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

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

Daniel L. Casey

The Martin County, Kentucky, geologic map and related geologic data were prepared by the Kentucky Geological Survey to fulfill the land-use planning needs of Martin County. Geologic and geotechnical information is provided to support planning for agriculture, mining, recreation, water supply, and waste disposal. The map was created using topographic and geologic data from the Kentucky Geological Survey and other sources.

Planning Guidance by Rock Unit Type

<table>
<thead>
<tr>
<th>Rock Unit</th>
<th>Planning Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Siltstone</td>
<td>Moderate to severe limitations. Rock excavation may be required. Possible steep wooded slopes are adequate for a domestic and other sources. Most wells drilled in valley areas of moderate to severe limitations. Rock excavations may be required.</td>
</tr>
<tr>
<td>Shale</td>
<td>Seasonal high water piping hazard. Refer to paved roads in which cuts and fills are made in hilly topography, and considerable work is done preparing subgrades and bases before the limitations. Rock excavation may be required.</td>
</tr>
<tr>
<td>Sandstone</td>
<td>Seasonal high water piping hazard. Refer to paved roads in which cuts and fills are made in hilly topography, and considerable work is done preparing subgrades and bases before the limitations. Rock excavation may be required.</td>
</tr>
</tbody>
</table>

What Are the Factions That Cause Landslides?

1. Weathering and erosion:
   - Soil loss due to natural slope processes.
   - Tearing of the topsoil.
   - Decrease in the soil's ability to hold water.
   - Increase in the soil's density due to water.

2. Geologic factors:
   - Presence of deep cracks or faults.
   - Presence of steep slopes.
   - Presence of underground water.
   - Presence of overlying layers of sediment.

3. Human activities:
   - Construction activities.
   - Deposition of sediment.
   - Overgrazing.
   - Removal of vegetation.

What Are Some Ways to Prevent Landslides?

1. Proper professional assistance and supervision.
2. Proper engineering and planning.
3. Proper construction and maintenance.
4. Proper monitoring and maintenance.
5. Proper drainage and landscaping.
6. Proper maintenance of structures on or near the slope.

For more information, refer to the Kentucky Geological Survey's report on land-use planning and geotechnical data.

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