goodman, S. D., 1973, Soil survey of Monroe County, New York: U.S. Department of Agriculture, Soil Conservation Service, 172 p.

Hutton, F. Z., 1971, Soil survey of Cayuga County, New York: U.S. Department of Agriculture, Soil Conservation Service, 205 p.

Landry, R. L., 1974, Generalized soils in the [New York] Capital District region: Capital District Regional Planning Commission, Technical Report 200-1, 103 p., 4 pl.

Pearson, C. J., and others, 1973, Soil Survey of Chemung County, New York: U.S. Department of Agriculture, Soil Conservation Service, 100 p.

INDEX MAP

1 0 1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 0 1 KILOMETER
CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

Base from New York State Department of Transportation
1:24,000 series: Niskayuna (1974), Round Lake (1974).

Hydrogeology by R.J. Reynolds. Boundaries modified from R.J. Landry, 1974

HYDROGEOLOGY OF THE CLIFTON PARK AREA, SARATOGA COUNTY, NEW YORK

By
Richard J. Reynolds

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