



Kentucky Geological Survey Map and Chart

Kentucky Geological Survey

2007

Generalized Geologic Map for Land-Use Planning: Laurel County, Kentucky

Daniel I. Carey University of Kentucky, carey@uky.edu

John Storm University of Kentucky

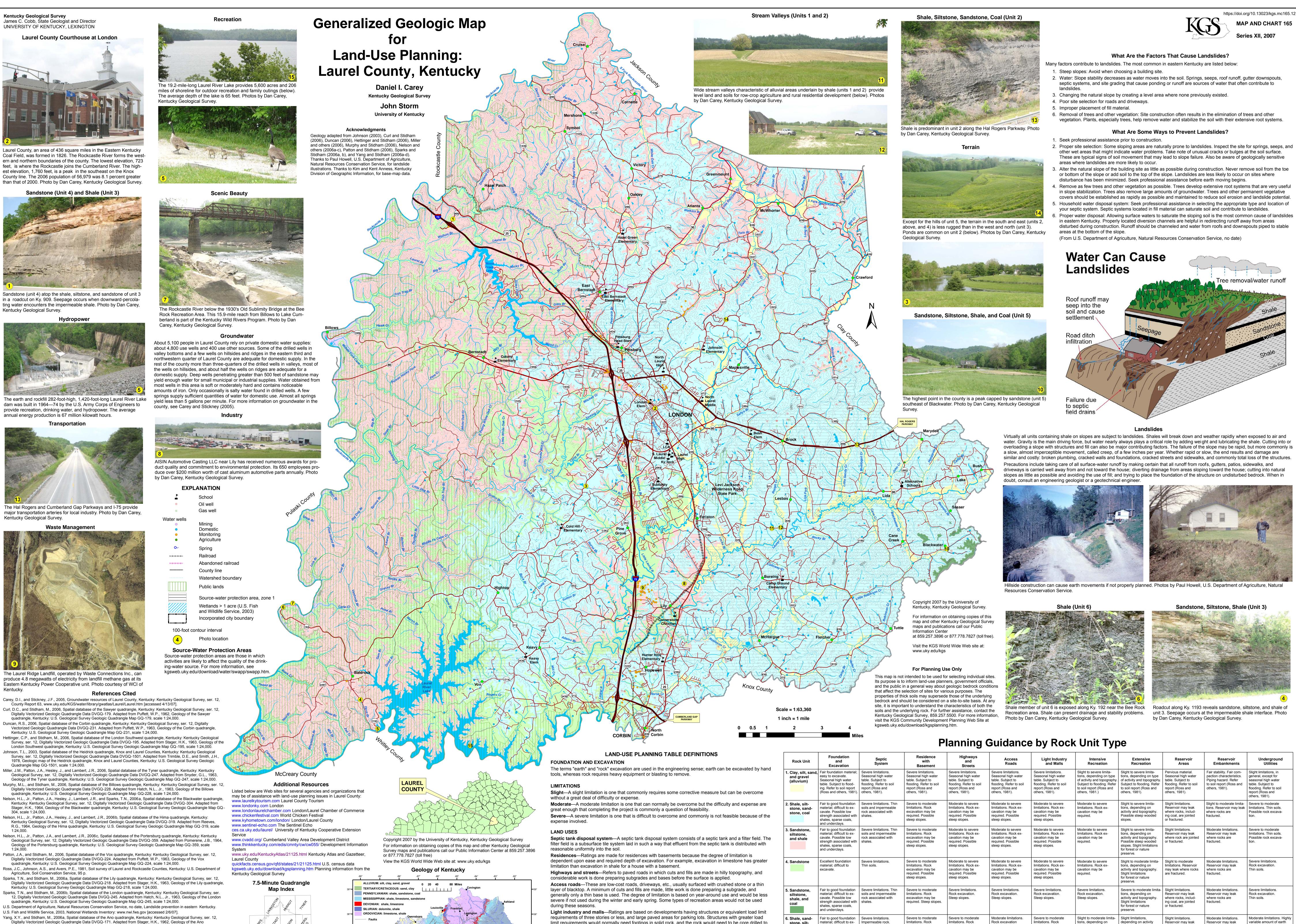
Right click to open a feedback form in a new tab to let us know how this document benefits you.

Follow this and additional works at: https://uknowledge.uky.edu/kgs_mc Part of the <u>Geology Commons</u>

Repository Citation

Carey, Daniel I. and Storm, John, "Generalized Geologic Map for Land-Use Planning: Laurel County, Kentucky" (2007). *Kentucky Geological Survey Map and Chart*. 164. https://uknowledge.uky.edu/kgs_mc/164

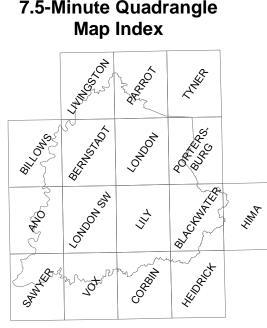
This Map and Chart is brought to you for free and open access by the Kentucky Geological Survey at UKnowledge. It has been accepted for inclusion in Kentucky Geological Survey Map and Chart by an authorized administrator of UKnowledge. For more information, please contact UKnowledge@lsv.uky.edu.



quadrangle, Kentucky: U.S. Geological Survey Geologic Quadrangle Map GQ-171, scale 1:24,000. Yang, X.Y., and Stidham, M., 2006b, Spatial database of the Bernstadt guadrangle, Kentucky: Kentucky Geological Survey, ser. 12, Digitally Vectorized Geologic Quadrangle Data DVGQ-202. Adapted from Hatch, N.L., Jr., 1963, Geology of the Bernstadt quadrangle, Kentucky: U.S. Geological Survey Geologic Quadrangle Map GQ-202, scale 1:24,000. Yang, X.Y., and Stidham, M., 2006c, Spatial database of the Livingston quadrangle, southeastern Kentucky: Kentucky Geological Survey, ser. 12, Digitally Vectorized Geologic Quadrangle Data DVGQ-1179. Adapted from Brown, W.R., and Osolnik, M.J., 1974, Geologic map of the Livingston quadrangle, southeastern Kentucky: U.S. Geological Survey Geologic Quadrangle Map

GQ-1179, scale 1:24,000.

Yang, X.Y., and Stidham, M., 2006d, Spatial database of the Parrot quadrangle, Kentucky: Kentucky Geological Survey, ser. 12 Digitally Vectorized Geologic Quadrangle Data DVGQ-236. Adapted from Crowder, D.F., 1963, Geology of the Parrot quadrangle, Kentucky: U.S. Geological Survey Geologic Quadrangle Map GQ-236, scale 1:24,000.



Learn more about Kentucky geology at www.uky.edu/KGS/geoky/

limit requirements would normally need footings in solid rock, and the rock would need to be core drilled to determine the presence of caverns, cracks, etc. Intensive recreation—Athletic fields, stadiums, etc.

Extensive recreation—Camp sites, picnic areas, parks, etc. **Reservoir areas**—The floor of the area where the water is impounded. Ratings are based on the

permeability of the rock.

Reservoir embankments—The rocks are rated on limitations for embankment material. **Underground utilities**—Included in this group are sanitary sewers, storm sewers, water mains, and other pipes that require fairly deep trenches.

							7 1				
Rock Unit	Foundation and Excavation	Septic System	Residence with Basement	Highways and Streets	Access Roads	Light Industry and Malls	Intensive Recreation	Extensive Recreation	Reservoir Areas	Reservoir Embankments	Underground Utilities
(alluvium)	Fair foundation material; easy to excavate. Seasonal high water table. Subject to flood- ing. Refer to soil report (Ross and others, 1981).	Severe limitations. Seasonal high water table. Subject to flooding. Refer to soil report (Ross and others, 1981).	Severe limitations. Seasonal high water table. Subject to flooding. Refer to soil report (Ross and others, 1981).	Severe limitations. Seasonal high water table. Subject to flooding. Refer to soil report (Ross and others, 1981).	Severe limitations. Seasonal high water table. Subject to flooding. Refer to soil report (Ross and others, 1981).	Severe limitations. Seasonal high water table. Subject to flooding. Refer to soil report (Ross and others, 1981).	Slight to severe limita- tions, depending on type of activity and topography. Subject to flooding. Refer to soil report (Ross and others, 1981.)	Slight to severe limita- tions, depending on type of activity and topography. Subject to flooding. Refer to soil report (Ross and others, 1981).	Pervious material. Seasonal high water table. Subject to flooding. Refer to soil report (Ross and others, 1981).	Fair stability. Fair com- paction characteristics. Piping hazard. Refer to soil report (Ross and others, 1981).	Slight limitations, in general, except for seasonal high water table. Subject to flooding. Refer to soil report (Ross and others, 1981).
2. Shale, silt- stone, sand- stone, coal	Fair to good foundation material; difficult to ex- cavate. Possible low strength associated with shales, sparse coals, and underclays.	Severe limitations. Thin soils and impermeable rock associated with shales.	Severe to moderate limitations. Rock excavation may be required. Possible steep slopes.	Moderate to severe limitations. Rock ex- cavation may be required. Possible steep slopes.	Moderate to severe limitations. Rock ex- cavation may be required. Possible steep slopes.	Moderate to severe limitations. Rock ex- cavation may be required. Possible steep slopes.	Moderate to severe limitations. Rock ex- cavation may be required.	Slight to severe limita- tions, depending on activity and topography. Possible steep wooded slopes.	Slight limitations. Reservoir may leak where rocks, includ- ing coal, are jointed or fractured.	Slight to moderate limita- tions. Reservoir may leak where rocks are fractured.	Severe to moderate limitations. Thin soils. Possible rock excava- tion.
	Fair to good foundation material; difficult to ex- cavate. Possible low strength associated with shales, sparse coals, and underclays.	Severe limitations. Thin soils and impermeable rock associated with shales.	Severe to moderate limitations. Rock excavation may be required. Possible steep slopes.	Moderate to severe limitations. Rock ex- cavation may be required. Possible steep slopes.	Moderate to severe limitations. Rock ex- cavation may be required. Possible steep slopes.	Moderate to severe limitations. Rock ex- cavation may be required. Possible steep slopes.	Moderate to severe limitations. Rock ex- cavation may be required.	Slight to severe limita- tions, depending on activity and topography. Possible steep wooded slopes. Slight limitations for forest or nature preserve.	Slight limitations. Reservoir may leak where rock are jointed or fractured.	Moderate limitations. Reservoir may leak where rocks are fractured.	Severe to moderate limitations. Thin soils. Possible rock excava- tion.
4. Sandstone	Excellent foundation material; difficult to excavate.	Severe limitations. Thin soils.	Severe to moderate limitations. Rock excavation may be required. Possible steep slopes.	Moderate to severe limitations. Rock ex- cavation may be required. Possible steep slopes.	Moderate to severe limitations. Rock ex- cavation may be required. Possible steep slopes.	Moderate to severe limitations. Rock ex- cavation may be required. Possible steep slopes.	Moderate to severe limitations. Rock ex- cavation may be required.	Slight to moderate limita- tions, depending on activity and topography. Slight limitations for forest or nature preserve.	Slight to moderate limitations. Reservoir may leak where rocks are fractured.	Moderate limitations. Reservoir may leak where rocks are fractured.	Severe limitations. Rock excavation. Thin soils.
5. Sandstone, siltstone, shale, and coal	Fair to good foundation material; difficult to ex- cavate. Possible low strength associated with shales, sparse coals, and underclays.	Severe limitations. Thin soils and impermeable rock associated with shales.	Severe to moderate limitations. Rock excavation may be required. Steep slopes.	Severe limitations. Rock excavation. Steep slopes.	Severe limitations. Rock excavation. Steep slopes.	Severe limitations. Rock excavation. Steep slopes.	Severe limitations. Rock excavation. Steep slopes.	Severe to moderate limita- tions, depending on activity and topography. Slight limitations for forest or nature preserve.	Slight limitations. Reservoir may leak where rocks, includ- ing coal, are jointed or fractured.	Moderate limitations. Reservoir may leak where rocks are fractured.	Severe limitations. Rock excavation. Thin soils.
6. Shale, sand- stone, silt- stone, and limestone	Fair to good foundation material; difficult to ex- cavate. Possible ex- pansive shales.	Severe limitations. Impermeable rock.	Severe to moderate limitations. Rock excavation may be required. Possible expansion of shales.	Severe to moderate limitations. Rock excavation may be required. Possible expansion of shales.	Moderate limitations. Rock excavation may be required. Drainage management required.	Severe to moderate limitations. Rock excavation may be required. Possible expansion of shales. Drainage management required.	Slight to moderate limita- tions, depending on activity and topography.	Slight limitations, depending on activity and topography.	Slight limitations. Reservoir may leak where rocks are fractured.	Moderate limitations. Reservoir may leak where rocks are fractured.	Moderate limitations. Highly variable amount of earth and rock excavation.
7. Limestone	Excellent foundation material; difficult to excavate.	Severe limitations. Impermeable rock. Danger of ground- water contamination.	Severe limitations. Rock excavation may be required.	Severe limitations. Rock excavation.	Moderate to severe limi- tations. Rock excavation possible.	Moderate to severe limi- tations. Rock excavation possible.	Slight to moderate limitations, depending on activity.	Slight limitations, depending on activity.	Moderate to severe limitations. Reservoir may leak where rocks are fractured.	Moderate to severe limitations. Reservoir may leak where rocks are fractured.	Severe limitations. Rock excavation.



MAP AND CHART 165





