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Generalized Geologic Map for Land-Use Planning: Berea 7.5-Minute Quadrangle, Kentucky

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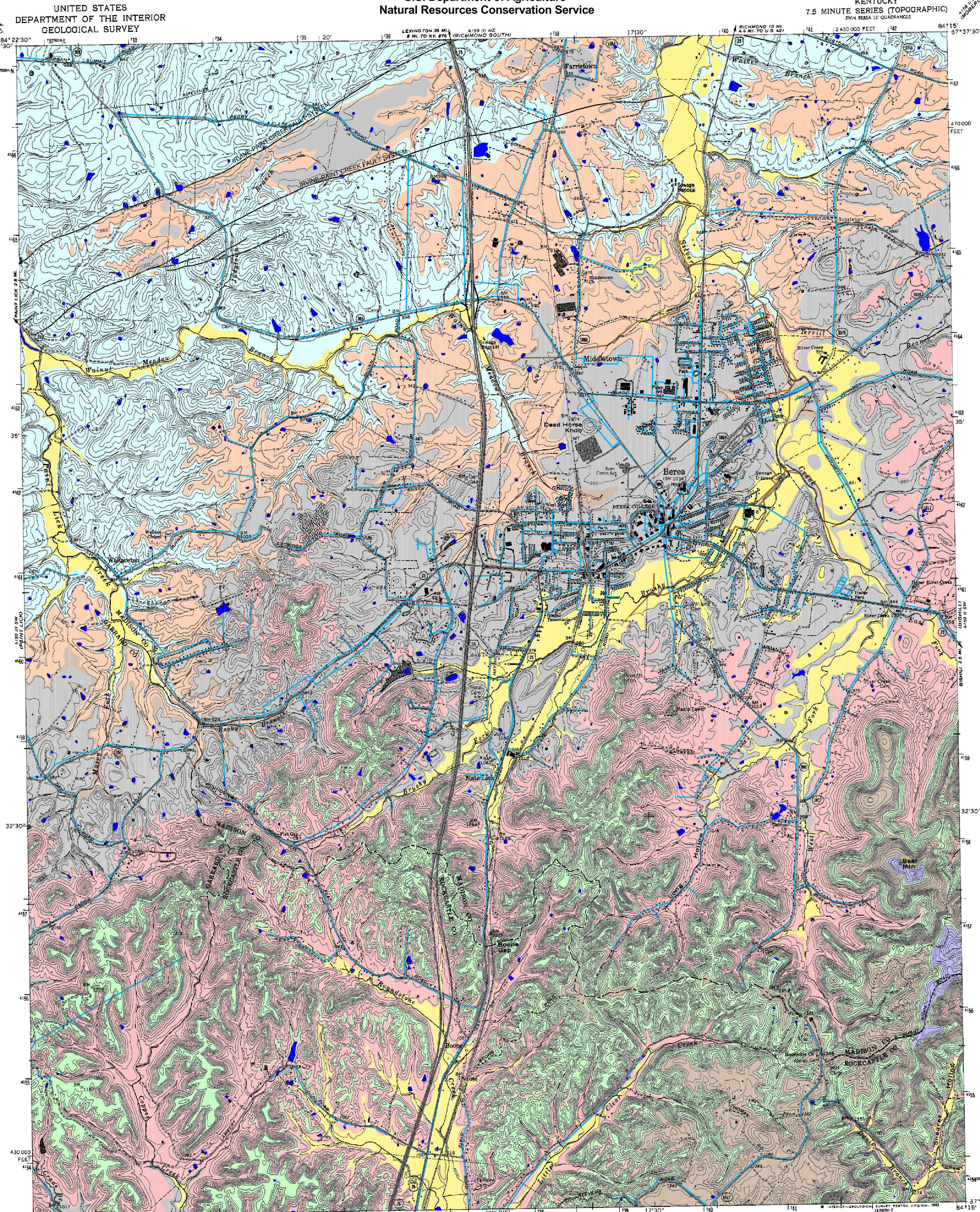
This map is not intended to be used for selecting individual sites. Its purpose is to inform land-use planners, government officials, and the public in a general way about geologic conditions that affect the selection of sites for various purposes...

Bedrock mapping adapted from Nelson (2000).

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BEREA QUADRANGLE KENTUCKY 7.5 MINUTE SERIES (TOPOGRAPHIC)



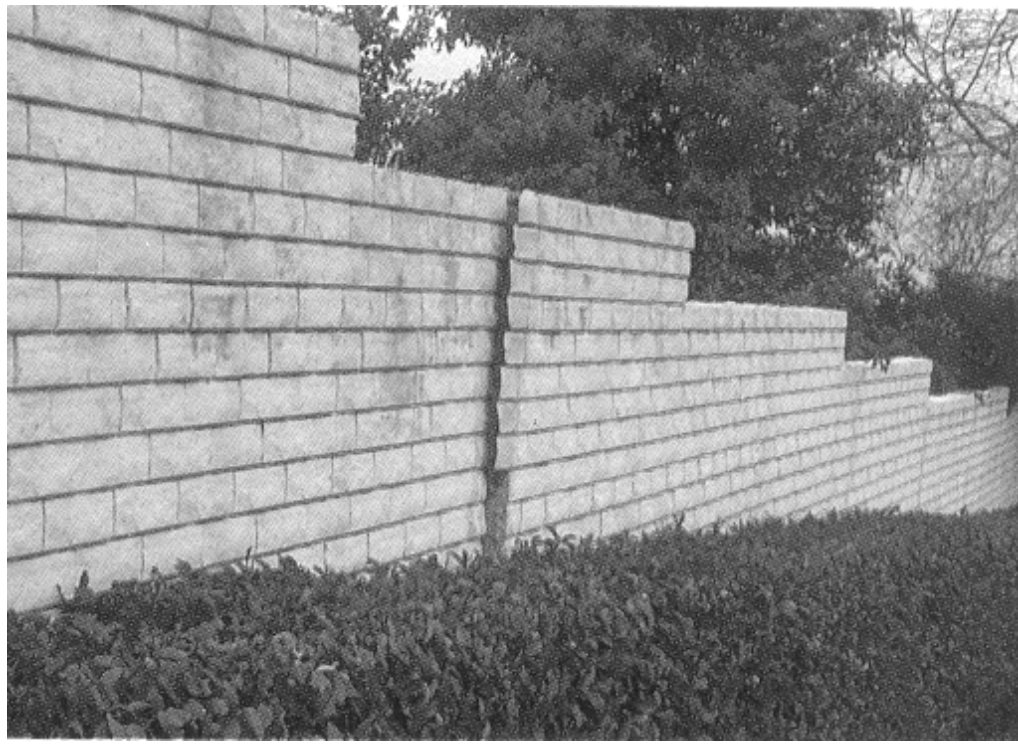
Typical Problems



An uplifting experience that will not be appreciated! Left: All is well in this newly built home until water from percolation, drains, lawn sprinklers, leaking sewers, or water mains soaks swelling soil beneath the foundation...



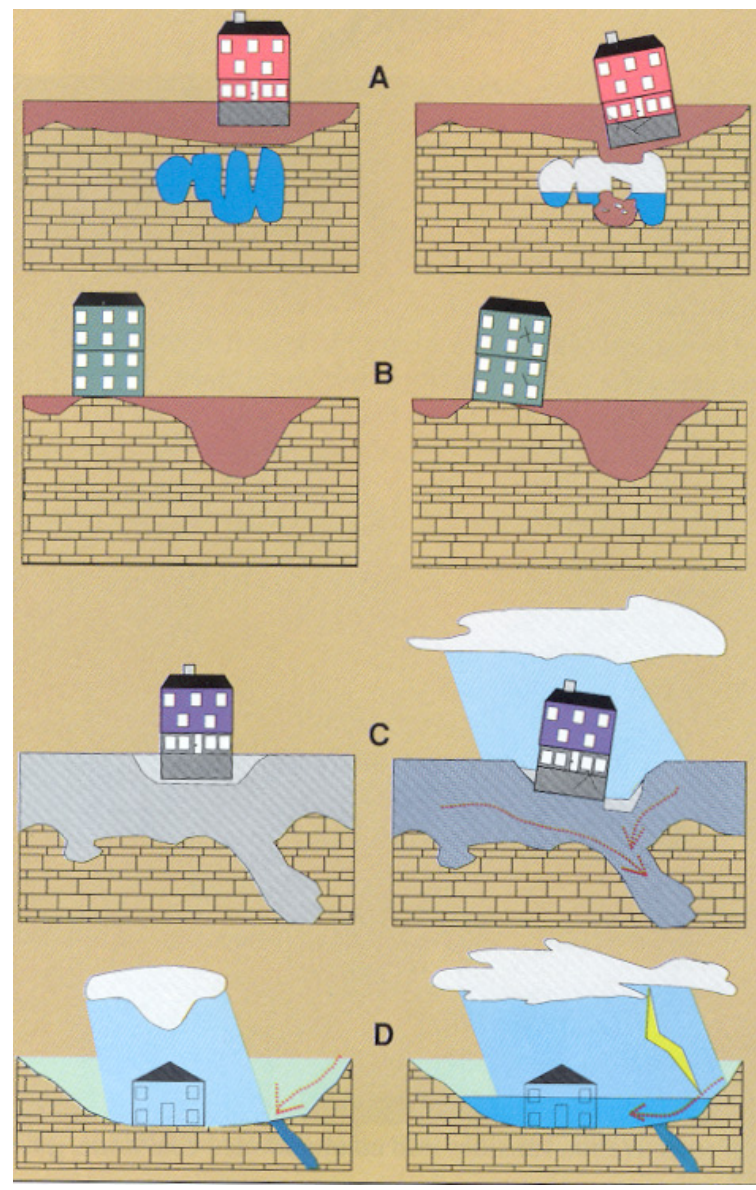
Seepage at the boundary between overlying permeable and underlying impermeable rocks. Often not evident during dry weather construction, it can produce a variety of problems...



Stresses exerted by swelling soils have caused this block wall surrounding a condominium complex to tilt and break. From AIPG (1993).



Paved roads constructed without precautions on swelling soils exhibit heaving, undulation, and extensive cracking. From AIPG (1993).



Limestone terrain can be subject to subsidence hazards, which usually can be overcome by prior planning and site evaluation. 'A' shows construction above an open cavern, which later collapses...

Mapped Surface Faults

Faults are common geologic structures across Kentucky, and have been mapped in many of the Commonwealth's counties. The faults shown on this map represent seismic activity that occurred several million years ago at the latest.

Radon

Radon levels can be high in the black shales. Homes in these areas should be tested for radon, but the homeowner should keep in mind that the threat to health results from relatively high levels of exposure over long periods of time...

Table with 5 columns: Radon Level (pCi/L), Estimated Fatal Lung Cancers/1000, Comparable Exposure Levels, and Comparable Risk Fatality. It provides data for radon levels ranging from 0.2 to 200 pCi/L.

EPA recommendation: In homes with radon levels above 4 pCi/L, which is 10 times the average outdoor level, some EPA representatives believe the action level should be lowered to 2 pCi/L.

Landslides

Hillside construction can cause earth movements if not properly planned.



Planning Units

- List of geologic units including Limestone/Dolomite, Sandstone/Siltstone, Unconsolidated (Nonlithified) Deposits, Black Shales, Expansive Clay Shales, Clay Shales, Mudstones and Limestones, and Interbedded Shales and Sandstones/Siltstones. Each entry includes a brief description of the unit's properties and construction considerations.

References Cited

- List of references including 'American Institute of Professional Geologists, 1993, The citizens' guide to geologic hazards: 134 p.' and 'Nelson, H.L., Jr., 2000, Spatial database of the Berea quadrangle, east-central Kentucky...'