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

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Many factors contribute to landslides. The most common in eastern Kentucky are listed below:

1. Seek professional assistance prior to construction.
2. Design and construct roadways, buildings, and general development in such a manner as to avoid steep slopes.
3. Use underground utilities and sewage disposal systems appropriately.
4. Pay special attention to the location of your septic system. Septic systems located in fill material can saturate soil and contribute to severe failures.
5. Build on fill material. Avoid steep slopes and rock cut slopes.
6. Proper water disposal: Allowing surface waters to saturate the sloping soil is the most common cause of landslides in eastern Kentucky.
7. Use fill materials and rework cut materials to prevent severe problems for structures built on top of them.

The terms "earth" and "rock" excavation are used in the engineering sense; earth can be excavated by hand tools, whereas rock requires heavy equipment. In most cases, rock excavation is more expensive than earth excavation.

Landslides are depressions on the land surface into which water drains underground. Homeowners and builders should be aware of the potential for landslides and their consequences. The construction of structures on steep slopes is an invitation to catastrophe.

Landslides can be caused by a number of factors:

- Sudden storms
- Temperature change
- Draining of water from saturated soil
- Overloading (e.g., structures on steep slopes)
- Ice heave
- Groundwater withdrawal
- Rockslides

The combination of two or more factors can lead to landslides. For example, a sudden storm can cause a landslide if the soil is already saturated due to previous storms or irrigation. Temperature changes can also contribute to landslides, particularly in cold climates where the freezing of water can cause soil to expand and contract, leading to landslides. Overloading, such as the construction of a building on a steep slope, can also cause landslides by increasing the pressure on the underlying soil.

Efforts to prevent landslides include:

- Designing buildings and roads to avoid steep slopes
- Using underground utilities and sewage disposal systems appropriately
- Paying special attention to the location of septic systems
- Building on fill material
- Using fill materials and reworking cut materials to prevent severe problems
- Proper water disposal

Slope stability depends on the soil type, its moisture content, and its strength. Soils with a high clay content are more prone to landslides than soils with a high sand content.

Landslides can occur in any part of the world, but they are more common in areas with steep slopes and poor drainage. In eastern Kentucky, landslides are most common in the eastern and northern parts of the county, where the terrain is more hilly.

The Generalized Geologic Map for Land-Use Planning: Jackson County, Kentucky, shows the distribution of rock units and their potential for landslides. The map is based on a combination of field observations, soil surveys, and previous geologic studies.

The map shows areas that are more prone to landslides, such as steep slopes and areas with a high clay content. These areas are marked in red on the map. Areas that are less prone to landslides, such as flat areas and areas with a high sand content, are marked in green.

The map also shows the location of existing structures and roads, which can be used to identify potential areas for development. The map is a useful tool for land-use planners, developers, and engineers who need to consider the potential for landslides when planning developments.

The map is accompanied by a table that lists the properties of each rock unit and its potential for landslides. The table is a useful tool for interpreting the map and identifying areas that are more or less prone to landslides.

The Generalized Geologic Map for Land-Use Planning: Jackson County, Kentucky, is a valuable tool for understanding the potential for landslides in the county. It can be used to identify areas that are more or less prone to landslides and to plan developments that are less likely to be affected by landslides.