

MAP UNITS CORRELATED WITH TOPOGRAPHIC FEATURES  
AND MINERAL RESOURCE USES

ENGINEERING INTERPRETATIONS OF SOILS

| Geologic Unit  | Description  | Topography   | Mineral Resource Uses                              |                                    |   | Soil Series | Sewerage Systems (Lagoons) | Septic Tank Absorption Fields | Sanitary Landfills       | Small Commercial Buildings | Local roads and Streets    | Shallow Excavations      | Camp Sites              | Picnic Areas            | Play-Grounds              | General Agriculture | Woods |
|--|--|--|--|------------------------------------|---|-------------|----------------------------|-------------------------------|--------------------------|----------------------------|----------------------------|--------------------------|-------------------------|-------------------------|---------------------------|---------------------|-------|
|  |  |  | Past   | Present                            | Potential   |             |                            |                               |                          |                            |                            |                          |                         |                         |                           |                     |       |
| Alluvium   | Unconsolidated sand, silt, and clay  | Broad to narrow lowlands adjacent to streams (floodplains)   | Sand   | Sand                               | Sand  | Appling     | Moderate to Severe SC,S    | Moderate SP,S                 | Slight to Moderate S     | Slight to Severe S         | Moderate to Severe LS,S    | Moderate to Severe C,S   | Slight to Moderate S    | Slight to Moderate S    | Slight to Severe S        | Good                | Good  |
| Terrace Deposits   | Unconsolidated alluvial sand, silt, and clay; in places containing pebbles and cobbles of quartz         | Flat to moderately sloping divides and benches adjacent to floodplains   |  |                                    | Sand and Gravel   | Badin       | Severe R,S                 | Severe R,S                    | Severe R,S               | Moderate to Severe SS,S    | Severe LS,S                | Moderate to Severe R,C,S | Moderate to Severe SM,S | Moderate to Severe SM,S | Severe SM,S               | Good                | Good  |
| Triassic Sediments   | Interbedded conglomerate, sandstone, siltstone, mudrocks, coal, and mudstone                             | Gently rolling northeast-sloping lowlands; low relief except between Madison and Stoneville  | Lightweight Aggregate Crushed Stone/Coal           | Lightweight Aggregate              | Lightweight Aggregate Crushed Stone   | Cecil       | Moderate to Severe PS,S    | Moderate SP                   | Slight to Moderate S     | Moderate to Severe LS,SS,S | Moderate to Severe LS,SS,S | Moderate to Severe C,S   | Slight to Moderate S,SM | Slight to Moderate S,C  | Slight to Severe S,C      | Good                | Good  |
| Diabase  | Dark-gray to black, fine-grained, dense dike rocks   | Most have no topographic expression. In places forms narrow, elongated, gently to steeply sloping hills and ridges. In places controls stream channels | Brick and Tile Clay                                | Brick and Tile Clay                | Brick and Tile Clay Uranium Crushed Stone   | Chewaala    | Severe WF                  | Severe WF                     | Severe WF                | Severe WF                  | Severe WF                  | Severe WF                | Severe WF               | Severe F                | Severe F                  | Good                | Good  |
| Porphyritic Granite Felsic Intrusives Felsic Intrusive Complex | White to light-gray, massive, coarse-grained granitic rocks  | Rolling dissected hills; slight to moderate slopes   | Sand and Gravel                                    | Sand and Gravel                    | Sand and Gravel High-potassium Feldspar (porphyritic granite) Metallic Minerals Crushed Stone | Congaree    | Severe F                   | Severe F                      | Severe F                 | Severe F                   | Severe F                   | Severe F                 | Severe F                | Severe F                | Severe F                  | Good                | Good  |
| Intermediate Intrusives  | Dark-gray to greenish-gray, massive, coarse-grained mafic rocks  | Rolling dissected hills; slight to moderate slopes   | Crushed Stone                                      | Crushed Stone                      | Crushed Stone Brick and Tile Clay   | Coronaca    | Moderate to Severe SP,S    | Moderate SP,S                 | Slight to Moderate S     | Slight to Severe S         | Severe LS                  | Moderate C,S             | Slight to Moderate S    | Slight to Moderate S    | Moderate to Severe S      | Good                | Good  |
| Mafic Intrusives   | Black to greenish-black, massive, coarse-grained gabbroic rocks  | Rolling dissected hills; small rounded hills; slight to steep slopes   | Crushed Stone                                      | Crushed Stone                      | Crushed Stone Brick and Tile Clay   | Davidson    | Moderate to Severe S       | Moderate to Severe SP,S       | Slight to Severe S       | Slight to Severe S         | Moderate to Severe LS,S    | Moderate to Severe C,S   | Slight to Severe C,S    | Slight to Severe C,S    | Moderate to Severe C,S    | Good                | Good  |
| Ultramafics  | Black to greenish-black, massive, coarse-grained rocks   | Small rounded hills; slightly to steeply sloping   | Crushed Stone                                      | Crushed Stone                      | Crushed Stone Brick and Tile Clay   | Durham      | Moderate to Severe S       | Moderate SP                   | Slight to Severe S       | Severe SS,LS,S             | Severe SS,LS,S             | Severe C,S               | Moderate to Severe SP,C | Slight to Moderate S    | Moderate to Severe S      | Good                | Good  |
| Argillite  | Light-gray, brown, and bluish-gray, fine-grained, thinly laminated, metasedimentary rock                 | Rolling hills and lowlands   | Brick and Tile Clay Flagstone                      | Brick and Tile Clay Flagstone      | Brick and Tile Clay Flagstone Metallic Minerals   | Georgeville | Moderate to Severe SP,S    | Moderate to Severe SP,S       | Slight to Severe S       | Slight to Severe S         | Severe LS,S                | Moderate to Severe C,S   | Slight to Moderate S,SM | Slight to Moderate S,SM | Moderate to Severe S,SM   | Good                | Good  |
| Volcaniclastic-Epiclastic Rocks                                | Coarse-grained, metamorphosed sediments such as arkose, graywackes, and conglomerates                    | Rolling hills and lowlands   | Crushed Stone                                      | Crushed Stone                      | Crushed Stone   | Goldston    | Severe R                   | Severe R                      | Severe SE                | Moderate to Severe R,S     | Moderate to Severe R,S     | Severe R                 | Moderate to Severe SM,S | Moderate to Severe SM,S | Moderate to Severe R,S    | Fair                | Good  |
| Felsic Flows Felsic Volcanics                                  | Dense, medium- to light-gray, metamorphosed volcanic rocks   | Gently rolling hills and steeply sloping elongate hills  | Metallic Minerals Pyrophyllite Brick and Tile Clay | Brick and Tile Clay                | Metallic Minerals Pyrophyllite Brick and Tile Clay Crushed Stone                              | Hanceville  | Moderate to Severe SE,S    | Slight to Severe S            | Slight to Severe S       | Moderate to Severe SS,S    | Severe LS,S                | Moderate to Severe C,S   | Slight to Severe S      | Slight to Severe S      | Slight to Severe S        | Good                | Good  |
| Intermediate Volcanics   | Medium- to dark grayish-green, dense, fine-grained metamorphosed volcanic rocks; well developed cleavage | Steeply sloping hills and elongate ridges  | Brick and Tile Clay                                | Brick and Tile Clay                | Brick and Tile Clay   | Helena      | Slight to Severe S         | Severe SP,W                   | Slight to Moderate S     | Severe SS,S,W              | Severe SS,LS               | Severe C                 | Moderate SP,W,C         | Moderate W,S,C          | Moderate SP,W,C           | Good                | Good  |
| Mafic Volcanics  | Fine- to medium-grained, medium grayish-green to dark-green to black, metamorphosed volcanic rocks       | Gently rolling hills and steeply sloping elongate ridges   | Crushed Stone Brick and Tile Clay                  | Crushed Stone Brick and Tile Clay  | Crushed Stone Brick and Tile Clay   | Herridon    | Moderate to Severe SE,S    | Moderate SP,S                 | Slight to Moderate S     | Moderate to Severe LS      | Moderate C,S               | Moderate C,S             | Slight to Moderate S    | Slight to Moderate S    | Moderate to Severe S      | Good                | Good  |
| Sericite Phyllite  | Fine-grained, medium- to light-gray to greenish-gray to white, schistose rocks                           | Most are not of large enough extent to control topography  | Blended with Pyrophyllite                          | Blended with Pyrophyllite          | Blended with Pyrophyllite   | Hiwassee    | Moderate to Severe S       | Moderate to Severe SP,S       | Slight to Severe L       | Moderate to Severe LS,S    | Moderate to Severe LS,S    | Moderate to Severe C,S   | Slight to Severe C,S    | Slight to Severe C,S    | Moderate to Severe S      | Good                | Good  |
| Hornblende Gneiss  | Medium- to coarse-grained, dark, massive to foliated metamorphic rocks                                   | Moderately to steeply sloping hills  | Blended with Pyrophyllite                          | Blended with Pyrophyllite          | Blended with Pyrophyllite   | Iredell     | Severe W,S                 | Severe SP,W                   | Severe W                 | Severe W,SS,S              | Severe LS,SS               | Severe W                 | Severe W                | Moderate W,SM           | Severe W,S,SM             | Good                | Good  |
| Mica Gneiss  | Dark-colored, medium- to coarse-grained, foliated metamorphic rocks                                      | Rolling, dissected hills   | Mica (pegmatites) Crushed Stone                    | Crushed Stone                      | High-potassium Feldspar (pegmatites) Crushed Stone  | Leaksville  | Severe R,W                 | Severe SP,W,R                 | Severe W                 | Severe W,SS,LS             | Severe LS,SS,W             | Severe R,W,C             | Severe W                | Severe W                | Severe W                  | Poor                | Poor  |
| Felsic Gneiss  | Light-colored, fine- to medium-grained metamorphic rocks with indistinct layering and foliation          | Rolling, dissected hills   | Mica (pegmatites) Crushed Stone                    | Crushed Stone                      | Crushed Stone High-potassium Feldspar (pegmatites)  | Lignum      | Severe W,S                 | Severe SP,W                   | Severe W                 | Severe W,S                 | Severe LS                  | Severe W                 | Severe W                | Moderate W,SM,S         | Severe W,SM,S             | Poor                | Good  |
| Muscovite and Biotite Schist                                   | Fine- to coarse-grained, schistose metamorphic rocks   | Rolling, dissected hills   | Mica (pegmatites) Crushed Stone                    | Crushed Stone                      | High-potassium Feldspar (pegmatites)  | Lockhart    | Moderate to Severe S,SM    | Moderate to Severe S          | Slight to Severe S       | Moderate to Severe S       | Moderate to Severe S       | Moderate to Severe SM,S  | Moderate to Severe S,SM | Moderate to Severe S,SM | Severe S,SM               | Poor                | Good  |
| Quartz Veins (not shown individually on geologic map)          | Light-colored, dense, siliceous veins  | Steeply sloping ridges where veins are extensive enough  | Crushed Stone for building facings                 | Crushed Stone for building facings | Crushed Stone for building facings Metallic Minerals  | Madison     | Moderate to Severe SE,S    | Moderate to Severe SP,S       | Slight to Severe S       | Slight to Severe S         | Moderate to Severe S       | Moderate to Severe C,S   | Slight to Severe S      | Slight to Severe S      | Moderate to Severe C,S,SM | Good                | Good  |
| Siliceous Breccia  | Light-colored, fragmental rock containing cavities lined with quartz and tiny veinlets of quartz         | Low ridges   | Crushed Stone for building facings                 | Crushed Stone for building facings | Crushed Stone for building facings Metallic Minerals  | Mayodan     | Moderate to Severe SE,S    | Moderate to Severe SP,S       | Slight to Severe S       | Moderate to Severe S,LS    | Moderate to Severe C,S     | Moderate to Severe C,S   | Slight to Severe S      | Slight to Severe S      | Slight to Severe S        | Good                | Good  |
|  |  |  | Crushed Stone for building facings                 | Crushed Stone for building facings | Crushed Stone for building facings Metallic Minerals  | Mecklenburg | Moderate to Severe R,S     | Severe SP,S                   | Slight to Severe S       | Severe LS,S                | Severe LS,S                | Severe C,S               | Slight to Severe S,SM   | Slight to Severe S,SM   | Moderate to Severe S,SM   | Good                | Good  |
|  |  |  | Crushed Stone for building facings                 | Crushed Stone for building facings | Crushed Stone for building facings Metallic Minerals  | Nason       | Moderate to Severe R,SE,S  | Moderate to Severe R,SP,S     | Moderate to Severe R,S   | Moderate to Severe SS,S    | Severe LS,S                | Moderate to Severe C,S   | Slight to Severe S      | Slight to Severe S      | Moderate to Severe SM,S   | Good                | Good  |
|  |  |  | Crushed Stone for building facings                 | Crushed Stone for building facings | Crushed Stone for building facings Metallic Minerals  | Orange      | Severe W,S                 | Severe SP,W                   | Severe W                 | Severe W,SS,S              | Severe LS,SS               | Severe W                 | Severe W                | Moderate W,SP,S         | Severe W,S                | Fair                | Good  |
|  |  |  | Crushed Stone for building facings                 | Crushed Stone for building facings | Crushed Stone for building facings Metallic Minerals  | Pacolet     | Moderate to Severe SE,S    | Moderate to Severe SP,S       | Slight to Severe S       | Slight to Severe S         | Severe L,S                 | Moderate to Severe C,S   | Slight to Severe S,SM   | Slight to Severe S,SM   | Moderate to Severe S,SM   | Fair                | Good  |
|  |  |  | Crushed Stone for building facings                 | Crushed Stone for building facings | Crushed Stone for building facings Metallic Minerals  | Pinkston    | Severe R,S                 | Severe R,S                    | Severe SE,S              | Moderate to Severe R,S     | Moderate to Severe R,S     | Severe R,S               | Slight to Moderate S,SM | Slight to Moderate S,SM | Slight to Severe S,SM     | Fair                | Good  |
|  |  |  | Crushed Stone for building facings                 | Crushed Stone for building facings | Crushed Stone for building facings Metallic Minerals  | Roanoke     | Slight to Severe S         | Severe F,SP,W                 | Severe F,W               | Severe F,LS,W              | Severe F,LS,W              | Severe F,W,C             | Severe F,W,SP           | Severe W                | Severe F,W,SP             | Poor                | Fair  |
|  |  |  | Crushed Stone for building facings                 | Crushed Stone for building facings | Crushed Stone for building facings Metallic Minerals  | Sedgefield  | Slight to Severe S         | Severe SP,W                   | Moderate W               | Severe SS                  | Severe SS                  | Severe C,W               | Moderate SP             | Moderate W              | Moderate SP,W             | Good                | Good  |
|  |  |  | Crushed Stone for building facings                 | Crushed Stone for building facings | Crushed Stone for building facings Metallic Minerals  | Spray       | Moderate SE,S              | Moderate SP                   | Slight                   | Moderate LS,S              | Moderate LS                | Moderate C               | Slight to Moderate C,D  | Slight to Moderate C,D  | Slight to Moderate S,C,D  | Fair                | Good  |
|  |  |  | Crushed Stone for building facings                 | Crushed Stone for building facings | Crushed Stone for building facings Metallic Minerals  | Tatum       | Moderate to Severe SE,R    | Moderate to Severe R,SP,S     | Moderate to Severe R,S   | Moderate to Severe SS,S    | Severe LS,S                | Moderate to Severe C,S   | Slight to Severe SM,S   | Slight to Severe SM,S   | Moderate to Severe S,SM   | Fair                | Good  |
|  |  |  | Crushed Stone for building facings                 | Crushed Stone for building facings | Crushed Stone for building facings Metallic Minerals  | Vance       | Moderate to Severe SP,S    | Severe SP,S                   | Slight to Severe S       | Severe LS,S                | Severe LS,S                | Severe C,S               | Moderate to Severe S    | Slight to Severe S      | Moderate to Severe S      | Good                | Good  |
|  |  |  | Crushed Stone for building facings                 | Crushed Stone for building facings | Crushed Stone for building facings Metallic Minerals  | Wadesboro   | Moderate to Severe R,SE,S  | Moderate to Severe R,SP,S     | Moderate to Severe R,S,C | Moderate to Severe SS,S    | Severe LS,S                | Moderate to Severe C,S   | Slight to Severe S      | Slight to Severe S      | Moderate to Severe C,S    | Good                | Good  |
|  |  |  | Crushed Stone for building facings                 | Crushed Stone for building facings | Crushed Stone for building facings Metallic Minerals  | Wedowee     | Moderate to Severe S       | Moderate to Severe SP,S       | Slight to Severe S       | Moderate to Severe LS,SS,S | Moderate to Severe LS,SS,S | Moderate to Severe C,S   | Slight to Severe C,S    | Slight to Severe C,S    | Moderate to Severe S,C    | Good                | Good  |
|  |  |  | Crushed Stone for building facings                 | Crushed Stone for building facings | Crushed Stone for building facings Metallic Minerals  | Wehadkee    | Severe W,F                 | Severe W                      | Severe SE,W,F            | Severe W,F                 | Severe W,F                 | Severe F,W               | Severe W,F              | Severe W                | Severe W,F                | Poor                | Poor  |
|  |  |  | Crushed Stone for building facings                 | Crushed Stone for building facings | Crushed Stone for building facings Metallic Minerals  | Wilkes      | Moderate to Severe S,R     | Severe R,S                    | Severe SE,S              | Moderate to Severe S,SS    | Slight to Severe S         | Moderate to Severe R,S   | Moderate to Severe SP,S | Slight to Severe S      | Moderate to Severe S,SP   | Fair                | Good  |

PHYSICAL CHARACTERISTICS OF SOILS

| Rock Type  | Soil Series | Natural Drainage | Susceptibility to Erosion | Permeability            | Shrink-Swell Characteristics | Thickness of Soil Solum (inches) | Depth to Bedrock (feet) | Slopes (percent) |
|--|-------------|------------------|---------------------------|-------------------------|------------------------------|----------------------------------|-------------------------|------------------|
| Felsic intrusives, felsic intrusive complexes  | Appling     | Good             | Slight to Moderate        | Moderate                | Low                          | 40-60                            | 6-15                    | 0-15             |
| Argillite  | Badin       | Good             | Slight to Moderate        | Moderate                | Low                          | 20-40                            | 2-4                     | 2-45             |
| Felsic intrusives  | Cecil       | Good             | Moderate to Severe        | Moderate                | Low                          | 40-60                            | 6-40                    | 0-25             |
| Alluvium   | Chewaala    | Poor             | Slight                    | Moderate                | Low                          | 36-72                            | 5-10                    | 0-2              |
| Alluvium   | Congaree    | Good             | Slight                    | Moderate                | Low                          | 8-20                             | 8-20                    | 0-4              |
| Mafic to intermediate intrusives, mafic volcanics  | Coronaca    | Good             | Slight to Moderate        | Moderate                | Low                          | 60-100                           | >10                     | 2-15             |
| Mafic and intermediate intrusives, mafic volcanics   | Davidson    | Good             | Moderate to Severe        | Moderate                | Low                          | 60-100                           | 6-25                    | 2-25             |
| Felsic intrusives  | Durham      | Good             | Slight to Moderate        | Moderate                | Low                          | 6-15                             | 6-15                    | 2-10             |
| Intermediate intrusives, felsic intrusives mixed with mafic dikes, volcaniclastic-epiclastic | Enon        | Good             | Moderate to Severe        | Slow                    | Moderate to High             | 20-44                            | 3-8                     | 2-25             |
| Felsic, intermediate and mafic volcanics, argillite  | Georgeville | Good             | Severe                    | Moderate                | Low                          | 40-70                            | 10                      | 2-25             |
| Felsic volcanics   | Goldston    | Good             | Moderate to Severe        | Moderately Rapid        | Low                          | 20                               | 1.5-3.5                 | 2-45             |
| Triassic sandstone, siltstone, and shales  | Hanceville  | Good             | Moderate to Severe        | Moderate                | Low to Moderate              | 40-72                            | 5-9                     | 0-40             |
| Felsic intrusives mixed with mafic dikes   | Helena      | Fair             | Moderate to Severe        | Slow                    | Moderate                     | 46                               | 4                       | 0-15             |
| Felsic volcanics   | Herridon    | Good             | Moderate to Severe        | Moderate                | Low                          | >30                              | 4-8                     | 2-15             |
| Mafic and intermediate intrusives or mixed felsic and mafic intrusives                       | Hiwassee    | Good             | Slight to Moderate        | Moderate                | Low                          | 40-60                            | >5                      | 2-25             |
| Mafic volcanics, intermediate and mafic intrusives, and diabase                              | Iredell     | Fair             | Moderate to Severe        | Slow                    | High                         | 20-40                            | 2-8                     | 0-15             |
| Triassic sediments   | Leaksville  | Poor             | Slight                    | Slow                    | Moderate to High             | 20-40                            | 2-5                     | 0-4              |
| Shaded felsic volcanics, volcaniclastic-epiclastic   | Lignum      | Poor             | Moderate                  | Moderately Slow to Slow | Moderate                     | 20-40                            | >3.5                    | 0-15             |
| Porphyritic granite  | Lockhart    | Good             | Moderate                  | Moderately Rapid        | Low                          | 30-72                            | 6-15                    | 6-40             |
| Mica gneisses and schists  | Madison     | Good             | Moderate to Severe        | Moderate                | Low                          | 20-40                            | >5                      | 2-35             |
| Triassic sediments   | Mayodan     | Good             | Moderate to Severe        | Moderate                | Low                          | 40-60                            | >5 up to 10             | 1-25             |
| Intermediate and mafic intrusives and mafic volcanics  | Mecklenburg | Good             | Moderate to Severe        | Slow                    | Moderate                     | 20-40                            | 4-15                    | 2-20             |
| Felsic volcanics, phyllite, argillite, volcaniclastic-epiclastic                             | Nason       | Good             | Moderate to Severe        | Moderate                | Moderate                     | 25-50                            | 3.5-5                   | 0-25             |
| Felsic volcanics   | Orange      | Fair             | Severe                    | Slow                    | High                         | 20-40                            | 3.5-5.5                 | 0-15             |
| Felsic intrusives, felsic gneisses   | Pacolet     | Good             | Severe                    | Moderate                | Low                          | 18-30                            | >5                      | 2-40             |
| Triassic sediments   | Pinkston    | Good             | Severe                    | Moderately Rapid        | Low                          | 12-35                            | 1.5-3.5                 | 0-45             |
| Terrace deposits   | Roanoke     | Poor             | Slight                    | Slow                    | Moderate                     | 40-60                            | >10                     | 0-2              |
| Mixed felsic and mafic intrusives  | Sedgefield  | Fair             | Slight to Moderate        | Slow                    | High                         | 20-40                            | >4                      | 0-10             |
| Triassic sediments   | Spray       | Good             | Slight                    | Moderate                | Low to Moderate              | 10-20                            | >5                      | 0-5              |
| Argillite, phyllite  | Tatum       | Good             | Moderate to Severe        | Moderate                | Low                          | 25-50                            | 3.5-5                   | 2-30             |
| Felsic intrusives  | Vance       | Good             | Moderate to Severe        | Slow                    | Moderate                     | 24-40                            | 6-10                    | 2-25             |
| Triassic sediments   | Wadesboro   | Good             | Moderate to Severe        | Moderate                | Low                          | 15-40                            | 3.5-5                   | 2-40             |
| Felsic intrusives  | Wedowee     | Good             | Moderate to Severe        | Moderate                | Moderate                     | 20-40                            | >4                      | 5-60             |
| Alluvium   | Wehadkee    | Poor             | Slight                    | Moderate                | Low                          | 30-60                            | 8-20                    | 0-2              |
| Felsic intrusives with mafic dikes, intermediate intrusives, hornblende gneiss               | Wilkes      | Good             | Moderate to Severe        | Moderate                | Low                          | 10-20                            | 3.5-7                   | 4-60             |

Abbreviations

- C — Too Clayey
- D — Dusky
- F — Floods
- FA — Frost Action
- LS — Low Strength
- MP — Moderate Permeability
- PR — Percolates Rapidly
- R — Depth to Rock (soil shallowness)
- S — Slope
- SE — Seepage
- SM — Small Rocks
- SP — Slow Percolation
- SS — Shrink — Swell
- W — Large Stones Wetness

A slight limitation indicates that soil properties are favorable for the specified use, any limitation is minor and easily overcome.  
A moderate limitation indicates that soil properties and site features are unfavorable for the specified use, but the limitations can be overcome or minimized by special planning and design.  
A severe limitation indicates one or more soil properties or site features are so unfavorable or difficult to overcome that a major increase in construction effort, special design, or intensive maintenance is required. For some soils rated severe, such costly measures may not be feasible.

Good, Fair and Poor — These terms are parallel to slight, moderate and severe definitions.

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SUPPLEMENT TO GEOLOGIC MAP OF REGION G

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By  
P. Albert Carpenter, III  
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SHRINK-SWELL POTENTIAL

Shrink-swell behavior is that quality of the soil that determines its volume change with respect to moisture content. Building foundations, roads and other structures may be severely damaged by the shrinking and swelling of soils. The volume change of soils is influenced by the amount of moisture change and the amount and kind of clay present in the soil.  
The methods used in determining the shrink-swell potential of soils are (1) the Coefficient of Linear Extensibility (COLE) used by soil scientists; (2) the Shrinkage Index used by soil engineers; and (3) the Potential Volume Change (PVC) used by the Federal Housing Administration.  
Three classes are used to help interpret soil maps for shrink-swell behavior — low, moderate, and high. In rare instances, a rating of very high may be justified.

Shrink-Swell Potential:

| Low             | Moderate | High       |     |
|-----------------|----------|------------|-----|
| COLE            | .03      | .03 to .06 | .06 |
| Shrinkage Index | 15       | 15 to 30   | 30  |
| PVC             | 2        | 2 to 4     | 4   |

PERMEABILITY

Permeability relates only to movement of water downward through undisturbed materials. These values should be expressed in terms of inches per hour.

The following classes are used to rate the soil permeability:

| Permeability Class | Grouping for Report |
|--------------------|---------------------|
| Very slow          |                     |