

Nontechnical soil descriptions describe soil properties or management considerations specific to a soil map unit or group of map units. These descriptions are written in terminology that nontechnical users of soil survey information can understand.

Nontechnical soil descriptions are a powerful tool for creating reports. These high quality, easy to read reports can be generated by conservation planners and others for distribution to land users. Soil map unit descriptions and the map unit interpretation database are the basis for these descriptions.

Map Symbol	Description
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Aa ACADIA-VIDRINE COMPLEX, MOUNDED, 0 TO 3 PERCENT SLOPES

The potential for cropland and pastureland is fair. Wetness is the main limitation. Suitable crops are soybeans, corn, truck crops and grain sorghum. Pasture plants are small grains, ryegrass, common bermudagrass, bahiagrass, vetch and tall fescue. Drainage is needed when this soil is cultivated. Drop residue on the surface will reduce erosion, help maintain organic matter and reduce crusting. Most crops respond well to lime and a complete fertilizer.

This complex consists of the Acadia soil between mounds and the Vidrine soil on small mounds. The Acadia soil is somewhat poorly drained. The Vidrine soil is moderately well drained. Both soils have a loamy surface layer and a loamy and clayey subsoil. Water and air move through the subsoils very slowly or slowly. Surface runoff is slow on the Acadia soil and medium on the Vidrine soil. The shrink-swell potential in the subsoil is high. Natural fertility is low.

These are slightly to moderately wet, acid, loamy and clayey soils. The potential for productivity is high. Equipment limitations are moderate due to excess water. Silvicultural operations should be restricted to dry weather periods. These soils are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.

Ac ACADIA SILT LOAM, 0 TO 1 PERCENT SLOPES

The potential for cropland and pastureland is fair. Wetness is the main limitation. Suitable crops are soybeans, corn, truck crops and grain sorghum. Pasture plants are small grains, ryegrass, common bermudagrass, bahiagrass, vetch and tall fescue. Drainage is needed when this soil is cultivated. Drop residue on the surface will reduce erosion, help maintain organic matter and reduce crusting. Most crops respond well to lime and a complete fertilizer.

This somewhat poorly drained, level soil is on broad flats on uplands. It has a loamy surface layer and a clayey subsoil. The soil is acid throughout and has low fertility. Runoff is slow and water moves very slowly through the subsoil. The soil has a seasonal high water table about 2 to 4 feet below the surface in winter and spring. The clayey subsoil has a high shrink-swell potential.

These are slightly to moderately wet, acid, loamy and

Map Symbol	Description
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clayey soils. The potential for productivity is high. Equipment limitations are moderate due to excess water. Silvicultural operations should be restricted to dry weather periods. These soils are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.

Ad ACADIA SILT LOAM, 1 TO 3 PERCENT SLOPES

The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.

This somewhat poorly drained, very gently sloping soil is on side slopes on uplands. It has a loamy surface layer and a clayey subsoil. The soil is acid throughout and has low fertility. Runoff is medium. Water and air move very slowly through the subsoil. The soil has a seasonal high water table for long periods in winter and spring. The clayey subsoil has a high shrink-swell potential.

These are slightly to moderately wet, acid, loamy and clayey soils. The potential for productivity is high. Equipment limitations are moderate due to excess water. Silvicultural operations should be restricted to dry weather periods. These soils are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.

Ae ACADIA-WRIGHTSVILLE COMPLEX, MOUNDED, 0 TO 3 PERCENT SLOPES

The potential for cropland and pastureland is fair. Wetness is the main limitation. Suitable crops are soybeans, corn, truck crops and grain sorghum. Pasture plants are small grains, ryegrass, common bermudagrass, bahiagrass, vetch and tall fescue. Drainage is needed when this soil is cultivated. Drop residue on the surface will reduce erosion, help maintain organic matter and reduce crusting. Most crops respond well to lime and a complete fertilizer.

This complex consists of the Acadia soil on mounds and ridges and the Wrightsville soil in level and depressional areas between mounds. The Acadia soil is

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somewhat poorly drained. The Wrightsville soil is poorly drained. Both soils have a loamy surface layer and a clayey and loamy subsoil. Water and air move very slowly through the soils. Surface runoff on the Acadia soil is medium. Natural fertility is low. The shrink-swell potential in the subsoils is high. Both soils have a seasonal high water table for long periods in winter and spring.

These are slightly to moderately wet, acid, loamy and clayey soils. The potential for productivity is high. Equipment limitations are moderate due to excess water. Silvicultural operations should be restricted to dry weather periods. These soils are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.

Soils in this group are wet and clayey with a moderately high potential for productivity. Equipment limitations are severe and seedling mortality is moderate. This is due primarily to excess water, silvicultural operations should be restricted to dry weather periods. These soils are suited to either southern pines or hardwood. Site index for loblolly and slash pines is 80, oaks and sweetgum 80.

Af CAHABA (AMITE) FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES

The potential for cropland is fair and the potential for pastureland is good. Suitable crops are millet, small grains, ryegrass, soybeans, corn, grain sorghum, and truck crops. The main pasture plants are bermudagrass, bahiagrass, and crimson clover. Contour farming or conservation tillage is needed to control runoff and help reduce erosion. Most crops respond well to lime and a complete fertilizer.

This soil is moderately sloping and well drained. It is on terraces. The soil is loamy throughout. Natural fertility is low. Permeability is moderate. Runoff is medium. In places, the soil is moderately eroded.

Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. They are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.

Ag CAHABA (AMITE) FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES, ERODED

The potential for cropland is fair and the potential

Map Symbol	Description
	<p>for pastureland is good. Suitable crops are millet, small grains, ryegrass, soybeans, corn, grain sorghum, and truck crops. The main pasture plants are bermudagrass, bahiagrass, and crimson clover. Contour farming or conservation tillage is needed to control runoff and help reduce erosion. Most crops respond well to lime and a complete fertilizer.</p> <p>This soil is moderately sloping and well drained. It is on terraces. The soil is loamy throughout. Natural fertility is low. Permeability is moderate. Runoff is medium. In places, the soil is moderately eroded.</p> <p>Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. They are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.</p>
Ah	<p>RUSTON (AMITE) FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES, ERODED</p> <p>The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.</p> <p>This well drained, gently sloping to moderately sloping soil is on uplands. It is loamy and acid throughout. Natural fertility is low. Runoff is rapid. Movement of air and water through the soil is moderate. Plant roots penetrate the soil easily. In places, the soil is moderately eroded.</p> <p>These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.</p>
Ak	<p>SMITHDALE (AMITE) FINE SANDY LOAM, 8 TO 20 PERCENT SLOPES, ERODED</p> <p>This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover.</p>

Map Symbol	Description
Am	<p>The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.</p> <p>This moderately steep, well drained soil is on uplands. It is moderately eroded. The soil has a thin loamy surface layer and a loamy subsoil. A few gullies cross the landscape. Surface runoff is rapid. Water and air move through the soil at a moderate rate. Natural fertility is low.</p> <p>These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.</p>
	<p>CAHABA (AMITE) FINE SANDY LOAM, THICK SURFACE, 1 TO 5 PERCENT SLOPES</p>
	<p>The potential for cropland is fair and the potential for pastureland is good. Suitable crops are millet, small grains, ryegrass, soybeans, corn, grain sorghum, and truck crops. The main pasture plants are bermudagrass, bahiagrass, and crimson clover. Contour farming or conservation tillage is needed to control runoff and help reduce erosion. Most crops respond well to lime and a complete fertilizer.</p> <p>This soil is moderately sloping and well drained. It is on terraces. The soil is loamy throughout. Natural fertility is low. Permeability is moderate. Runoff is medium. In places, the soil is moderately eroded.</p> <p>Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. They are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.</p>
An	<p>SMITHDALE (AMITE) SOILS, 5 TO 20 PERCENT SLOPES, SEVERELY ERODED</p>
	<p>This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.</p> <p>This well drained, strongly sloping or moderately steep soil is on side slopes on uplands. It is loamy and acid throughout. Natural fertility is low. Runoff is rapid.</p>

Map Symbol	Description
	<p>Movement of water and air through the soil is moderate. In places, the soil is moderately eroded.</p> <p>These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.</p>
B-Ar	<p>ARMISTEAD CLAY</p> <p>This level, somewhat poorly drained soil is on natural levees on the alluvial plain. It has a clayey surface layer and loamy subsoil. Natural fertility is high. Permeability is slow in the surface layer and moderately slow in the subsoil. The soil has a seasonal high water table in winter and spring. The shrink-swell potential is low in the subsoil.</p> <p>Soils in this group are moderately wet, loamy and clayey with a high potential for productivity. Equipment limitations are moderate and seedling mortality is slight to moderate. This is due primarily to excess water. These soils are best suited for southern hardwood. Site index for green ash is 80, cottonwood 110, oaks and sweetgum 90.</p>
B-Be	<p>BETIS LOAMY FINE SAND, 1 TO 5 PERCENT SLOPES</p> <p>The potential for cropland and pastureland is fair. Crops such as watermelons and peanuts are well suited. Suitable pasture plants include bermudagrasses, bahiagrass, and crimson clover. This soil is fairly easy to keep in good tilth. It is easy to work when moist but traction is poor when dry. Proper management of crop residue will help to reduce erosion. Conservation tillage or contour farming is needed when this soil is cropped. Response to fertilizer is fair. Lime is generally needed.</p> <p>The potential for cropland and pastureland is fair. Wetness is the main limitation. Suitable crops are soybeans, corn, truck crops and grain sorghum. Pasture plants are small grains, ryegrass, common bermudagrass, bahiagrass, vetch and tall fescue. Drainage is needed when this soil is cultivated. Drop residue on the surface will reduce erosion, help maintain organic matter and reduce crusting. Most crops respond well to lime and a complete fertilizer.</p> <p>This somewhat excessively drained, very gently sloping or gently sloping, sandy soil is on uplands. It has a</p>

Map Symbol	Description
	<p data-bbox="495 258 1399 342">very low available water capacity and very low natural fertility. Runoff is slow. Water moves rapidly through the soil.</p> <p data-bbox="495 384 1414 562">Soils in this group are well drained and sandy with moderately high potential for productivity. Equipment limitations and seedling mortality are moderate. These soils are best suited for southern pines. Site index for loblolly and slash pine is 80; shortleaf pine is 70.</p>
B-Bu	<p data-bbox="495 604 662 625">BUXIN CLAY</p> <p data-bbox="495 667 1414 909">This somewhat poorly drained, level soil is on flood plains. It formed in Red River alluvium. The soil has a clayey surface layer and a clayey subsoil. Natural fertility is high. Runoff is slow. Water and air move very slowly through the subsoil. A seasonal high water table is near the surface for long periods in winter and spring. The shrink-swell potential is very high in the subsoil.</p> <p data-bbox="495 951 1414 1224">These are wet, clayey soils with a high potential for productivity. Equipment limitations and seedling mortality are severe. This is due primarily to excess water. Silvicultural operations should be restricted to dry weather periods. Only tree species adapted to wet clay soils should be planted. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.</p>
B-Cs	<p data-bbox="495 1266 797 1287">CASPIANA SILT LOAM</p> <p data-bbox="495 1329 1414 1633">The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, grain sorghum, and truck crops. Pasture plants are bermudagrasses, bahiagrass, ryegrass, tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. Land leveling will improve surface drainage. Crop residue management will help reduce soil erosion. Most crops, respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.</p> <p data-bbox="495 1675 1414 1885">This well drained, level soil is on older natural levees on flood plains. It formed in alluvium deposited by the Red River. The soil is loamy throughout and has high natural fertility. Runoff is slow. In places, water collects in low spots for short periods after rains. Water and air move through the subsoil at a moderate rate. Adequate water is available</p>

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to plants in most years.

Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. These soils are best suited for southern hardwoods. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

B-FO FORBING SILT LOAM, 5 TO 12 PERCENT SLOPES

This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.

This moderately well drained, moderately sloping to strongly sloping soil is on side slopes on uplands. It has a loamy surface layer and a clayey subsoil. The soil is acid throughout and has low fertility. Runoff is rapid, and water moves very slowly through the subsoil. The subsoil has a very high shrink-swell potential. In places, the soil is moderately eroded.

These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.

B-Fn FORBING SILT LOAM, 1 TO 5 PERCENT SLOPES

This soil is poorly suited to cropland and moderately well suited to pasture. It is limited mainly by poor tilth, low fertility, and a severe erosion hazard. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. Residue left on or near the surface helps to conserve moisture, maintain tilth, control erosion. Lime and fertilizer are generally needed.

This moderately well drained, very gently sloping to gently sloping soil is on uplands. It has a loamy surface layer and a clayey subsoil. The soil is acid throughout and has low fertility. Runoff is medium, and water moves very slowly through the subsoil. The shrink-swell potential is high or very high in the subsoil. In places, the soil is moderately eroded.

These are well drained to slightly wet, clayey soils

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with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.

B-GR GORE SILT LOAM, 5 TO 12 PERCENT SLOPES

This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.

This moderately well drained, moderately sloping to strongly sloping soil is on side slopes on uplands. It has a loamy surface layer and a clayey subsoil. The soil is acid throughout and has low fertility. Runoff is rapid, and water moves very slowly through the subsoil. The subsoil has a very high shrink-swell potential. In places, the soil is moderately eroded.

These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.

B-GY GUYTON SILT LOAM, FREQUENTLY FLOODED

The potential for cropland is very poor. Flooding is too severe for most crops. The potential for pastureland is poor. Flooding restricts choice of plants. Common bermudagrass and bahiagrass can be grown but grazing time has to be restricted during flood periods.

These poorly drained, level soils are on alluvial plains of streams that drain the uplands. The mapped areas are about 60 percent Guyton soils and 20 percent soils that are better drained. The soils are subject to frequent flooding during any month of the year. They are loamy throughout and have low natural fertility. In most of the soils, a seasonal high water table is near the surface in winter and spring.

This group consists of wet, occasionally to frequently flooded loamy soils with a high potential for productivity. Equipment limitations are severe and seedling mortality is moderate to severe. This is due

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primarily to excess water. These soils are well suited for either southern pine or hardwood. Silvicultural operations should be restricted to dry weather periods. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for loblolly and slash pine is 90, cottonwood 90-100, green ash, water oak and sweetgum 90.

B-Ga GALLION SILT LOAM

The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, grain sorghum, and truck crops. Pasture plants are bermudagrasses, bahiagrass, ryegrass, tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. Land leveling will improve surface drainage. Crop residue management will help reduce soil erosion. Most crops, respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.

This well drained, level or nearly level soil is on older natural levees on the flood plain of streams. It is loamy throughout and has high or moderately high natural fertility. Runoff is slow or medium. Water and air move through the subsoil at a moderate rate. Adequate water is available to plants in most years. The seasonal high water table is generally more than 6 feet below the surface, but in low places, it can rise to within 4 to 6 feet of the soil surface.

Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. These soils are best suited for southern hardwoods. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

B-Ge GALLION SILTY CLAY LOAM

This well drained, level soil is on older natural levees on flood plains. It formed in alluvium deposited by the Red River. The soil is loamy throughout and has high natural fertility. Runoff is slow. In places, water collects in low spots for short periods after rains. Water and air move through the subsoil at a moderate rate. Adequate water is available to plants in most years.

Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. These soils are best suited for southern hardwoods. Site index for green ash is 80,

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cottonwood 100, oaks and sweetgum 90.

B-Go GORE SILT LOAM, 1 TO 5 PERCENT SLOPES

This soil is poorly suited to cropland and moderately well suited to pasture. It is limited mainly by poor tilth, low fertility, and a severe erosion hazard. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. Residue left on or near the surface helps to conserve moisture, maintain tilth, control erosion. Lime and fertilizer are generally needed.

This moderately well drained, very gently sloping to gently sloping soil is on uplands. It has a loamy surface layer and a clayey subsoil. The soil is acid throughout and has low fertility. Runoff is medium, and water moves very slowly through the subsoil. The shrink-swell potential is high or very high in the subsoil. In places, the soil is moderately eroded.

These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.

B-Gu GUYTON SILT LOAM

The potential for cropland and pastureland is fair. Wetness is the main limitation. Suitable crops are soybeans, corn, truck crops and grain sorghum. Pasture plants are small grains, ryegrass, common bermudagrass, bahiagrass, vetch and tall fescue. Drainage is needed when this soil is cultivated. Drop residue on the surface will reduce erosion, help maintain organic matter and reduce crusting. Most crops respond well to lime and a complete fertilizer.

This soil is level and poorly drained. It is subject to rare flooding. The soil is on broad flats and in slightly depressional areas on terraces. Typically, the soil is acid and loamy throughout. Natural fertility is low. Permeability is slow or moderately slow. Water runs off the surface at a slow rate and stands in low places for short to long periods after rains. A seasonal high water table is near the surface for long periods in winter and spring. The shrink-swell potential is low or moderate.

This group consists of wet, occasionally to frequently

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flooded loamy soils with a high potential for productivity. Equipment limitations are severe and seedling mortality is moderate to severe. This is due primarily to excess water. These soils are well suited for either southern pine or hardwood. Silvicultural operations should be restricted to dry weather periods. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for loblolly and slash pine is 90, cottonwood 90-100, green ash, water oak and sweetgum 90.

B-Ke KEITHVILLE SILT LOAM, 1 TO 5 PERCENT SLOPES

The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.

This is a moderately well drained, gently sloping soil on uplands. It is loamy in the surface layer and in the upper part of the subsoil. The lower part of the subsoil is clayey. Natural fertility is low. Permeability is slow or very slow through the lower part of the subsoil. Runoff is medium. The soil has a seasonal high water table. It has a high shrink-swell potential in the subsoil.

These are slightly wet, loamy soils with a high potential for productivity. Equipment limitations are moderate due primarily to excess water. Soils in this group are best suited for either southern pines or hardwood. Site index for loblolly and slash pine is 80, oaks and sweetgum is 80.

B-Ko KOLIN SILT LOAM, 1 TO 3 PERCENT SLOPES

The potential for cropland is fair and the potential for pastureland is good. Suitable crops are millet, small grains, ryegrass, soybeans, corn, grain sorghum, and truck crops. The main pasture plants are bermudagrass, bahiagrass, and crimson clover. Contour farming or conservation tillage is needed to control runoff and help reduce erosion. Most crops respond well to lime and a complete fertilizer.

This moderately well drained, very gently sloping or gently sloping soil is on terraces. It is loamy in the

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upper part of the subsoil and clayey in the lower part. Natural fertility is low or moderately low. Runoff is slow to medium. Water and air move slowly or very slowly through the clayey part of the subsoil. A seasonal high water table is perched on the clayey subsoil for long periods in winter and spring. In places, the soil is moderately eroded.

These are slightly wet, loamy soils with a high potential for productivity. Equipment limitations are moderate due primarily to excess water. Soils in this group are best suited for either southern pines or hardwood. Site index for loblolly and slash pine is 80, oaks and sweetgum is 80.

B-MK MCKAMIE SILT LOAM, 5 TO 12 PERCENT SLOPES

This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.

This well drained, moderately sloping to strongly sloping soil is on uplands. It has a loamy or gravelly surface layer and a clayey subsoil. Natural fertility is low. Runoff is rapid. Water and air move very slowly through the subsoil. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.

These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.

B-Ma MALBIS FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES

This moderately well drained, very gently sloping to gently sloping soil is on uplands. It is loamy throughout and has plinthite in the lower part of the subsoil. Natural fertility is low. Runoff is medium, and water and air move moderately slowly through the soil.

These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90

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and shortleaf pine is 80.

B-Mc MCKAMIE SILT LOAM, 1 TO 5 PERCENT SLOPES

The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.

The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, and grain sorghum. Pasture plants are bermudagrasses, bahiagrass, ryegrass tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. A drainage system is generally needed to remove excess surface water. Crop residue management will reduce erosion. Most crops respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.

This well drained, very gently sloping to gently sloping soil is on uplands. It has a loamy surface layer and a clayey subsoil. Natural fertility is low. Runoff is medium. Water and air move very slowly through the subsoil. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.

These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.

B-Me METCALF SILT LOAM

This nearly level, somewhat poorly drained soil is on broad ridgetops on uplands. It has a loamy surface layer. The subsoil is loamy in the upper part and clayey in the lower part. Natural fertility is low. The soil has a seasonal high water table. It has a high shrink-swell potential in the subsoil. Permeability is very slow. Surface runoff is medium.

These are slightly to moderately wet, acid, loamy and clayey soils. The potential for productivity is high.

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Equipment limitations are moderate due to excess water. Silvicultural operations should be restricted to dry weather periods. These soils are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.

B-Mo MORELAND CLAY

The potential for cropland and pastureland is good. Suitable crops are soybeans, cotton, grain sorghum, and rice. Pasture plants are common bermudagrass, bahiagrass, ryegrass, tall fescue, and white clover. This soil can be worked only within a narrow range of moisture content. A drainage system is needed. Crop residue management will help reduce erosion. Most crops, respond well to nitrogen. Lime and other fertilizers generally are not needed.

This somewhat poorly drained, level soil is on flood plains. It formed in Red River alluvium. The soil has a clayey surface layer and a clayey subsoil. Natural fertility is high. Runoff is slow. Water and air move very slowly through the subsoil. A seasonal high water table is near the surface for long periods in winter and spring. The shrink-swell potential is very high in the subsoil.

These are wet, clayey soils with a high potential for productivity. Equipment limitations and seedling mortality are severe. This is due primarily to excess water. Silvicultural operations should be restricted to dry weather periods. Only tree species adapted to wet clay soils should be planted. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

B-Pe PERRY SILTY CLAY

This nearly level, poorly drained, clayey soil is on the alluvial plain along the Boeuf River. It is clayey throughout the profile. Natural fertility is moderately low. Surface runoff is slow to very slow. Water and air move very slowly through the soil. A seasonal high water table ranges from near the surface to 2 feet below the surface during December through April. The shrink-swell potential is very high. Deep cracks form when the soil is dry and close when it is wet. Slopes are less than 1 percent.

These are wet, clayey soils with a high potential for productivity. Equipment limitations and seedling

Map Symbol	Description
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mortality are severe. This is due primarily to excess water. Silvicultural operations should be restricted to dry weather periods. Only tree species adapted to wet clay soils should be planted. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

B-Rs RUSTON FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES

The potential for cropland is fair and the potential for pastureland is good. Suitable crops are millet, small grains, ryegrass, soybeans, corn, grain sorghum, and truck crops. The main pasture plants are bermudagrass, bahiagrass, and crimson clover. Contour farming or conservation tillage is needed to control runoff and help reduce erosion. Most crops respond well to lime and a complete fertilizer.

This well drained, very gently sloping to gently sloping soil is on uplands. It is loamy and acid throughout. Natural fertility is low. Runoff is medium. Water and air move through the soil at a moderate rate. Plant roots penetrate this soil easily. The soil dries quickly after rains. In places, the soil is moderately eroded.

These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.

B-SC SACUL FINE SANDY LOAM, 5 TO 12 PERCENT SLOPES

This soil is poorly suited to cropland and moderately well suited to pasture. It is limited mainly by poor tilth, low fertility, and a severe erosion hazard. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. Residue left on or near the surface helps to conserve moisture, maintain tilth, control erosion. Lime and fertilizer are generally needed.

This moderately well drained, moderately sloping to strongly sloping soil is on side slopes on uplands. It has a loamy surface layer and a clayey subsoil. Runoff is rapid. Water and air move slowly or very slowly through the subsoil. The soil is acid throughout and has low fertility. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.

Map Symbol	Description
	<p>These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.</p>
B-SM	<p>SMITHDALE FINE SANDY LOAM, 8 TO 30 PERCENT SLOPES</p> <p>This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.</p> <p>This well drained, strongly sloping or moderately steep soil is on side slopes on uplands. It is loamy and acid throughout. Natural fertility is low. Runoff is rapid. Movement of water and air through the soil is moderate. In places, the soil is moderately eroded.</p> <p>These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.</p>
B-Sa	<p>SACUL FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES</p> <p>The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.</p> <p>This moderately well drained, gently sloping soil is on ridgetops on uplands. It has a loamy surface layer and a clayey subsoil. Runoff is medium. Water and air move slowly or very slowly through the subsoil. The soil is acid throughout and has low fertility. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.</p> <p>These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils</p>

Map Symbol	Description
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are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.

B-Wr WRIGHTSVILLE SILT LOAM

The potential for cropland and pastureland is fair. Wetness is the main limitation. Suitable crops are soybeans, corn, truck crops and grain sorghum. Pasture plants are small grains, ryegrass, common bermudagrass, bahiagrass, vetch and tall fescue. Drainage is needed when this soil is cultivated. Drop residue on the surface will reduce erosion, help maintain organic matter and reduce crusting. Most crops respond well to lime and a complete fertilizer.

This poorly drained, level soil is in depressional areas along drainageways on uplands. It has a loamy surface layer and a clayey subsoil. Natural fertility is low. Runoff is slow, and water moves very slowly through the soil. This soil is wet during much of winter and spring. The subsoil has a high shrink-swell potential.

Soils in this group are wet and clayey with a moderately high potential for productivity. Equipment limitations are severe and seedling mortality is moderate. This is due primarily to excess water, silvicultural operations should be restricted to dry weather periods. These soils are suited to either southern pines or hardwood. Site index for loblolly and slash pines is 80, oaks and sweetgum 80.

B-YK YORKTOWN SILTY CLAY

This soil is unsuited for cropland or pastureland.

This level, very poorly drained soil is in low backswamps on flood plains. It is ponded or frequently flooded most of the time. The soil is clayey throughout. Natural fertility is high. Permeability is very slow. The soil has a very high shrink-swell potential.

Soils in this group are very wet, mineral and organic. The water table is at or above the surface most of the time. They have a moderate potential for productivity. Equipment limitations and seedling mortality are severe. This is due primarily to excess water. The nature of these soils will dictate that silvicultural operations be limited to extremely dry weather periods, if at all. More seedlings than the recommended rate should be planted to ensure a stand. These soils are

Map Symbol	Description
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best suited for water tolerant hardwoods and cypress.
Site index for green ash and water tupelo is 60.

Bb GUYTON AND IUKA (BIBB) SILT LOAMS

The potential for cropland is very poor. Flooding is too severe for most crops. The potential for pastureland is poor. Flooding restricts choice of plants. Common bermudagrass and bahiagrass can be grown but grazing time has to be restricted during flood periods.

These level soils are on narrow flood plains. They are subject to frequent flooding. The poorly drained Guyton soil is in low areas. The moderately well drained Iuka soil is on ridges and natural levees. The Guyton soil is loamy throughout. It has slow permeability. The Iuka soil has a loamy surface layer and a sandy and loamy underlying material. Both soils have a seasonal high water table in winter and spring. Natural fertility is low.

These are wet soils with a very high potential for productivity. Equipment limitations are moderate and seedling mortality is slight to moderate. Silvicultural operations should be restricted to dry weather periods. These soils are suited for either southern pines or hardwood. Site index for loblolly and slash pine is 100, cottonwood 100-110, oaks and sweetgum 100.

This group consists of wet, occasionally to frequently flooded loamy soils with a high potential for productivity. Equipment limitations are severe and seedling mortality is moderate to severe. This is due primarily to excess water. These soils are well suited for either southern pine or hardwood. Silvicultural operations should be restricted to dry weather periods. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for loblolly and slash pine is 90, cottonwood 90-100, green ash, water oak and sweetgum 90.

Bc GUYTON AND IUKA (BIBB,MYATT,STOUGH) SILT LOAMS,
OVERFLOW

The potential for cropland is very poor. Flooding is too severe for most crops. The potential for pastureland is poor. Flooding restricts choice of plants. Common bermudagrass and bahiagrass can be grown but grazing time has to be restricted during flood periods.

Map Symbol	Description
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These level soils are on narrow flood plains. They are subject to frequent flooding. The poorly drained Guyton soil is in low areas. The moderately well drained Iuka soil is on ridges and natural levees. The Guyton soil is loamy throughout. It has slow permeability. The Iuka soil has a loamy surface layer and a sandy and loamy underlying material. Both soils have a seasonal high water table in winter and spring. Natural fertility is low.

These are wet soils with a very high potential for productivity. Equipment limitations are moderate and seedling mortality is slight to moderate. Silvicultural operations should be restricted to dry weather periods. These soils are suited for either southern pines or hardwood. Site index for loblolly and slash pine is 100, cottonwood 100-110, oaks and sweetwum 100.

This group consists of wet, occasionally to frequently flooded loamy soils with a high potential for productivity. Equipment limitations are severe and seedling mortality is moderate to severe. This is due primarily to excess water. These soils are well suited for either southern pine or hardwood. Silvicultural operations should be restricted to dry weather periods. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for loblolly and slash pine is 90, cottonwood 90-100, green ash, water oak and sweetgum 90.

Bd SACUL (BOSWELL) FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES, ERODED

The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.

This moderately well drained, gently sloping soil is on ridgetops on uplands. It has a loamy surface layer and a clayey subsoil. Runoff is medium. Water and air move slowly or very slowly through the subsoil. The soil is acid throughout and has low fertility. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.

Map Symbol	Description
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These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.

Be SACUL (BOSWELL) FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES, ERODED

This soil is poorly suited to cropland and moderately well suited to pasture. It is limited mainly by poor tilth, low fertility, and a severe erosion hazard. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. Residue left on or near the surface helps to conserve moisture, maintain tilth, control erosion. Lime and fertilizer are generally needed.

This moderately well drained, moderately sloping to strongly sloping soil is on side slopes on uplands. It has a loamy surface layer and a clayey subsoil. Runoff is rapid. Water and air move slowly or very slowly through the subsoil. The soil is acid throughout and has low fertility. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.

These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.

Bf SACUL (BOSWELL) FINE SANDY LOAM, 8 TO 20 PERCENT SLOPES, ERODED

This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.

This moderately steep, moderately well drained soil is on uplands. It is moderately eroded. A few gullies cross the landscape. The soil has a thin loamy surface layer and a loamy and clayey subsoil. Water and air move through the soil at a slow rate. Surface runoff is rapid. Natural fertility is low. The shrink-swell potential in the subsoil is high.

Map Symbol	Description
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These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.

Bg SACUL (BOSWELL) SANDY CLAY, 5 TO 8 PERCENT SLOPES, SEVERELY ERODED

This soil is poorly suited to cropland and moderately well suited to pasture. It is limited mainly by poor tilth, low fertility, and a severe erosion hazard. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. Residue left on or near the surface helps to conserve moisture, maintain tilth, control erosion. Lime and fertilizer are generally needed.

This moderately sloping, moderately well drained soil is on uplands. It is severely eroded. Numerous shallow gullies cross the landscape. The soil either has a very thin loamy surface layer, or it has no surface layer. The subsoil is loamy and clayey. Surface runoff is medium. Water and air move through the soil slowly. The shrink-swell potential in the subsoil is high. Natural fertility is low.

These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.

Bh BUXIN CLAY, 0 TO 1 PERCENT SLOPES

The potential for cropland and pastureland is good. Suitable crops are soybeans, cotton, grain sorghum, and rice. Pasture plants are common bermudagrass, bahiagrass, ryegrass, tall fescue, and white clover. This soil can be worked only within a narrow range of moisture content. A drainage system is needed. Crop residue management will help reduce erosion. Most crops, respond well to nitrogen. Lime and other fertilizers generally are not needed.

This somewhat poorly drained, level soil is on flood plains. It formed in Red River alluvium. The soil has a clayey surface layer and a clayey subsoil. Natural fertility is high. Runoff is slow. Water and air move

Map Symbol	Description
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very slowly through the subsoil. A seasonal high water table is near the surface for long periods in winter and spring. The shrink-swell potential is very high in the subsoil.

These are wet, clayey soils with a high potential for productivity. Equipment limitations and seedling mortality are severe. This is due primarily to excess water. Silvicultural operations should be restricted to dry weather periods. Only tree species adapted to wet clay soils should be planted. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

Bk BUXIN CLAY, 1 TO 3 PERCENT SLOPES

The potential for cropland and pastureland is good. Suitable crops are soybeans, cotton, grain sorghum, and rice. Pasture plants are common bermudagrass, bahiagrass, ryegrass, tall fescue, and white clover. This soil can be worked only within a narrow range of moisture content. A drainage system is needed. Crop residue management will help reduce erosion. Most crops, respond well to nitrogen. Lime and other fertilizers generally are not needed.

This somewhat poorly drained, clayey soil is on short irregular slopes in a ridge-and-swale topography on the flood plain. The soil is clayey throughout. Natural fertility is medium or high. Runoff is medium on the ridges. Water accumulates for short periods in the swales after rains. A seasonal high water table is near the surface in winter and spring. This soil has a very high shrink-swell potential.

These are wet, clayey soils with a high potential for productivity. Equipment limitations and seedling mortality are severe. This is due primarily to excess water. Silvicultural operations should be restricted to dry weather periods. Only tree species adapted to wet clay soils should be planted. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

Bm BUXIN CLAY, UNDULATING

The potential for cropland and pastureland is fair. Wetness is the main limitation. Suitable crops are soybeans, corn, truck crops and grain sorghum. Pasture plants are small grains, ryegrass, common bermudagrass,

Map Symbol	Description
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bahiagrass, vetch and tall fescue. Drainage is needed when this soil is cultivated. Drop residue on the surface will reduce erosion, help maintain organic matter and reduce crusting. Most crops respond well to lime and a complete fertilizer.

This somewhat poorly drained, clayey soil is on short irregular slopes in a ridge-and-swale topography on the flood plain. The soil is clayey throughout. Natural fertility is medium or high. Runoff is medium on the ridges. Water accumulates for short periods in the swales after rains. A seasonal high water table is near the surface in winter and spring. This soil has a very high shrink-swell potential.

These are wet, clayey soils with a high potential for productivity. Equipment limitations and seedling mortality are severe. This is due primarily to excess water. Silvicultural operations should be restricted to dry weather periods. Only tree species adapted to wet clay soils should be planted. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

Bn BUXIN COMPLEX, 0 TO 3 PERCENT SLOPES

The potential for cropland and pastureland is fair. Wetness is the main limitation. Suitable crops are soybeans, corn, truck crops and grain sorghum. Pasture plants are small grains, ryegrass, common bermudagrass, bahiagrass, vetch and tall fescue. Drainage is needed when this soil is cultivated. Drop residue on the surface will reduce erosion, help maintain organic matter and reduce crusting. Most crops respond well to lime and a complete fertilizer.

This somewhat poorly drained, clayey soil is on short irregular slopes in a ridge-and-swale topography on the flood plain. The soil is clayey throughout. Natural fertility is medium or high. Runoff is medium on the ridges. Water accumulates for short periods in the swales after rains. A seasonal high water table is near the surface in winter and spring. This soil has a very high shrink-swell potential.

These are wet, clayey soils with a high potential for productivity. Equipment limitations and seedling mortality are severe. This is due primarily to excess water. Silvicultural operations should be restricted to dry weather periods. Only tree species adapted to wet clay soils should be planted. Plant more seedlings

Map Symbol	Description
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than the recommended rate on these soils to ensure a stand. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

Bo BUXIN COMPLEX, OVERFLOW, 0 TO 3 PERCENT SLOPES

The potential for cropland is very poor. Flooding is too severe for most crops. The potential for pastureland is poor. Flooding restricts choice of plants. Common bermudagrass and bahiagrass can be grown but grazing time has to be restricted during flood periods.

This somewhat poorly drained, level soil is on the flood plain of the Red River. It is subject to frequent flooding for long periods. The soil is clayey throughout. Natural fertility is high. A seasonal high water table is near the surface in winter and spring. Water and air move very slowly through the soil. Cracks form when the soil dries. The soil has a very high shrink-swell potential.

These are wet, clayey soils with a high potential for productivity. Equipment limitations and seedling mortality are severe. This is due primarily to excess water. Silvicultural operations should be restricted to dry weather periods. Only tree species adapted to wet clay soils should be planted. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

Bu BUXIN SILTY CLAY LOAM, 0 TO 1 PERCENT SLOPES

The potential for cropland and pastureland is fair. Wetness is the main limitation. Suitable crops are soybeans, corn, truck crops and grain sorghum. Pasture plants are small grains, ryegrass, common bermudagrass, bahiagrass, vetch and tall fescue. Drainage is needed when this soil is cultivated. Drop residue on the surface will reduce erosion, help maintain organic matter and reduce crusting. Most crops respond well to lime and a complete fertilizer.

This somewhat poorly drained, level soil is on the flood plain of the Red River. It has a loamy surface layer and a clayey subsoil. Natural fertility is high. Runoff is slow. Water and air move very slowly through the subsoil. A seasonal high water table is near the surface for long periods in winter and spring. The shrink-swell potential is very high in the subsoil.

Map Symbol	Description
Ca	<p>These are wet, clayey soils with a high potential for productivity. Equipment limitations and seedling mortality are severe. This is due primarily to excess water. Silvicultural operations should be restricted to dry weather periods. Only tree species adapted to wet clay soils should be planted. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.</p> <p>CAHABA FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES</p> <p>The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, grain sorghum, and truck crops. Pasture plants are bermudagrasses, bahiagrass, ryegrass, tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. Land leveling will improve surface drainage. Crop residue management will help reduce soil erosion. Most crops, respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.</p> <p>This soil is moderately sloping and well drained. It is on terraces. The soil is loamy throughout. Natural fertility is low. Permeability is moderate. Runoff is medium. In places, the soil is moderately eroded.</p> <p>Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. They are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.</p>
Cb	<p>CAHABA FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES, ERODED</p> <p>The potential for cropland is fair and the potential for pastureland is good. Suitable crops are millet, small grains, ryegrass, soybeans, corn, grain sorghum, and truck crops. The main pasture plants are bermudagrass, bahiagrass, and crimson clover. Contour farming or conservation tillage is needed to control runoff and help reduce erosion. Most crops respond well to lime and a complete fertilizer.</p> <p>This soil is moderately sloping and well drained. It is on terraces. The soil is loamy throughout. Natural fertility is low. Permeability is moderate. Runoff is medium. In places, the soil is moderately eroded.</p> <p>Soils in this group are well drained and loamy with a high potential for productivity. There are no serious</p>

Map Symbol	Description
Cc	<p>management problems. They are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.</p> <p>CAHABA FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES, ERODED</p> <p>The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.</p> <p>This moderately sloping, well drained soil is on terraces. It is moderately eroded. Numerous shallow gullies cross the landscape. The soil is loamy throughout. Water and air move through the soil at a moderate rate. Surface runoff is medium. Natural fertility is low.</p> <p>Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. They are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.</p>
Cd	<p>CAHABA VERY FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES, ERODED</p> <p>The potential for cropland is fair and the potential for pastureland is good. Suitable crops are millet, small grains, ryegrass, soybeans, corn, grain sorghum, and truck crops. The main pasture plants are bermudagrass, bahiagrass, and crimson clover. Contour farming or conservation tillage is needed to control runoff and help reduce erosion. Most crops respond well to lime and a complete fertilizer.</p> <p>This soil is moderately sloping and well drained. It is on terraces. The soil is loamy throughout. Natural fertility is low. Permeability is moderate. Runoff is medium. In places, the soil is moderately eroded.</p> <p>Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. They are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.</p>

Map Symbol	Description
Cf	<p>CAHABA (AND KALMIA) VERY FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES</p> <p>These gently sloping soils are on terraces. The soils are well drained or moderately well drained. Both soils are loamy throughout. In places, the soils have a sandy surface layer. Water and air move through the soils at a moderate or moderately slow rate. Surface runoff is medium. Natural fertility is low.</p> <p>Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. They are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.</p>
Ct	<p>CAHABA-SHATTA (TILDEN) VERY FINE SANDY LOAMS, 1 TO 5 PERCENT SLOPES</p> <p>The potential for cropland is fair and the potential for pastureland is good. Suitable crops are millet, small grains, ryegrass, soybeans, corn, grain sorghum, and truck crops. The main pasture plants are bermudagrass, bahiagrass, and crimson clover. Contour farming or conservation tillage is needed to control runoff and help reduce erosion. Most crops respond well to lime and a complete fertilizer.</p> <p>These gently sloping soils are on terraces. The soils are well drained or moderately well drained. Both soils are loamy throughout. In places, the soils have a sandy surface layer. Water and air move through the soils at a moderate or moderately slow rate. Surface runoff is medium. Natural fertility is low.</p> <p>Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. They are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.</p>
Cy	<p>UNA (CHASTAIN) CLAY</p> <p>The potential for cropland is very poor. Flooding is too severe for most crops. The potential for pastureland is poor. Flooding restricts choice of plants. Common bermudagrass and bahiagrass can be grown but grazing time has to be restricted during flood periods.</p> <p>This level, poorly drained soil is on flood plains. It is subject to frequent flooding. The soil is clayey</p>

Map Symbol	Description
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throughout, or it has a loamy surface layer and a clayey subsoil. Permeability is very slow. Natural fertility is medium. The soil has a seasonal high water table for long periods in winter and spring. The shrink-swell potential is high.

This group consists of wet, occasionally to frequently flooded loamy soils with a high potential for productivity. Equipment limitations are severe and seedling mortality is moderate to severe. This is due primarily to excess water. These soils are well suited for either southern pine or hardwood. Silvicultural operations should be restricted to dry weather periods. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for loblolly and slash pine is 90, cottonwood 90-100, green ash, water oak and sweetgum 90.

Ga ARMISTEAD (GALLION) CLAY, OVERWASH, 0 TO 1 PERCENT SLOPES

This level, somewhat poorly drained soil is on natural levees on the alluvial plain. It has a clayey surface layer and loamy subsoil. Natural fertility is high. Permeability is slow in the surface layer and moderately slow in the subsoil. The soil has a seasonal high water table in winter and spring. The shrink-swell potential is low in the subsoil.

Soils in this group are moderately wet, loamy and clayey with a high potential for productivity. Equipment limitations are moderate and seedling mortality is slight to moderate. This is due primarily to excess water. These soils are best suited for southern hardwood. Site index for green ash is 80, cottonwood 110, oaks and sweetgum 90.

Gb ARMISTEAD (GALLION) CLAY, OVERWASH, 1 TO 3 PERCENT SLOPES

This very gently sloping, well drained soil is on old natural levees on alluvial plains. The surface layer is clayey, and the subsoil is loamy. Water and air move at a slow rate through the surface layer and at a moderate rate through the subsoil. Surface runoff is medium. Natural fertility is medium or high.

Soils in this group are moderately wet, loamy and clayey with a high potential for productivity. Equipment limitations are moderate and seedling mortality is slight to moderate. This is due primarily to excess water. These soils are best suited for

Map Symbol	Description
	southern hardwood. Site index for green ash is 80, cottonwood 110, oaks and sweetgum 90.
Gc	<p>ARMISTEAD (GALLION) CLAY, OVERWASH, UNDULATING</p> <p>The potential for cropland and pastureland is fair. Wetness is the main limitation. Suitable crops are soybeans, corn, truck crops and grain sorghum. Pasture plants are small grains, ryegrass, common bermudagrass, bahiagrass, vetch and tall fescue. Drainage is needed when this soil is cultivated. Drop residue on the surface will reduce erosion, help maintain organic matter and reduce crusting. Most crops respond well to lime and a complete fertilizer.</p> <p>The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, and grain sorghum. Pasture plants are bermudagrasses, bahiagrass, ryegrass tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. A drainage system is generally needed to remove excess surface water. Crop residue management will reduce erosion. Most crops respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.</p> <p>This gently undulating soil is on alluvial plains. It has uneven, complex slopes of 0 to 3 percent. The landscape is narrow winding ridges and swales. Surface runoff is medium on the ridges and very slow in the swales. The soil in swales remains wet for long periods after rains. The soil has a clayey surface layer and a loamy subsoil. Water and air move slowly through the surface layer, and they move at a moderate rate through the subsoil. Natural fertility is medium or high.</p> <p>Soils in this group are moderately wet, loamy and clayey with a high potential for productivity. Equipment limitations are moderate and seedling mortality is slight to moderate. This is due primarily to excess water. These soils are best suited for southern hardwood. Site index for green ash is 80, cottonwood 110, oaks and sweetgum 90.</p>
Gd	<p>GALLION SILT LOAM, 0 TO 1 PERCENT SLOPES</p> <p>The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, grain sorghum, and truck crops. Pasture plants are bermudagrasses, bahiagrass, ryegrass, tall fescue, and white clover. Traffic pans develop easily, but can be</p>

Map Symbol	Description
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broken by chiseling or deep plowing. Land leveling will improve surface drainage. Crop residue management will help reduce soil erosion. Most crops, respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.

This well drained, level or nearly level soil is on older natural levees on the flood plain of streams. It is loamy throughout and has high or moderately high natural fertility. Runoff is slow or medium. Water and air move through the subsoil at a moderate rate. Adequate water is available to plants in most years. The seasonal high water table is generally more than 6 feet below the surface, but in low places, it can rise to within 4 to 6 feet of the soil surface.

Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. These soils are best suited for southern hardwoods. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

Gg GALLION SILT LOAM, 1 TO 3 PERCENT SLOPES

The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, grain sorghum, and truck crops. Pasture plants are tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. Proper row direction is needed to help control erosion. Crop residue management will also help reduce erosion. Most crops respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.

This very gently sloping or gently sloping, well drained soil is on side slopes on old natural levees on the alluvial plain. The soil is loamy throughout. Natural fertility is medium or high. Water and air move through the soil at a moderate rate. Surface runoff is medium.

Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. These soils are best suited for southern hardwoods. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

Gh GALLION SILT LOAM, 3 TO 5 PERCENT SLOPES

The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn,

Map Symbol	Description
	<p>grain sorghum, and truck crops. Pasture plants are tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. Proper row direction is needed to help control erosion. Crop residue management will also help reduce erosion. Most crops respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.</p> <p>This very gently sloping or gently sloping, well drained soil is on side slopes on old natural levees on the alluvial plain. The soil is loamy throughout. Natural fertility is medium or high. Water and air move through the soil at a moderate rate. Surface runoff is medium.</p> <p>Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. These soils are best suited for southern hardwoods. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.</p>
Gk	<p>GALLION SILTY CLAY LOAM, 0 TO 1 PERCENT SLOPES</p> <p>The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, and grain sorghum. Pasture plants are bermudagrasses, bahiagrass, ryegrass tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. A drainage system is generally needed to remove excess surface water. Crop residue management will reduce erosion. Most crops respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.</p> <p>This well drained, level soil is on older natural levees on flood plains. It formed in alluvium deposited by the Red River. The soil is loamy throughout and has high natural fertility. Runoff is slow. In places, water collects in low spots for short periods after rains. Water and air move through the subsoil at a moderate rate. Adequate water is available to plants in most years.</p> <p>Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. These soils are best suited for southern hardwoods. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.</p>

Map Symbol	Description
Gm	GALLION-ARMISTEAD SOILS, MOUNDED, 0 TO 1 PERCENT SLOPES

The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, grain sorghum, and truck crops. Pasture plants are bermudagrasses, bahiagrass, ryegrass, tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. Land leveling will improve surface drainage. Crop residue management will help reduce soil erosion. Most crops, respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.

These nearly level, well drained and somewhat poorly drained soils are on old natural levees on alluvial plains. The Gallion soil is on ridges and mounds and the Armistead soil is in low areas between the ridges and mounds. In most areas, the ridges and mounds have been smoothed for farming. The Gallion soil is loamy throughout. The Armistead soil has a clayey surface layer and a loamy subsoil. Water and air move through the subsoils at a moderate rate. Surface runoff is slow. Natural fertility is medium or high.

Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. These soils are best suited for southern hardwoods. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

Soils in this group are moderately wet, loamy and clayey with a high potential for productivity. Equipment limitations are moderate and seedling mortality is slight to moderate. This is due primarily to excess water. These soils are best suited for southern hardwood. Site index for green ash is 80, cottonwood 110, oaks and sweetgum 90.

Go GORE, MCKAMIE, AND FORBING (HORTMAN) SOILS, 1 TO 20 PERCENT SLOPES, SEVERELY ERODED

This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.

These gently sloping to moderately steep soils are on side slopes on terrace uplands. The soils are severely eroded. Numerous gullies cross most areas. The soils have a thin loamy surface layer and a clayey subsoil.

Map Symbol	Description
Gr	<p>Water and air move through the subsoils very slowly. Surface runoff is medium to rapid. Natural fertility is low.</p> <p>These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.</p> <p>GORE VERY FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES</p> <p>This soil is poorly suited to cropland and moderately well suited to pasture. It is limited mainly by poor tilth, low fertility, and a severe erosion hazard. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. Residue left on or near the surface helps to conserve moisture, maintain tilth, control erosion. Lime and fertilizer are generally needed.</p> <p>This moderately well drained, very gently sloping to gently sloping soil is on uplands. It has a loamy surface layer and a clayey subsoil. The soil is acid throughout and has low fertility. Runoff is medium, and water moves very slowly through the subsoil. The shrink-swell potential is high or very high in the subsoil. In places, the soil is moderately eroded.</p> <p>These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.</p>
Gs	<p>GORE VERY FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES, ERODED</p> <p>This soil is poorly suited to cropland and moderately well suited to pasture. It is limited mainly by poor tilth, low fertility, and a severe erosion hazard. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. Residue left on or near the surface helps to conserve moisture, maintain tilth, control erosion. Lime and fertilizer are generally needed.</p> <p>This moderately well drained, very gently sloping to gently sloping soil is on uplands. It has a loamy surface layer and a clayey subsoil. The soil is acid</p>

Map Symbol	Description
Gv	<p data-bbox="496 258 1417 380">throughout and has low fertility. Runoff is medium, and water moves very slowly through the subsoil. The shrink-swell potential is high or very high in the subsoil. In places, the soil is moderately eroded.</p> <p data-bbox="496 415 1417 600">These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.</p> <p data-bbox="496 636 1330 693">GORE VERY FINE SANDY LOAM, 5 TO 16 PERCENT SLOPES, ERODED</p> <p data-bbox="496 728 1417 913">This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.</p> <p data-bbox="496 949 1401 1167">This moderately well drained, moderately sloping to strongly sloping soil is on side slopes on uplands. It has a loamy surface layer and a clayey subsoil. Runoff is rapid. Water and air move slowly or very slowly through the subsoil. The soil is acid throughout and has low fertility. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.</p> <p data-bbox="496 1203 1417 1388">These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.</p>
Ha	<p data-bbox="496 1423 1349 1451">HANNAHATCHEE FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES</p> <p data-bbox="496 1486 1417 1797">The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, grain sorghum, and truck crops. Pasture plants are tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. Proper row direction is needed to help control erosion. Crop residue management will also help reduce erosion. Most crops respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.</p> <p data-bbox="496 1833 1365 1890">This nearly level, well drained or moderately well drained soil is on narrow stream bottoms and fanlike</p>

Map Symbol	Description
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foot slopes. It is subject to occasional or frequent flooding for brief periods. The soil is loamy throughout. Water and air move through the soil at a moderate rate. Natural fertility is low.

These soils are well drained, loamy soils with a very high potential for productivity. There are no serious management problems. These soils are suited for either southern pines or hardwood. Site index for green ash is 100, cotton wood 110-120, oak and sweetgum 100, loblolly and slash pine 90-110.

Hn GORE (HORTMAN) VERY FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES, ERODED

This soil is poorly suited to cropland and moderately well suited to pasture. It is limited mainly by poor tilth, low fertility, and a severe erosion hazard. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. Residue left on or near the surface helps to conserve moisture, maintain tilth, control erosion. Lime and fertilizer are generally needed.

This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.

This moderately well drained, very gently sloping to gently sloping soil is on uplands. It has a loamy surface layer and a clayey subsoil. The soil is acid throughout and has low fertility. Runoff is medium, and water moves very slowly through the subsoil. The shrink-swell potential is high or very high in the subsoil. In places, the soil is moderately eroded.

These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.

Hr GORE (HORTMAN) VERY FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES, ERODED

This moderately well drained, moderately sloping to strongly sloping soil is on side slopes on uplands. It has a loamy surface layer and a clayey subsoil. The

Map Symbol	Description
Hs	<p>soil is acid throughout and has low fertility. Runoff is rapid, and water moves very slowly through the subsoil. The subsoil has a very high shrink-swell potential. In places, the soil is moderately eroded.</p> <p>These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.</p> <p>BETIS (HUCKABEE) LOAMY FINE SAND, 1 TO 5 PERCENT SLOPES</p>
Hu	<p>The potential for cropland and pastureland is fair. Crops such as watermelons and peanuts are well suited. Suitable pasture plants include bermudagrasses, bahiagrass, and crimson clover. This soil is fairly easy to keep in good tilth. It is easy to work when moist but traction is poor when dry. Proper management of crop residue will help to reduce erosion. Conservation tillage or contour farming is needed when this soil is cropped. Response to fertilizer is fair. Lime is generally needed.</p> <p>This somewhat excessively drained, very gently sloping or gently sloping, sandy soil is on uplands. It has a very low available water capacity and very low natural fertility. Runoff is slow. Water moves rapidly through the soil.</p> <p>Soils in this group are well drained and sandy with moderately high potential for productivity. Equipment limitations and seedling mortality are moderate. These soils are best suited for southern pines. Site index for loblolly and slash pine is 80; shortleaf pine is 70.</p> <p>BETIS (HUCKABEE) LOAMY FINE SAND, 5 TO 20 PERCENT SLOPES</p>

Map Symbol	Description
	for loblolly and slash pine is 80; shortleaf pine is 70.
In	<p>BIENVILLE (INDEPENDENCE) LOAMY FINE SAND, 0 TO 1 PERCENT SLOPES</p> <p>This very gently sloping or gently sloping, somewhat excessively drained soil is on low stream terraces. It is sandy throughout. Permeability is moderately rapid. The available water capacity is low or very low. Natural fertility is low. The soil has a seasonal high water table in winter and spring.</p> <p>Soils in this group are well drained and sandy with a high potential for productivity. Equipment limitations and seedling mortality are moderate. They are best suited for southern pines. Site index for loblolly and slash pine is 90, shortleaf 80.</p>
Ka	<p>CAHABA (KALMIA) VERY FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES</p> <p>The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, grain sorghum, and truck crops. Pasture plants are bermudagrasses, bahiagrass, ryegrass, tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. Land leveling will improve surface drainage. Crop residue management will help reduce soil erosion. Most crops, respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.</p> <p>This soil is moderately sloping and well drained. It is on terraces. The soil is loamy throughout. Natural fertility is low. Permeability is moderate. Runoff is medium. In places, the soil is moderately eroded.</p> <p>Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. They are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.</p>
Kr	<p>MAHAN (KIRVIN) FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES, ERODED</p> <p>The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for</p>

Map Symbol	Description
	<p>cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.</p> <p>This well drained, very gently sloping to gently sloping soil is on uplands. It has a loamy surface layer and a clayey subsoil. Natural fertility is low. Runoff is medium. Water and air move very slowly through the subsoil. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.</p> <p>These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.</p>
Ks	<p>MAHAN (KIRVIN) FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES, ERODED</p> <p>This soil is poorly suited to cropland and moderately well suited to pasture. It is limited mainly by poor tilth, low fertility, and a severe erosion hazard. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. Residue left on or near the surface helps to conserve moisture, maintain tilth, control erosion. Lime and fertilizer are generally needed.</p> <p>This well drained, moderately sloping to strongly sloping soil is on uplands. It has a loamy or gravelly surface layer and a clayey subsoil. Natural fertility is low. Runoff is rapid. Water and air move very slowly through the subsoil. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.</p> <p>These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.</p>
Kt	<p>MAHAN (KIRVIN) FINE SANDY LOAM, 8 TO 30 PERCENT SLOPES</p> <p>This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during</p>

Map Symbol	Description
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planting and limit the use of some farm equipment.

This soil is well drained and moderately steep. It is on side slopes on uplands. The soil has a gravelly surface layer and a clayey and loamy subsoil. The subsoil has layers of fractured ironstone. Natural fertility is low. Permeability is moderately slow. Surface runoff is rapid.

These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.

Ku DARLEY (KIRVIN) FINE SANDY LOAM, 5 TO 16 PERCENT SLOPES, SEVERELY ERODED

This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.

This strongly sloping, well drained soil is on side slopes on uplands. The surface layer is gravelly and the subsoil is clayey. Fractured layers of ironstone are in the subsoil. Natural fertility is medium. Permeability is moderately slow. Surface runoff is rapid. Ironstone fragments and layer reduce the available water capacity. In places, the soil is moderately eroded.

Soils in this group are well drained and gravelly with a subsoil of clayey materials and ironstone ledges. They have a moderately high potential for productivity. Seedling mortality is moderate. These soils are best suited for southern pines. Site index for loblolly pine is 85, shortleaf is 75.

Kv DARLEY (KIRVIN) GRAVELLY FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES

The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a

Map Symbol	Description
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complete fertilizer.

This gently sloping, well drained soil is on upland ridgetops. It has a gravelly surface layer and a clayey subsoil. Fractured layers of ironstone are in the subsoil. Natural fertility is medium. Permeability is moderately slow. Surface runoff is medium. Ironstone fragments and layers reduce the available water capacity. In places, the soil is moderately eroded.

Soils in this group are well drained and gravelly with a subsoil of clayey materials and ironstone ledges. They have a moderately high potential for productivity. Seedling mortality is moderate. These soils are best suited for southern pines. Site index for loblolly pine is 85, shortleaf is 75.

Kw DARLEY (KIRVIN) GRAVELLY FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES, ERODED

The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.

This gently sloping, well drained soil is on upland ridgetops. It has a gravelly surface layer and a clayey subsoil. Fractured layers of ironstone are in the subsoil. Natural fertility is medium. Permeability is moderately slow. Surface runoff is medium. Ironstone fragments and layers reduce the available water capacity. In places, the soil is moderately eroded.

Soils in this group are well drained and gravelly with a subsoil of clayey materials and ironstone ledges. They have a moderately high potential for productivity. Seedling mortality is moderate. These soils are best suited for southern pines. Site index for loblolly pine is 85, shortleaf is 75.

Kx DARLEY (KIRVIN) GRAVELLY FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES, ERODED

This soil is poorly suited to cropland and moderately well suited to pasture. It is limited mainly by poor

Map Symbol	Description
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tilth, low fertility, and a severe erosion hazard. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. Residue left on or near the surface helps to conserve moisture, maintain tilth, control erosion. Lime and fertilizer are generally needed.

This strongly sloping, well drained soil is on side slopes on uplands. The surface layer is gravelly and the subsoil is clayey. Fractured layers of ironstone are in the subsoil. Natural fertility is medium. Permeability is moderately slow. Surface runoff is rapid. Ironstone fragments and layer reduce the available water capacity. In places, the soil is moderately eroded.

Soils in this group are well drained and gravelly with a subsoil of clayey materials and ironstone ledges. They have a moderately high potential for productivity. Seedling mortality is moderate. These soils are best suited for southern pines. Site index for loblolly pine is 85, shortleaf is 75.

Ky DARLEY (KIRVIN) GRAVELLY FINE SANDY LOAM, 8 TO 30 PERCENT SLOPES, ERODED

This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.

This soil is well drained and moderately steep. It is on side slopes on uplands. The soil has a gravelly surface layer and a clayey and loamy subsoil. The subsoil has layers of fractured ironstone. Natural fertility is low. Permeability is moderately slow. Surface runoff is rapid.

These are well drained, gravelly soils with a subsoil of clayey material and ironstone; steep or moderately steep slopes. There is a moderately high potential for productivity. Equipment limitations and seedling mortality are moderate. These soils are best suited for southern pines. Site index for loblolly pine is 85, shortleaf pine 75.

La BETIS (LAKELAND AND EUSTIS) LOAMY FINE SANDS, 1 TO 5 PERCENT SLOPES

The potential for cropland and pastureland is fair.

Map Symbol	Description
	<p>Crops such as watermelons and peanuts are well suited. Suitable pasture plants include bermudagrasses, bahiagrass, and crimson clover. This soil is fairly easy to keep in good tilth. It is easy to work when moist but traction is poor when dry. Proper management of crop residue will help to reduce erosion. Conservation tillage or contour farming is needed when this soil is cropped. Response to fertilizer is fair. Lime is generally needed.</p> <p>This somewhat excessively drained, very gently sloping or gently sloping, sandy soil is on uplands. It has a very low available water capacity and very low natural fertility. Runoff is slow. Water moves rapidly through the soil.</p> <p>Soils in this group are well drained and sandy with moderately high potential for productivity. Equipment limitations and seedling mortality are moderate. These soils are best suited for southern pines. Site index for loblolly and slash pine is 80; shortleaf pine is 70.</p>
Lb	<p>BETIS (LAKELAND AND EUSTIS) LOAMY FINE SAND, 5 TO 8 PERCENT SLOPES</p> <p>The potential for cropland and pastureland is fair. Crops such as watermelons and peanuts are well suited. Suitable pasture plants include bermudagrasses, bahiagrass, and crimson clover. This soil is fairly easy to keep in good tilth. It is easy to work when moist but traction is poor when dry. Proper management of crop residue will help to reduce erosion. Conservation tillage or contour farming is needed when this soil is cropped. Response to fertilizer is fair. Lime is generally needed.</p> <p>This somewhat excessively drained, strongly sloping to steep, sandy soil is on uplands. It has a very low available water capacity and very low natural fertility. Runoff is slow. Water moves rapidly through the soil.</p> <p>Soils in this group are well drained and sandy with moderately high potential for productivity. Equipment limitations and seedling mortality are moderate. These soils are best suited for southern pines. Site index for loblolly and slash pine is 80; shortleaf pine is 70.</p>
Lc	<p>BETIS (LAKELAND AND EUSTIS) LOAMY FINE SAND, 8 TO 20 PERCENT SLOPES</p>

Map Symbol	Description
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This soil is unsuited for cropland; the erosion hazard is too severe. The potential for pastureland is poor. The steep slopes, low fertility, limited choice of plants, and droughtiness are unfavorable features for this use. Erosion is a hazard during pasture establishment. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. A complete fertilizer and lime are needed.

This somewhat excessively drained, strongly sloping to steep, sandy soil is on uplands. It has a very low available water capacity and very low natural fertility. Runoff is slow. Water moves rapidly through the soil.

Soils in this group are well drained and sandy with moderately high potential for productivity. Equipment limitations and seedling mortality are moderate. These soils are best suited for southern pines. Site index for loblolly and slash pine is 80; shortleaf pine is 70.

Ld BETIS (LAKELAND AND EUSTIS) LOAMY FINE SAND, 5 TO 16 PERCENT SLOPES, SEVERELY ERODED

This soil is unsuited for cropland; the erosion hazard is too severe. The potential for pastureland is poor. The steep slopes, low fertility, limited choice of plants, and droughtiness are unfavorable features for this use. Erosion is a hazard during pasture establishment. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. A complete fertilizer and lime are needed.

This somewhat excessively drained, strongly sloping to steep, sandy soil is on uplands. It has a very low available water capacity and very low natural fertility. Runoff is slow. Water moves rapidly through the soil.

Soils in this group are well drained and sandy with moderately high potential for productivity. Equipment limitations and seedling mortality are moderate. These soils are best suited for southern pines. Site index for loblolly and slash pine is 80; shortleaf pine is 70.

Lf MAHAN (LUVERNE) FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES, ERODED

The potential for cropland is fair and the potential

Map Symbol	Description
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for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.

This well drained, very gently sloping to gently sloping soil is on uplands. It has a loamy surface layer and a clayey subsoil. Natural fertility is low. Runoff is medium. Water and air move very slowly through the subsoil. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.

These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.

Lg MAHAN (LUVERNE) FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES, ERODED

The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.

This well drained, moderately sloping to strongly sloping soil is on uplands. It has a loamy or gravelly surface layer and a clayey subsoil. Natural fertility is low. Runoff is rapid. Water and air move very slowly through the subsoil. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.

These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.

Lh MAHAN (LUVERNE) FINE SANDY LOAM, 8 TO 20 PERCENT SLOPES, ERODED

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This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.

This well drained, moderately sloping to strongly sloping soil is on uplands. It has a loamy or gravelly surface layer and a clayey subsoil. Natural fertility is low. Runoff is rapid. Water and air move very slowly through the subsoil. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.

These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern and shortleaf pine is 80.

Lk MAHAN (LUVERNE) GRAVELLY FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES

The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.

This well drained, very gently sloping to gently sloping soil is on uplands. It has a loamy surface layer and a clayey subsoil. Natural fertility is low. Runoff is medium. Water and air move very slowly through the subsoil. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.

These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.

Lm MAHAN (LUVERNE) GRAVELLY FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES

The potential for cropland is fair and the potential

Map Symbol	Description
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for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.

This well drained, moderately sloping to strongly sloping soil is on uplands. It has a loamy or gravelly surface layer and a clayey subsoil. Natural fertility is low. Runoff is rapid. Water and air move very slowly through the subsoil. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.

These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.

Ln BRILEY (LUVERNE) LOAMY FINE SAND, THICK SURFACE, 1 TO 5 PERCENT SLOPES

The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.

This well drained, gently sloping soil is on uplands. It has thick sandy surface and subsurface layers and a loamy subsoil. Natural fertility is low. Runoff is slow. Water and air move rapidly through the sandy surface and subsurface layers, and they move at a moderate rate through the loamy subsoil. The available water capacity is low.

Soils in this group are well drained and sandy with a high potential for productivity. Equipment limitations and seedling mortality are moderate. They are best suited for southern pines. Site index for loblolly and slash pine is 90, shortleaf 80.

Lo BRILEY (LUVERNE) LOAMY FINE SAND, THICK SURFACE, 5 TO 8 PERCENT SLOPES

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The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.

This is a well drained, strongly sloping to moderately steep soil on uplands. It has thick sandy surface and subsurface layers and a loamy subsoil. The soil has low fertility and a low or moderate available water capacity. Permeability is rapid in the upper part of the soil and moderate in the lower part. Surface runoff is medium.

Soils in this group are well drained and sandy with a high potential for productivity. Equipment limitations and seedling mortality are moderate. They are best suited for southern pines. Site index for loblolly and slash pine is 90, shortleaf 80.

Lp MAHAN (LUVERNE) SOILS, 1 TO 20 PERCENT SLOPES, SEVERELY ERODED

This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.

This well drained, moderately sloping to strongly sloping soil is on uplands. It has a loamy or gravelly surface layer and a clayey subsoil. Natural fertility is low. Runoff is rapid. Water and air move very slowly through the subsoil. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.

These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.

Ma GUYTON-IUKA (MANTACHIE) VERY FINE SANDY LOAMS

The potential for cropland is fair and the potential

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for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.

The potential for cropland is very poor. Flooding is too severe for most crops. The potential for pastureland is poor. Flooding restricts choice of plants. Common bermudagrass and bahiagrass can be grown but grazing time has to be restricted during flood periods.

These level soils are on narrow flood plains. They are subject to frequent flooding. The poorly drained Guyton soil is in low areas. The moderately well drained Iuka soil is on ridges and natural levees. The Guyton soil is loamy throughout. It has slow permeability. The Iuka soil has a loamy surface layer and a sandy and loamy underlying material. Both soils have a seasonal high water table in winter and spring. Natural fertility is low.

These are wet soils with a very high potential for productivity. Equipment limitations are moderate and seedling mortality is slight to moderate. Silvicultural operations should be restricted to dry weather periods. These soils are suited for either southern pines or hardwood. Site index for loblolly and slash pine is 100, cottonwood 100-110, oaks and sweetwum 100.

This group consists of wet, occasionally to frequently flooded loamy soils with a high potential for productivity. Equipment limitations are severe and seedling mortality is moderate to severe. This is due primarily to excess water. These soils are well suited for either southern pine or hardwood. Silvicultural operations should be restricted to dry weather periods. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for loblolly and slash pine is 90, cottonwood 90-100, green ash, water oak and sweetgum 90.

MaA KOLIN (MUSKOGEE) COMPLEX, MOUNDED, 1 TO 3 PERCENT SLOPES

This moderately well drained, very gently sloping or gently sloping soil is on terraces. It is loamy in the

Map Symbol	Description
	<p>upper part of the subsoil and clayey in the lower part. Natural fertility is low or moderately low. Runoff is slow to medium. Water and air move slowly or very slowly through the clayey part of the subsoil. A seasonal high water table is perched on the clayey subsoil for long periods in winter and spring. In places, the soil is moderately eroded.</p> <p>These are slightly wet, loamy soils with a high potential for productivity. Equipment limitations are moderate due primarily to excess water. Soils in this group are best suited for either southern pines or hardwood. Site index for loblolly and slash pine is 80, oaks and sweetgum is 80.</p>
MaB	<p>KOLIN (MUSKOGEE) SILT LOAM, 1 TO 5 PERCENT SLOPES, ERODED</p> <p>The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.</p> <p>This moderately well drained, very gently sloping or gently sloping soil is on terraces. It is loamy in the upper part of the subsoil and clayey in the lower part. Natural fertility is low or moderately low. Runoff is slow to medium. Water and air move slowly or very slowly through the clayey part of the subsoil. A seasonal high water table is perched on the clayey subsoil for long periods in winter and spring. In places, the soil is moderately eroded.</p> <p>These are slightly wet, loamy soils with a high potential for productivity. Equipment limitations are moderate due primarily to excess water. Soils in this group are best suited for either southern pines or hardwood. Site index for loblolly and slash pine is 80, oaks and sweetgum is 80.</p>
MaC	<p>KOLIN (MUSKOGEE) SILT LOAM, 1 TO 5 PERCENT SLOPES, ERODED</p> <p>The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage</p>

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is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.

This moderately well drained, very gently sloping or gently sloping soil is on terraces. It is loamy in the upper part of the subsoil and clayey in the lower part. Natural fertility is low or moderately low. Runoff is slow to medium. Water and air move slowly or very slowly through the clayey part of the subsoil. A seasonal high water table is perched on the clayey subsoil for long periods in winter and spring. In places, the soil is moderately eroded.

These are slightly wet, loamy soils with a high potential for productivity. Equipment limitations are moderate due primarily to excess water. Soils in this group are best suited for either southern pines or hardwood. Site index for loblolly and slash pine is 80, oaks and sweetgum is 80.

MaD KOLIN (MUSKOGEE) SOILS, 1 TO 8 PERCENT SLOPES, SEVERELY ERODED

The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.

This moderately well drained, very gently sloping or gently sloping soil is on terraces. It is loamy in the upper part of the subsoil and clayey in the lower part. Natural fertility is low or moderately low. Runoff is slow to medium. Water and air move slowly or very slowly through the clayey part of the subsoil. A seasonal high water table is perched on the clayey subsoil for long periods in winter and spring. In places, the soil is moderately eroded.

These are slightly wet, loamy soils with a high potential for productivity. Equipment limitations are moderate due primarily to excess water. Soils in this group are best suited for either southern pines or hardwood. Site index for loblolly and slash pine is 80, oaks and sweetgum is 80.

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MaE GUYTON-MESSER (MYATT) COMPLEX, MOUNDED

The soil is poorly suited to cropland or pastureland unless protected from flooding. Flooding restricts the choice of crops grown. Suitable crops include soybeans and grain sorghum. Suitable pasture plants are common bermudagrass, bahiagrass, and dallisgrass. Except during flood periods, excess surface water can be removed by surface field ditches.

These Caddo and Messer soils are in broad areas on the terrace uplands. The Caddo soil is poorly drained and is in swales and on level areas. It makes up most of the map unit. The Messer soil is moderately well drained and is on mounds and low ridges. Both soils are acid and loamy throughout the profile. Permeability is slow in both soils. Runoff is slow on the Caddo soil and medium on the Messer soil. Both soils have a seasonal high water table for long periods in winter and spring.

These are slightly to moderately wet, acid, loamy and clayey soils. The potential for productivity is high. Equipment limitations are moderate due to excess water. Silvicultural operations should be restricted to dry weather periods. These soils are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.

This group consists of wet, occasionally to frequently flooded loamy soils with a high potential for productivity. Equipment limitations are severe and seedling mortality is moderate to severe. This is due primarily to excess water. These soils are well suited for either southern pine or hardwood. Silvicultural operations should be restricted to dry weather periods. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for loblolly and slash pine is 90, cottonwood 90-100, green ash, water oak and sweetgum 90.

MaF GUYTON (MYATT) SILT LOAM

The soil is poorly suited to cropland or pastureland unless protected from flooding. Flooding restricts the choice of crops grown. Suitable crops include soybeans and grain sorghum. Suitable pasture plants are common bermudagrass, bahiagrass, and dallisgrass. Except during flood periods, excess surface water can be removed by surface field ditches.

This soil is level and poorly drained. It is subject

Map Symbol	Description
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to rare flooding. The soil is on broad flats and in slightly depressional areas on terraces. Typically, the soil is acid and loamy throughout. Natural fertility is low. Permeability is slow or moderately slow. Water runs off the surface at a slow rate and stands in low places for short to long periods after rains. A seasonal high water table is near the surface for long periods in winter and spring. The shrink-swell potential is low or moderate.

This group consists of wet, occasionally to frequently flooded loamy soils with a high potential for productivity. Equipment limitations are severe and seedling mortality is moderate to severe. This is due primarily to excess water. These soils are well suited for either southern pine or hardwood. Silvicultural operations should be restricted to dry weather periods. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for loblolly and slash pine is 90, cottonwood 90-100, green ash, water oak and sweetgum 90.

MaG GUYTON-MESSER (MYATT-STOUGH) COMPLEX, OVERFLOW

The potential for cropland is very poor. Flooding is too severe for most crops. The potential for pastureland is poor. Flooding restricts choice of plants. Common bermudagrass and bahiagrass can be grown but grazing time has to be restricted during flood periods.

These poorly drained Guyton (Myatt) soils and moderately well drained Messer (Stough) soils are on low terraces. They are subject to frequent flooding for brief periods. The Messer soil is on small mounds, and the Guyton soil is in intermound areas. Both soils are loamy throughout. Water and air move through the soils at a moderately slow or slow rate. The soils have a seasonal high water table in winter and spring. Natural fertility is low.

These are slightly to moderately wet, acid, loamy and clayey soils. The potential for productivity is high. Equipment limitations are moderate due to excess water. Silvicultural operations should be restricted to dry weather periods. These soils are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.

This group consists of wet, occasionally to frequently flooded loamy soils with a high potential for productivity. Equipment limitations are severe and

Map Symbol	Description
Mb	<p>seedling mortality is moderate to severe. This is due primarily to excess water. These soils are well suited for either southern pine or hardwood. Silvicultural operations should be restricted to dry weather periods. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for loblolly and slash pine is 90, cottonwood 90-100, green ash, water oak and sweetgum 90.</p> <p>MCKAMIE VERY FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES</p> <p>The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.</p> <p>This well drained, very gently sloping to gently sloping soil is on uplands. It has a loamy surface layer and a clayey subsoil. Natural fertility is low. Runoff is medium. Water and air move very slowly through the subsoil. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.</p> <p>These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.</p>
Mc	<p>MCKAMIE VERY FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES, ERODED</p> <p>The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.</p> <p>This well drained, very gently sloping to gently sloping soil is on uplands. It has a loamy surface layer and a clayey subsoil. Natural fertility is low.</p>

Map Symbol	Description
Md	<p>Runoff is medium. Water and air move very slowly through the subsoil. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.</p> <p>These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.</p> <p>MCKAMIE VERY FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES, ERODED</p>
	<p>This soil is poorly suited to cropland and moderately well suited to pasture. It is limited mainly by poor tilth, low fertility, and a severe erosion hazard. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. Residue left on or near the surface helps to conserve moisture, maintain tilth, control erosion. Lime and fertilizer are generally needed.</p>
	<p>This well drained, moderately sloping to strongly sloping soil is on uplands. It has a loamy or gravelly surface layer and a clayey subsoil. Natural fertility is low. Runoff is rapid. Water and air move very slowly through the subsoil. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.</p>
	<p>These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.</p>
Me	<p>MCKAMIE AND FORBING (HORTMAN) SOILS, 8 TO 20 PERCENT SLOPES</p>
	<p>This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.</p>
	<p>This well drained, moderately sloping to strongly sloping soil is on uplands. It has a loamy or gravelly surface layer and a clayey subsoil. Natural fertility</p>

Map Symbol	Description
	<p>is low. Runoff is rapid. Water and air move very slowly through the subsoil. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.</p> <p>These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.</p>
Mg	<p>MORELAND (MILLER) CLAY, 0 TO 1 PERCENT SLOPES</p> <p>The potential for cropland and pastureland is good. Suitable crops are soybeans, cotton, grain sorghum, and rice. Pasture plants are common bermudagrass, bahiagrass, ryegrass, tall fescue, and white clover. This soil can be worked only within a narrow range of moisture content. A drainage system is needed. Crop residue management will help reduce erosion. Most crops, respond well to nitrogen. Lime and other fertilizers generally are not needed.</p> <p>This somewhat poorly drained, level soil is on flood plains. It formed in Red River alluvium. The soil has a clayey surface layer and a clayey subsoil. Natural fertility is high. Runoff is slow. Water and air move very slowly through the subsoil. A seasonal high water table is near the surface for long periods in winter and spring. The shrink-swell potential is very high in the subsoil.</p> <p>These are wet, clayey soils with a high potential for productivity. Equipment limitations and seedling mortality are severe. This is due primarily to excess water. Silvicultural operations should be restricted to dry weather periods. Only tree species adapted to wet clay soils should be planted. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.</p>
Mh	<p>MORELAND (MILLER) CLAY, 1 TO 3 PERCENT SLOPES</p> <p>The potential for cropland is fair and the potential for pastureland is good. Suitable crops include corn, millet, grain sorghum, ryegrass, soybeans, and truck crops. Pasture plants are bermudagrasses, bahiagrass, and crimson clover. The short irregular slopes on this soil restricts the use of some farm equipment. Conservation tillage or terraces with contour farming</p>

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are needed to reduce erosion. Most crops respond well to lime and complete fertilizer.

This gently sloping to moderately sloping, somewhat poorly drained soil is on side slopes near old distributary channels on alluvial plains. Slopes are short. The soil is clayey throughout. Water and air move through the soil very slowly. Surface runoff is medium. Natural fertility is high. The soil has a seasonal high water table for long periods in winter and spring.

These are wet, clayey soils with a high potential for productivity. Equipment limitations and seedling mortality are severe. This is due primarily to excess water. Silvicultural operations should be restricted to dry weather periods. Only tree species adapted to wet clay soils should be planted. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

Mk MORELAND (MILLER) CLAY, 3 TO 8 PERCENT SLOPES

The potential for cropland is fair and the potential for pastureland is good. Suitable crops include corn, millet, grain sorghum, ryegrass, soybeans, and truck crops. Pasture plants are bermudagrasses, bahiagrass, and crimson clover. The short irregular slopes on this soil restricts the use of some farm equipment. Conservation tillage or terraces with contour farming are needed to reduce erosion. Most crops respond well to lime and complete fertilizer.

This gently sloping to moderately sloping, somewhat poorly drained soil is on side slopes near old distributary channels on alluvial plains. Slopes are short. The soil is clayey throughout. Water and air move through the soil very slowly. Surface runoff is medium. Natural fertility is high. The soil has a seasonal high water table for long periods in winter and spring.

These are wet, clayey soils with a high potential for productivity. Equipment limitations and seedling mortality are severe. This is due primarily to excess water. Silvicultural operations should be restricted to dry weather periods. Only tree species adapted to wet clay soils should be planted. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

Map Symbol	Description
Mm	MORELAND (MILLER) CLAY, OVERFLOW, 0 TO 1 PERCENT SLOPES
	<p>The potential for cropland is very poor. Flooding is too severe for most crops. The potential for pastureland is poor. Flooding restricts choice of plants. Common bermudagrass and bahiagrass can be grown but grazing time has to be restricted during flood periods.</p> <p>This somewhat poorly drained, level soil is on the flood plain of the Red River. It is subject to frequent flooding for long periods. The soil is clayey throughout. Natural fertility is high. A seasonal high water table is near the surface in winter and spring. Water and air move very slowly through the soil. Cracks form when the soil dries. The soil has a very high shrink-swell potential.</p> <p>Soils in this group are wet, frequently flooded clayey soils with a moderately high potential for productivity. Equipment limitations and seedling mortality are severe due primarily to excess water. These soils are best suited for bottomland hardwood. Silvicultural operations should be restricted to dry weather periods and more seedlings than the recommended rate should be planted to ensure a stand. Site index for green ash is 70, cottonwood 90, oaks and sweetgum is 80.</p>
Mn	MORELAND (MILLER) CLAY, UNDULATING
	<p>The potential for cropland and pastureland is fair. Wetness is the main limitation. Suitable crops are soybeans, corn, truck crops and grain sorghum. Pasture plants are small grains, ryegrass, common bermudagrass, bahiagrass, vetch and tall fescue. Drainage is needed when this soil is cultivated. Drop residue on the surface will reduce erosion, help maintain organic matter and reduce crusting. Most crops respond well to lime and a complete fertilizer.</p> <p>This somewhat poorly drained, clayey soil is on short irregular slopes in a ridge-and-swale topography on the flood plain. The soil is clayey throughout. Natural fertility is medium or high. Runoff is medium on the ridges. Water accumulates for short periods in the swales after rains. A seasonal high water table is near the surface in winter and spring. This soil has a very high shrink-swell potential.</p> <p>These are wet, clayey soils with a high potential for</p>

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productivity. Equipment limitations and seedling mortality are severe. This is due primarily to excess water. Silvicultural operations should be restricted to dry weather periods. Only tree species adapted to wet clay soils should be planted. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

Mo MORELAND (MILLER) SILT LOAM, 0 TO 1 PERCENT SLOPES

The potential for cropland and pastureland is fair. Wetness is the main limitation. Suitable crops are soybeans, corn, truck crops and grain sorghum. Pasture plants are small grains, ryegrass, common bermudagrass, bahiagrass, vetch and tall fescue. Drainage is needed when this soil is cultivated. Drop residue on the surface will reduce erosion, help maintain organic matter and reduce crusting. Most crops respond well to lime and a complete fertilizer.

This somewhat poorly drained, level soil is on the flood plain of the Red River. It has a loamy surface layer and a clayey subsoil. Natural fertility is high. Runoff is slow. Water and air move very slowly through the subsoil. A seasonal high water table is near the surface for long periods in winter and spring. The shrink-swell potential is very high in the subsoil.

These are wet, clayey soils with a high potential for productivity. Equipment limitations and seedling mortality are severe. This is due primarily to excess water. Silvicultural operations should be restricted to dry weather periods. Only tree species adapted to wet clay soils should be planted. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

Mp MORELAND (MILLER) SILT LOAM, 1 TO 3 PERCENT SLOPES

The potential for cropland is fair and the potential for pastureland is good. Suitable crops include corn, millet, grain sorghum, ryegrass, soybeans, and truck crops. Pasture plants are bermudagrasses, bahiagrass, and crimson clover. The short irregular slopes on this soil restricts the use of some farm equipment. Conservation tillage or terraces with contour farming are needed to reduce erosion. Most crops respond well to lime and complete fertilizer.

This somewhat poorly drained, clayey soil is on short

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irregular slopes in a ridge-and-swale topography on the flood plain. The soil is clayey throughout. Natural fertility is medium or high. Runoff is medium on the ridges. Water accumulates for short periods in the swales after rains. A seasonal high water table is near the surface in winter and spring. This soil has a very high shrink-swell potential.

These are wet, clayey soils with a high potential for productivity. Equipment limitations and seedling mortality are severe. This is due primarily to excess water. Silvicultural operations should be restricted to dry weather periods. Only tree species adapted to wet clay soils should be planted. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

Mr MORELAND (MILLER) SILTY CLAY LOAM, 0 TO 1 PERCENT SLOPES

The potential for cropland and pastureland is fair. Wetness is the main limitation. Suitable crops are soybeans, corn, truck crops and grain sorghum. Pasture plants are small grains, ryegrass, common bermudagrass, bahiagrass, vetch and tall fescue. Drainage is needed when this soil is cultivated. Drop residue on the surface will reduce erosion, help maintain organic matter and reduce crusting. Most crops respond well to lime and a complete fertilizer.

This somewhat poorly drained, level soil is on the flood plain of the Red River. It has a loamy surface layer and a clayey subsoil. Natural fertility is high. Runoff is slow. Water and air move very slowly through the subsoil. A seasonal high water table is near the surface for long periods in winter and spring. The shrink-swell potential is very high in the subsoil.

These are wet, clayey soils with a high potential for productivity. Equipment limitations and seedling mortality are severe. This is due primarily to excess water. Silvicultural operations should be restricted to dry weather periods. Only tree species adapted to wet clay soils should be planted. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

Map Symbol	Description
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Ms OCHLOCKONEE (MIXED ALLUVIAL LAND) FINE SANDY LOAM

The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, and grain sorghum. Pasture plants are bermudagrasses, bahiagrass, ryegrass tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. A drainage system is generally needed to remove excess surface water. Crop residue management will reduce erosion. Most crops respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.

This nearly level, well drained or moderately well drained soil is on narrow stream bottoms and fanlike foot slopes. It is subject to occasional or frequent flooding for brief periods. The soil is loamy throughout. Water and air move through the soil at a moderate rate. Natural fertility is low.

These soils are well drained, loamy soils with a very high potential for productivity. There are no serious management problems. These soils are suited for either southern pines or hardwood. Site index for green ash is 100, cotton wood 110-120, oak and sweetgum 100, loblolly and slash pine 90-110.

Mt GUYTON-IUKA (MIXED WET ALLUVIAL LAND)

The potential for cropland is very poor. Flooding is too severe for most crops. The potential for pastureland is poor. Flooding restricts choice of plants. Common bermudagrass and bahiagrass can be grown but grazing time has to be restricted during flood periods.

These level soils are on narrow flood plains. They are subject to frequent flooding. The poorly drained Guyton soil is in low areas. The moderately well drained Iuka soil is on ridges and natural levees. The Guyton soil is loamy throughout. It has slow permeability. The Iuka soil has a loamy surface layer and a sandy and loamy underlying material. Both soils have a seasonal high water table in winter and spring. Natural fertility is low.

These are wet soils with a very high potential for productivity. Equipment limitations are moderate and seedling mortality is slight to moderate. Silvicultural operations should be restricted to dry weather periods. These soils are suited for either southern pines or hardwood. Site index for loblolly

Map Symbol	Description
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and slash pine is 100, cottonwood 100-110, oaks and sweetgum 100.

This group consists of wet, occasionally to frequently flooded loamy soils with a high potential for productivity. Equipment limitations are severe and seedling mortality is moderate to severe. This is due primarily to excess water. These soils are well suited for either southern pine or hardwood. Silvicultural operations should be restricted to dry weather periods. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for loblolly and slash pine is 90, cottonwood 90-100, green ash, water oak and sweetgum 90.

Mu MORSE CLAY, 1 TO 5 PERCENT SLOPES, ERODED

The potential for cropland is fair and the potential for pastureland is good. Suitable crops include corn, small grain, millet, ryegrass, soybeans, grain sorghum, and truck crops. Pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation measures to reduce erosion are needed when this soil is used for cultivated crops. Most crops respond well to lime and to complete fertilizer.

This well drained, very gently sloping to gently sloping soil is on uplands. It is clayey and alkaline throughout. Natural fertility is low. Runoff is medium to rapid. The soil has a very high shrink-swell potential. Deep, wide cracks form in the soil during dry periods.

These are soils with low productivity and with toxic substances in the rooting zone. They are not generally suited for the production of commercial wood products.

Mv MORSE CLAY, 5 TO 8 PERCENT SLOPES, ERODED

This soil is unsuited for cropland; the erosion hazard is too severe. The potential for pastureland is poor. The steep slopes, low fertility, limited choice of plants, and droughtiness are unfavorable features for this use. Erosion is a hazard during pasture establishment. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. A complete fertilizer and lime are needed.

This soil is strongly sloping and well drained. It is on uplands. The soil is alkaline throughout. It is clayey throughout, or it has a loamy surface layer and a clayey and loamy subsoil. Natural fertility is low.

Map Symbol	Description
Mw	<p>Permeability is very slow. Surface runoff is rapid. The soil has a high shrink-swell potential. In places, the soil is moderately eroded.</p> <p>These are soils with low productivity and with toxic substances in the rooting zone. They are not generally suited for the production of commercial wood products.</p> <p>MORSE CLAY, 8 TO 20 PERCENT SLOPES, ERODED</p> <p>This soil is unsuited for cropland; the erosion hazard is too severe. The potential for pastureland is poor. The steep slopes, low fertility, limited choice of plants, and droughtiness are unfavorable features for this use. Erosion is a hazard during pasture establishment. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. A complete fertilizer and lime are needed.</p> <p>This strongly sloping, moderately well drained soil is on side slopes on uplands. It has a loamy surface layer and a clayey subsoil. The soil is acid in the upper part and neutral or alkaline in the lower part. Natural fertility is low. Permeability is very slow. Surface runoff is rapid. The soil has a high shrink-swell potential in the subsoil.</p> <p>These are soils with low productivity and with toxic substances in the rooting zone. They are not generally suited for the production of commercial wood products.</p>
Mx	<p>MORSE CLAY, 3 TO 8 PERCENT SLOPES, SEVERELY ERODED</p> <p>This soil is unsuited for cropland; the erosion hazard is too severe. The potential for pastureland is poor. The steep slopes, low fertility, limited choice of plants, and droughtiness are unfavorable features for this use. Erosion is a hazard during pasture establishment. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. A complete fertilizer and lime are needed.</p> <p>This soil is strongly sloping and well drained. It is on uplands. The soil is alkaline throughout. It is clayey throughout, or it has a loamy surface layer and a clayey and loamy subsoil. Natural fertility is low. Permeability is very slow. Surface runoff is rapid. The soil has a high shrink-swell potential. In places, the soil is moderately eroded.</p> <p>These are soils with low productivity and with toxic substances in the rooting zone. They are not generally</p>

Map Symbol	Description
	<p>suited for the production of commercial wood products.</p>
My	<p>MORSE CLAY, DARK SURFACE, 1 TO 5 PERCENT SLOPES</p> <p>The potential for cropland is fair and the potential for pastureland is good. Suitable crops include corn, small grain, millet, ryegrass, soybeans, grain sorghum, and truck crops. Pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation measures to reduce erosion are needed when this soil is used for cultivated crops. Most crops respond well to lime and to complete fertilizer.</p> <p>This well drained, very gently sloping to gently sloping soil is on uplands. It is clayey and alkaline throughout. Natural fertility is low. Runoff is medium to rapid. The soil has a very high shrink-swell potential. Deep, wide cracks form in the soil during dry periods.</p> <p>These are soils with low productivity and with toxic substances in the rooting zone. They are not generally suited for the production of commercial wood products.</p>
Mz	<p>MORSE CLAY, DARK SURFACE, 1 TO 5 PERCENT SLOPES, ERODED</p> <p>The potential for cropland is fair and the potential for pastureland is good. Suitable crops include corn, small grain, millet, ryegrass, soybeans, grain sorghum, and truck crops. Pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation measures to reduce erosion are needed when this soil is used for cultivated crops. Most crops respond well to lime and to complete fertilizer.</p> <p>This well drained, very gently sloping to gently sloping soil is on uplands. It is clayey and alkaline throughout. Natural fertility is low. Runoff is medium to rapid. The soil has a very high shrink-swell potential. Deep, wide cracks form in the soil during dry periods.</p> <p>These are soils with low productivity and with toxic substances in the rooting zone. They are not generally suited for the production of commercial wood products.</p>
Na	<p>NACOGDOCHES GRAVELLY FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES, ERODED</p> <p>The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses,</p>

Map Symbol	Description
	<p>bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.</p> <p>This gently sloping, well drained soil is on upland ridgetops. It has a gravelly surface layer and a clayey subsoil. Fractured layers of ironstone are in the subsoil. Natural fertility is medium. Permeability is moderately slow. Surface runoff is medium. Ironstone fragments and layers reduce the available water capacity. In places, the soil is moderately eroded.</p> <p>These are well drained, loamy soils with a moderately high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly pine is 80, shortleaf is 70.</p>
Nc	<p>NACOGDOCHES GRAVELLY FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES, ERODED</p> <p>The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.</p> <p>This strongly sloping, well drained soil is on side slopes on uplands. The surface layer is gravelly and the subsoil is clayey. Fractured layers of ironstone are in the subsoil. Natural fertility is medium. Permeability is moderately slow. Surface runoff is rapid. Ironstone fragments and layer reduce the available water capacity. In places, the soil is moderately eroded.</p> <p>These are well drained, loamy soils with a moderately high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly pine is 80, shortleaf is 70.</p>
Ng	<p>DARLEY (NACOGDOCHES) GRAVELLY FINE SANDY LOAM, 8 TO 30 PERCENT SLOPES, ERODED</p>

Map Symbol	Description
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This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.

This soil is well drained and moderately steep. It is on side slopes on uplands. The soil has a gravelly surface layer and a clayey and loamy subsoil. The subsoil has layers of fractured ironstone. Natural fertility is low. Permeability is moderately slow. Surface runoff is rapid.

These are well drained, gravelly soils with a subsoil of clayey material and ironstone; steep or moderately steep slopes. There is a moderately high potential for productivity. Equipment limitations and seedling mortality are moderate. These soils are best suited for southern pines. Site index for loblolly pine is 85, shortleaf pine 75.

Ns DARLEY (NACOGDOCHES) SOILS, 5 TO 30 PERCENT SLOPES,
SEVERELY ERODED

This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.

This soil is well drained and moderately steep. It is on side slopes on uplands. The soil has a gravelly surface layer and a clayey and loamy subsoil. The subsoil has layers of fractured ironstone. Natural fertility is low. Permeability is moderately slow. Surface runoff is rapid.

These are well drained, gravelly soils with a subsoil of clayey material and ironstone; steep or moderately steep slopes. There is a moderately high potential for productivity. Equipment limitations and seedling mortality are moderate. These soils are best suited for southern pines. Site index for loblolly pine is 85, shortleaf pine 75.

Oc OCHLOCKONEE AND IUKA SANDY LOAMS

These level soils are on flood plains. They are frequently flooded. The moderately well drained Iuka

Map Symbol	Description
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soil is on low ridges. The well drained Ochlockonee soil is on the higher ridges. Both soils are loamy throughout. Natural fertility is low. The Iuka soil has a seasonal high water table.

These soils are well drained, loamy soils with a very high potential for productivity. There are no serious management problems. These soils are suited for either southern pines or hardwood. Site index for green ash is 100, cotton wood 110-120, oak and sweetgum 100, loblolly and slash pine 90-110.

These are wet soils with a very high potential for productivity. Equipment limitations are moderate and seedling mortality is slight to moderate. Silvicultural operations should be restricted to dry weather periods. These soils are suited for either southern pines or hardwood. Site index for loblolly and slash pine is 100, cottonwood 100-110, oaks and sweetgum 100.

Of RUSTON (ORANGEBURG) FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES

The potential for cropland is fair and the potential for pastureland is good. The suitable crops included millet, small grains, ryegrass, soybeans, grain sorghum, and truck crops. The pasture plants are bermudagrasses, bahiagrass, and crimson clover. Crop residues on the surface will help reduce soil erosion, and reduce crusting. Most crops respond well to lime and a complete fertilizer.

This well drained, very gently sloping to gently sloping soil is on uplands. It is loamy and acid throughout. Natural fertility is low. Runoff is medium. Water and air move through the soil at a moderate rate. Plant roots penetrate this soil easily. The soil dries quickly after rains. In places, the soil is moderately eroded.

These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.

Og RUSTON (ORANGEBURG) FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES, ERODED

The potential for cropland is fair and the potential for pastureland is good. The suitable crops included

Map Symbol	Description
Om	<p>millet, small grains, ryegrass, soybeans, grain sorghum, and truck crops. The pasture plants are bermudagrasses, bahiagrass, and crimson clover. Crop residues on the surface will help reduce soil erosion, and reduce crusting. Most crops respond well to lime and a complete fertilizer.</p> <p>This well drained, very gently sloping to gently sloping soil is on uplands. It is loamy and acid throughout. Natural fertility is low. Runoff is medium. Water and air move through the soil at a moderate rate. Plant roots penetrate this soil easily. The soil dries quickly after rains. In places, the soil is moderately eroded.</p> <p>These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.</p> <p>RUSTON (ORANGEBURG) FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES</p>
Or	<p>The potential for cropland is fair and the potential for pastureland is good. The suitable crops included millet, small grains, ryegrass, soybeans, grain sorghum, and truck crops. The pasture plants are bermudagrasses, bahiagrass, and crimson clover. Crop residues on the surface will help reduce soil erosion, and reduce crusting. Most crops respond well to lime and a complete fertilizer.</p> <p>This well drained, gently sloping to moderately sloping soil is on uplands. It is loamy and acid throughout. Natural fertility is low. Runoff is rapid. Movement of air and water through the soil is moderate. Plant roots penetrate the soil easily. In places, the soil is moderately eroded.</p> <p>These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.</p> <p>RUSTON (ORANGEBURG) FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES, ERODED</p> <p>The potential for cropland is fair and the potential for pastureland is good. The suitable crops included millet, small grains, ryegrass, soybeans, grain</p>

Map Symbol	Description
	<p>sorghum, and truck crops. The pasture plants are bermudagrasses, bahiagrass, and crimson clover. Crop residues on the surface will help reduce soil erosion, and reduce crusting. Most crops respond well to lime and a complete fertilizer.</p> <p>This well drained, gently sloping to moderately sloping soil is on uplands. It is loamy and acid throughout. Natural fertility is low. Runoff is rapid. Movement of air and water through the soil is moderate. Plant roots penetrate the soil easily. In places, the soil is moderately eroded.</p> <p>These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.</p>
Ou	<p>SMITHDALE (ORANGEBURG AND RUSTON) FINE SANDY LOAMS, 8 TO 20 PERCENT SLOPES, ERODED</p> <p>This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.</p> <p>This well drained, strongly sloping or moderately steep soil is on side slopes on uplands. It is loamy and acid throughout. Natural fertility is low. Runoff is rapid. Movement of water and air through the soil is moderate. In places, the soil is moderately eroded.</p> <p>These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.</p>
Pa	<p>PERRY CLAY</p> <p>The potential for cropland and pastureland is good. Suitable crops are soybeans, cotton, grain sorghum, and rice. Pasture plants are common bermudagrass, bahiagrass, ryegrass, tall fescue, and white clover. This soil can be worked only within a narrow range of moisture content. A drainage system is needed. Crop residue management will help reduce erosion. Most crops, respond well to nitrogen. Lime and other fertilizers generally are not needed.</p>

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This nearly level, poorly drained, clayey soil is on the alluvial plain along the Boeuf River. It is clayey throughout the profile. Natural fertility is moderately low. Surface runoff is slow to very slow. Water and air move very slowly through the soil. A seasonal high water table ranges from near the surface to 2 feet below the surface during December through April. The shrink-swell potential is very high. Deep cracks form when the soil is dry and close when it is wet. Slopes are less than 1 percent.

These are wet, clayey soils with a high potential for productivity. Equipment limitations and seedling mortality are severe. This is due primarily to excess water. Silvicultural operations should be restricted to dry weather periods. Only tree species adapted to wet clay soils should be planted. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

Pb PERRY CLAY, OVERFLOW

The potential for cropland is very poor. Flooding is too severe for most crops. The potential for pastureland is poor. Flooding restricts choice of plants. Common bermudagrass and bahiagrass can be grown but grazing time has to be restricted during flood periods.

This poorly drained, level soil is on flood plains. It formed in Red River alluvium. The soil is subject to frequent flooding for long periods. The soil is clayey throughout. Natural fertility is medium. Runoff is very slow, and water moves very slowly through the soil. A seasonal high water table is near the surface for long periods in winter and spring. During dry periods, deep, wide cracks form in the soil. The shrink-swell potential is very high.

Soils in this group are wet, frequently flooded clayey soils with a moderately high potential for productivity. Equipment limitations and seedling mortality are severe due primarily to excess water. These soils are best suited for bottomland hardwood. Silvicultural operations should be restricted to dry weather periods and more seedlings than the recommended rate should be planted to ensure a stand. Site index for green ash is 70, cottonwood 90, oaks and sweetgum is 80.

Map Symbol	Description
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Pe PERRY SOILS, OVERFLOW

The potential for cropland is very poor. Flooding is too severe for most crops. The potential for pastureland is poor. Flooding restricts choice of plants. Common bermudagrass and bahiagrass can be grown but grazing time has to be restricted during flood periods.

This poorly drained, level soil is on flood plains. It formed in Red River alluvium. The soil is subject to frequent flooding for long periods. The soil is clayey throughout. Natural fertility is medium. Runoff is very slow, and water moves very slowly through the soil. A seasonal high water table is near the surface for long periods in winter and spring. During dry periods, deep, wide cracks form in the soil. The shrink-swell potential is very high.

Soils in this group are wet, frequently flooded clayey soils with a moderately high potential for productivity. Equipment limitations and seedling mortality are severe due primarily to excess water. These soils are best suited for bottomland hardwood. Silvicultural operations should be restricted to dry weather periods and more seedlings than the recommended rate should be planted to ensure a stand. Site index for green ash is 70, cottonwood 90, oaks and sweetgum is 80.

Ph SAVANNAH (PHEBA) COMPLEX, MOUNDED, 0 TO 3 PERCENT SLOPES

The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, and grain sorghum. Pasture plants are bermudagrasses, bahiagrass, ryegrass tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. A drainage system is generally needed to remove excess surface water. Crop residue management will reduce erosion. Most crops respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.

This moderately well drained, very gently sloping or gently sloping soil is on terraces or uplands. It is loamy throughout and has a fragipan in the subsoil which restricts plant roots. Natural fertility is low or moderately low. Runoff is medium. Water and air move through the upper part of the subsoil at a moderate rate, and they move slowly or moderately slowly through the fragipan. A seasonal high water table perches on

Map Symbol	Description
	<p>the fragipan for short periods. In places, the soil is moderately eroded.</p> <p>Soils in this group are well drained and loamy with a moderately high potential for productivity. There are no serious management problems. They are suited for southern pines or hardwood. Site index for loblolly and slash pine is 80, shortleaf pine 70, and sweetgum 80.</p>
Pk	<p>SAVANNAH (PHEBA) VERY FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES</p> <p>This moderately well drained, very gently sloping or gently sloping soil is on terraces or uplands. It is loamy throughout and has a fragipan in the subsoil which restricts plant roots. Natural fertility is low or moderately low. Runoff is medium. Water and air move through the upper part of the subsoil at a moderate rate, and they move slowly or moderately slowly through the fragipan. A seasonal high water table perches on the fragipan for short periods. In places, the soil is moderately eroded.</p> <p>Soils in this group are well drained and loamy with a moderately high potential for productivity. There are no serious management problems. They are suited for southern pines or hardwood. Site index for loblolly and slash pine is 80, shortleaf pine 70, and sweetgum 80.</p>
Pm	<p>PRENTISS COMPLEX, MOUNDED, 0 TO 1 PERCENT SLOPES</p> <p>This soil is level, moderately well drained, and has a fragipan. It is on ridges on terraces. The soil is loamy throughout. Natural fertility is low. Permeability is moderate in the upper part of the soil and moderately slow in the fragipan. Surface runoff is medium. A seasonal high water table is perched above the fragipan.</p> <p>Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. They are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.</p>
Pn	<p>PRENTISS COMPLEX, MOUNDED, 1 TO 5 PERCENT SLOPES</p> <p>The potential for cropland and pastureland is fair. Wetness is the main limitation. Suitable crops are soybeans, corn, truck crops and grain sorghum. Pasture</p>

Map Symbol	Description
	<p>plants are small grains, ryegrass, common bermudagrass, bahiagrass, vetch and tall fescue. Drainage is needed when this soil is cultivated. Drop residue on the surface will reduce erosion, help maintain organic matter and reduce crusting. Most crops respond well to lime and a complete fertilizer.</p> <p>This soil is very gently sloping or gently sloping, moderately well drained, and has a fragipan. It is on ridges on terraces. The soil is loamy throughout. Natural fertility is low. Permeability is moderate in the upper part of the soil and moderately slow in the fragipan. Surface runoff is medium. A seasonal high water table is perched above the fragipan.</p> <p>Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. They are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.</p>
Po	<p>SHATTA (PRENTISS) VERY FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES</p> <p>The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, and grain sorghum. Pasture plants are bermudagrasses, bahiagrass, ryegrass tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. A drainage system is generally needed to remove excess surface water. Crop residue management will reduce erosion. Most crops respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.</p> <p>This moderately well drained, very gently sloping or gently sloping soil is on terraces or uplands. It is loamy throughout and has a fragipan in the subsoil which restricts plant roots. Natural fertility is low or moderately low. Runoff is medium. Water and air move through the upper part of the subsoil at a moderate rate, and they move slowly or moderately slowly through the fragipan. A seasonal high water table perches on the fragipan for short periods. In places, the soil is moderately eroded.</p> <p>Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. They are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.</p>

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Pp SHATTA (PRENTISS) VERY FINE SANDY LOAM, CLAY
SUBSTRATUM, 0 TO 1 PERCENT SLOPES

The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, and grain sorghum. Pasture plants are bermudagrasses, bahiagrass, ryegrass tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. A drainage system is generally needed to remove excess surface water. Crop residue management will reduce erosion. Most crops respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.

This moderately well drained, very gently sloping or gently sloping soil is on terraces or uplands. It is loamy throughout and has a fragipan in the subsoil which restricts plant roots. Natural fertility is low or moderately low. Runoff is medium. Water and air move through the upper part of the subsoil at a moderate rate, and they move slowly or moderately slowly through the fragipan. A seasonal high water table perches on the fragipan for short periods. In places, the soil is moderately eroded.

Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. They are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.

Pr SHATTA (PRENTISS) VERY FINE SANDY LOAM, CLAY
SUBSTRATUM, 1 TO 5 PERCENT SLOPES

The potential for cropland is fair and the potential for pastureland is good. Suitable crops are millet, small grains, ryegrass, soybeans, corn, grain sorghum, and truck crops. The main pasture plants are bermudagrass, bahiagrass, and crimson clover. Contour farming or conservation tillage is needed to control runoff and help reduce erosion. Most crops respond well to lime and a complete fertilizer.

This moderately well drained, very gently sloping or gently sloping soil is on terraces or uplands. It is loamy throughout and has a fragipan in the subsoil which restricts plant roots. Natural fertility is low or moderately low. Runoff is medium. Water and air move through the upper part of the subsoil at a moderate rate, and they move slowly or moderately slowly through the fragipan. A seasonal high water table perches on the fragipan for short periods. In places, the soil is

Map Symbol	Description
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moderately eroded.

Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. They are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.

Ps SHATTA (PRENTISS) VERY FINE SANDY LOAM, CLAY
SUBSTRATUM, 1 TO 5 PERCENT SLOPES, ERODED

The potential for cropland is fair and the potential for pastureland is good. Suitable crops are millet, small grains, ryegrass, soybeans, corn, grain sorghum, and truck crops. The main pasture plants are bermudagrass, bahiagrass, and crimson clover. Contour farming or conservation tillage is needed to control runoff and help reduce erosion. Most crops respond well to lime and a complete fertilizer.

This moderately well drained, very gently sloping or gently sloping soil is on terraces or uplands. It is loamy throughout and has a fragipan in the subsoil which restricts plant roots. Natural fertility is low or moderately low. Runoff is medium. Water and air move through the upper part of the subsoil at a moderate rate, and they move slowly or moderately slowly through the fragipan. A seasonal high water table perches on the fragipan for short periods. In places, the soil is moderately eroded.

Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. They are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.

Pt SHATTA (PRENTISS AND STOUGH) SILT LOAM, CLAY SUBSTRATA,
0 TO 1 PERCENT SLOPES

The potential for cropland is fair and the potential for pastureland is good. Suitable crops are millet, small grains, ryegrass, soybeans, corn, grain sorghum, and truck crops. The main pasture plants are bermudagrass, bahiagrass, and crimson clover. Contour farming or conservation tillage is needed to control runoff and help reduce erosion. Most crops respond well to lime and a complete fertilizer.

This moderately well drained, very gently sloping or gently sloping soil is on terraces or uplands. It is loamy throughout and has a fragipan in the subsoil

Map Symbol	Description
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which restricts plant roots. Natural fertility is low or moderately low. Runoff is medium. Water and air move through the upper part of the subsoil at a moderate rate, and they move slowly or moderately slowly through the fragipan. A seasonal high water table perches on the fragipan for short periods. In places, the soil is moderately eroded.

Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. They are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.

Pv PRENTISS AND SHATTA (TILDEN) VERY FINE SANDY LOAMS, 1 TO 5 PERCENT SLOPES

The potential for cropland is fair and the potential for pastureland is good. Suitable crops are millet, small grains, ryegrass, soybeans, corn, grain sorghum, and truck crops. The main pasture plants are bermudagrass, bahiagrass, and crimson clover. Contour farming or conservation tillage is needed to control runoff and help reduce erosion. Most crops respond well to lime and a complete fertilizer.

These gently sloping, moderately well drained soils are on terraces. They have a fragipan in the subsoil. The soils have a loamy surface layer and loamy subsoil. Water and air move through the fragipan at a moderately slow or slow rate. Surface runoff is medium. Natural fertility is low.

Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. They are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.

Pw PRENTISS AND SHATTA (TILDEN) VERY FINE SANDY LOAMS, 1 TO 5 PERCENT SLOPES, ERODED

The potential for cropland is fair and the potential for pastureland is good. Suitable crops are millet, small grains, ryegrass, soybeans, corn, grain sorghum, and truck crops. The main pasture plants are bermudagrass, bahiagrass, and crimson clover. Contour farming or conservation tillage is needed to control runoff and help reduce erosion. Most crops respond well to lime and a complete fertilizer.

These gently sloping, moderately well drained soils are

Map Symbol	Description
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on terraces. They have a fragipan in the subsoil. The soils have a loamy surface layer and loamy subsoil. Water and air move through the fragipan at a moderately slow or slow rate. Surface runoff is medium. Natural fertility is low.

Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. They are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.

Ra SEVERN (RIVERWASH)

The potential for cropland is very poor. Flooding is too severe for most crops. The potential for pastureland is poor. Flooding restricts choice of plants. Common bermudagrass and bahiagrass can be grown but grazing time has to be restricted during flood periods.

This well drained, undulating soil is on ridges and swales on the Red River alluvial plain. It is on the unprotected side of the man-made levee and is subject to frequent flooding. This soil is loamy throughout and has high fertility. Runoff is slow. Movement of water and air through the soil is moderate.

Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. These soils are best suited for southern hardwoods. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

Rb MORELAND (ROEBUCK) CLAY, 0 TO 1 PERCENT SLOPES

The potential for cropland and pastureland is good. Suitable crops are soybeans, cotton, grain sorghum, and rice. Pasture plants are common bermudagrass, bahiagrass, ryegrass, tall fescue, and white clover. This soil can be worked only within a narrow range of moisture content. A drainage system is needed. Crop residue management will help reduce erosion. Most crops, respond well to nitrogen. Lime and other fertilizers generally are not needed.

This somewhat poorly drained, level soil is on flood plains. It formed in Red River alluvium. The soil has a clayey surface layer and a clayey subsoil. Natural fertility is high. Runoff is slow. Water and air move very slowly through the subsoil. A seasonal high water table is near the surface for long periods in winter

Map Symbol	Description
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and spring. The shrink-swell potential is very high in the subsoil.

These are wet, clayey soils with a high potential for productivity. Equipment limitations and seedling mortality are severe. This is due primarily to excess water. Silvicultural operations should be restricted to dry weather periods. Only tree species adapted to wet clay soils should be planted. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

Rc MORELAND (ROEBUCK) CLAY, 1 TO 3 PERCENT SLOPES

The potential for cropland is fair and the potential for pastureland is good. The suitable crops included millet, small grains, ryegrass, soybeans, grain sorghum, and truck crops. The pasture plants are bermudagrasses, bahiagrass, and crimson clover. Crop residues on the surface will help reduce soil erosion, and reduce crusting. Most crops respond well to lime and a complete fertilizer.

This somewhat poorly drained, clayey soil is on short irregular slopes in a ridge-and-swale topography on the flood plain. The soil is clayey throughout. Natural fertility is medium or high. Runoff is medium on the ridges. Water accumulates for short periods in the swales after rains. A seasonal high water table is near the surface in winter and spring. This soil has a very high shrink-swell potential.

These are wet, clayey soils with a high potential for productivity. Equipment limitations and seedling mortality are severe. This is due primarily to excess water. Silvicultural operations should be restricted to dry weather periods. Only tree species adapted to wet clay soils should be planted. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

Rd MORELAND (ROEBUCK) CLAY, OVERFLOW, 0 TO 1 PERCENT SLOPES

The soil is poorly suited to cropland or pastureland unless protected from flooding. Flooding restricts the choice of crops grown. Suitable crops include soybeans and grain sorghum. Suitable pasture plants are common bermudagrass, bahiagrass, and dallisgrass. Except during flood periods, excess surface water can be

Map Symbol	Description
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removed by surface field ditches.

This somewhat poorly drained, level soil is on the flood plain of the Red River. It is subject to frequent flooding for long periods. The soil is clayey throughout. Natural fertility is high. A seasonal high water table is near the surface in winter and spring. Water and air move very slowly through the soil. Cracks form when the soil dries. The soil has a very high shrink-swell potential.

Soils in this group are wet, frequently flooded clayey soils with a moderately high potential for productivity. Equipment limitations and seedling mortality are severe due primarily to excess water. These soils are best suited for bottomland hardwood. Silvicultural operations should be restricted to dry weather periods and more seedlings than the recommended rate should be planted to ensure a stand. Site index for green ash is 70, cottonwood 90, oaks and sweetgum is 80.

Re MORELAND (ROEBUCK) CLAY, UNDULATING

The potential for cropland and pastureland is fair. Wetness is the main limitation. Suitable crops are soybeans, corn, truck crops and grain sorghum. Pasture plants are small grains, ryegrass, common bermudagrass, bahiagrass, vetch and tall fescue. Drainage is needed when this soil is cultivated. Drop residue on the surface will reduce erosion, help maintain organic matter and reduce crusting. Most crops respond well to lime and a complete fertilizer.

The potential for cropland and pastureland is good. Suitable crops are soybeans, cotton, grain sorghum, and rice. Pasture plants are common bermudagrass, bahiagrass, ryegrass, tall fescue, and white clover. This soil can be worked only within a narrow range of moisture content. A drainage system is needed. Crop residue management will help reduce erosion. Most crops, respond well to nitrogen. Lime and other fertilizers generally are not needed.

This somewhat poorly drained, clayey soil is on short irregular slopes in a ridge-and-swale topography on the flood plain. The soil is clayey throughout. Natural fertility is medium or high. Runoff is medium on the ridges. Water accumulates for short periods in the swales after rains. A seasonal high water table is near the surface in winter and spring. This soil has a very high shrink-swell potential.

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These are wet, clayey soils with a high potential for productivity. Equipment limitations and seedling mortality are severe. This is due primarily to excess water. Silvicultural operations should be restricted to dry weather periods. Only tree species adapted to wet clay soils should be planted. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

Rf MORELAND (ROEBUCK) SILT LOAM, 0 TO 1 PERCENT SLOPES

The potential for cropland and pastureland is good. Suitable crops are soybeans, cotton, grain sorghum, and rice. Pasture plants are common bermudagrass, bahiagrass, ryegrass, tall fescue, and white clover. This soil can be worked only within a narrow range of moisture content. A drainage system is needed. Crop residue management will help reduce erosion. Most crops, respond well to nitrogen. Lime and other fertilizers generally are not needed.

This somewhat poorly drained, level soil is on the flood plain of the Red River. It has a loamy surface layer and a clayey subsoil. Natural fertility is high. Runoff is slow. Water and air move very slowly through the subsoil. A seasonal high water table is near the surface for long periods in winter and spring. The shrink-swell potential is very high in the subsoil.

These are wet, clayey soils with a high potential for productivity. Equipment limitations and seedling mortality are severe. This is due primarily to excess water. Silvicultural operations should be restricted to dry weather periods. Only tree species adapted to wet clay soils should be planted. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

Rg RUSTON FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES

The potential for cropland is fair and the potential for pastureland is good. The suitable crops included millet, small grains, ryegrass, soybeans, grain sorghum, and truck crops. The pasture plants are bermudagrasses, bahiagrass, and crimson clover. Crop residues on the surface will help reduce soil erosion, and reduce crusting. Most crops respond well to lime and a complete fertilizer.

Map Symbol	Description
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This well drained, very gently sloping to gently sloping soil is on uplands. It is loamy and acid throughout. Natural fertility is low. Runoff is medium. Water and air move through the soil at a moderate rate. Plant roots penetrate this soil easily. The soil dries quickly after rains. In places, the soil is moderately eroded.

These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.

Rh RUSTON FINE SANDY LOAM, 1 TO 5 PERCENT, ERODED

The potential for cropland is fair and the potential for pastureland is good. The suitable crops included millet, small grains, ryegrass, soybeans, grain sorghum, and truck crops. The pasture plants are bermudagrasses, bahiagrass, and crimson clover. Crop residues on the surface will help reduce soil erosion, and reduce crusting. Most crops respond well to lime and a complete fertilizer.

This well drained, very gently sloping to gently sloping soil is on uplands. It is loamy and acid throughout. Natural fertility is low. Runoff is medium. Water and air move through the soil at a moderate rate. Plant roots penetrate this soil easily. The soil dries quickly after rains. In places, the soil is moderately eroded.

These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.

Rk RUSTON FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES

The potential for cropland is fair and the potential for pastureland is good. The suitable crops included millet, small grains, ryegrass, soybeans, grain sorghum, and truck crops. The pasture plants are bermudagrasses, bahiagrass, and crimson clover. Crop residues on the surface will help reduce soil erosion, and reduce crusting. Most crops respond well to lime and a complete fertilizer.

This well drained, gently sloping to moderately sloping soil is on uplands. It is loamy and acid throughout.

Map Symbol	Description
	<p>Natural fertility is low. Runoff is rapid. Movement of air and water through the soil is moderate. Plant roots penetrate the soil easily. In places, the soil is moderately eroded.</p> <p>These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.</p>
Rm	<p>RUSTON FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES, ERODED</p> <p>The potential for cropland is fair and the potential for pastureland is good. The suitable crops included millet, small grains, ryegrass, soybeans, grain sorghum, and truck crops. The pasture plants are bermudagrasses, bahiagrass, and crimson clover. Crop residues on the surface will help reduce soil erosion, and reduce crusting. Most crops respond well to lime and a complete fertilizer.</p> <p>This well drained, gently sloping to moderately sloping soil is on uplands. It is loamy and acid throughout. Natural fertility is low. Runoff is rapid. Movement of air and water through the soil is moderate. Plant roots penetrate the soil easily. In places, the soil is moderately eroded.</p> <p>These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.</p>
Rn	<p>ORA (RUSTON) FINE SANDY LOAM , (HARD SUBSTRATUM), 1 TO 5 PERCENT SLOPES</p> <p>The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.</p> <p>This moderately well drained, very gently sloping or gently sloping soil is on terraces or uplands. It is loamy throughout and has a fragipan in the subsoil which restricts plant roots. Natural fertility is low</p>

Map Symbol	Description
	<p>or moderately low. Runoff is medium. Water and air move through the upper part of the subsoil at a moderate rate, and they move slowly or moderately slowly through the fragipan. A seasonal high water table perches on the fragipan for short periods. In places, the soil is moderately eroded.</p> <p>These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.</p>
Ro	<p>ORA (RUSTON) FINE SANDY LOAM, (HARD SUBSTRATUM), 1 TO 5 PERCENT SLOPES, ERODED</p> <p>The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.</p> <p>This moderately well drained, very gently sloping or gently sloping soil is on terraces or uplands. It is loamy throughout and has a fragipan in the subsoil which restricts plant roots. Natural fertility is low or moderately low. Runoff is medium. Water and air move through the upper part of the subsoil at a moderate rate, and they move slowly or moderately slowly through the fragipan. A seasonal high water table perches on the fragipan for short periods. In places, the soil is moderately eroded.</p> <p>These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.</p>
Rs	<p>ORA (RUSTON) FINE SANDY LOAM, (HARD SUBSTRATUM), 5 TO 8 PERCENT SLOPES</p> <p>This soil is poorly suited to cropland and moderately well suited to pasture. It is limited mainly by poor tilth, low fertility, and a severe erosion hazard. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. Residue left on or near the surface helps to conserve moisture, maintain tilth,</p>

Map Symbol	Description
	<p>control erosion. Lime and fertilizer are generally needed.</p> <p>This is a strongly sloping, moderately well drained soil on terraces. The soil is loamy throughout, and it has a fragipan in the subsoil. Natural fertility is low. Permeability is moderately slow in the fragipan. Surface runoff is rapid.</p> <p>These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.</p>
Rt	<p>ORA (RUSTON) FINE SANDY LOAM, (HARD SUBSTRATUM), 5 TO 8 PERCENT SLOPES, ERODED</p> <p>This soil is poorly suited to cropland and moderately well suited to pasture. It is limited mainly by poor tilth, low fertility, and a severe erosion hazard. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. Residue left on or near the surface helps to conserve moisture, maintain tilth, control erosion. Lime and fertilizer are generally needed.</p> <p>This is a strongly sloping, moderately well drained soil on terraces. The soil is loamy throughout, and it has a fragipan in the subsoil. Natural fertility is low. Permeability is moderately slow in the fragipan. Surface runoff is rapid.</p> <p>These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.</p>
Ru	<p>RUSTON SOILS, 1 TO 8 PERCENT SLOPES, SEVERELY ERODED</p> <p>This soil is poorly suited to cropland and moderately well suited to pasture. It is limited mainly by poor tilth, low fertility, and a severe erosion hazard. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. Residue left on or near the surface helps to conserve moisture, maintain tilth, control erosion. Lime and fertilizer are generally needed.</p> <p>This well drained, gently sloping to moderately sloping soil is on uplands. It is loamy and acid throughout.</p>

Map Symbol	Description
Sa	<p>Natural fertility is low. Runoff is rapid. Movement of air and water through the soil is moderate. Plant roots penetrate the soil easily. In places, the soil is moderately eroded.</p> <p>These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.</p> <p>SAVANNAH AND BOWIE VERY FINE SANDY LOAMS, 1 TO 5 PERCENT SLPOES</p>
	<p>The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.</p> <p>These gently sloping, moderately well drained soils are on uplands. The soils are loamy throughout. The Savannah soil has a fragipan, and the Bowie soil has none. Water and air move through the soils at a slow or moderately slow rate. Surface runoff is medium. Natural fertility is low. In places, the soils are moderately eroded.</p> <p>These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.</p> <p>Soils in this group are well drained and loamy with a moderately high potential for productivity. There are no serious management problems. They are suited for southern pines or hardwood. Site index for loblolly and slash pine is 80, shortleaf pine 70, and sweetgum 80.</p>
SaA	<p>EASTWOOD (SUSQUEHANNA) SOILS, 8 TO 30 PERCENT SLOPES, ERODED</p> <p>This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover.</p>

Map Symbol	Description
	<p>The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.</p> <p>This moderately steep and steep, moderately well drained soil is on side slopes on uplands. The soil has a loamy surface layer and a clayey and loamy subsoil. Permeability is slow. The soil has a seasonal high water table in winter and spring. Natural fertility is low. In places, the soil is moderately eroded.</p> <p>These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.</p>
SaB	<p>EASTWOOD (SUSQUEHANNA) SOILS, 5 TO 30 PERCENT SLOPES, SEVERELY ERODED</p> <p>This moderately steep and steep, moderately well drained soil is on side slopes on uplands. The soil has a loamy surface layer and a clayey and loamy subsoil. Permeability is slow. The soil has a seasonal high water table in winter and spring. Natural fertility is low. In places, the soil is moderately eroded.</p> <p>These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.</p>
Sb	<p>SAVANNAH AND BOWIE VERY FINE SANDY LOAMS, 1 TO 5 PERCENT SLOPES, ERODED</p> <p>The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.</p> <p>These gently sloping, moderately well drained soils are on uplands. The soils are loamy throughout. The Savannah soil has a fragipan, and the Bowie soil has</p>

Map Symbol	Description
	<p>none. Water and air move through the soils at a slow or moderately slow rate. Surface runoff is medium. Natural fertility is low. In places, the soils are moderately eroded.</p> <p>These are well drained, loamy soils with a high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly and slash pines is 90 and shortleaf pine is 80.</p> <p>Soils in this group are well drained and loamy with a moderately high potential for productivity. There are no serious management problems. They are suited for southern pines or hardwood. Site index for loblolly and slash pine is 80, shortleaf pine 70, and sweetgum 80.</p>
Sc	<p data-bbox="496 825 1414 846">METCALF (SAWYER) FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES</p> <p>The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.</p> <p>This moderately well drained, very gently sloping or gently sloping soil is on terraces. It is loamy in the upper part of the subsoil and clayey in the lower part. Natural fertility is low or moderately low. Runoff is slow to medium. Water and air move slowly or very slowly through the clayey part of the subsoil. A seasonal high water table is perched on the clayey subsoil for long periods in winter and spring. In places, the soil is moderately eroded.</p> <p>These are slightly to moderately wet, acid, loamy and clayey soils. The potential for productivity is high. Equipment limitations are moderate due to excess water. Silvicultural operations should be restricted to dry weather periods. These soils are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.</p>

Map Symbol	Description
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Sd METCALF (SAWYER) FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES, ERODED

The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.

This moderately well drained, very gently sloping or gently sloping soil is on terraces. It is loamy in the upper part of the subsoil and clayey in the lower part. Natural fertility is low or moderately low. Runoff is slow to medium. Water and air move slowly or very slowly through the clayey part of the subsoil. A seasonal high water table is perched on the clayey subsoil for long periods in winter and spring. In places, the soil is moderately eroded.

These are slightly to moderately wet, acid, loamy and clayey soils. The potential for productivity is high. Equipment limitations are moderate due to excess water. Silvicultural operations should be restricted to dry weather periods. These soils are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.

Se SACUL (SHUBUTA) FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES

The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.

This moderately well drained, gently sloping soil is on ridgetops on uplands. It has a loamy surface layer and a clayey subsoil. Runoff is medium. Water and air move slowly or very slowly through the subsoil. The soil is acid throughout and has low fertility. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.

These are well drained to slightly wet, clayey soils

Map Symbol	Description
	<p>with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.</p>
Sf	<p>SACUL (SHUBUTA) FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES, ERODED</p> <p>The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.</p> <p>This moderately well drained, gently sloping soil is on ridgetops on uplands. It has a loamy surface layer and a clayey subsoil. Runoff is medium. Water and air move slowly or very slowly through the subsoil. The soil is acid throughout and has low fertility. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.</p> <p>These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.</p>
Sg	<p>SACUL (SHUBUTA) FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES</p> <p>This soil is poorly suited to cropland and moderately well suited to pasture. It is limited mainly by poor tilth, low fertility, and a severe erosion hazard. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. Residue left on or near the surface helps to conserve moisture, maintain tilth, control erosion. Lime and fertilizer are generally needed.</p> <p>This moderately well drained, moderately sloping to strongly sloping soil is on side slopes on uplands. It has a loamy surface layer and a clayey subsoil. Runoff is rapid. Water and air move slowly or very slowly through the subsoil. The soil is acid throughout and has low fertility. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.</p>

Map Symbol	Description
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These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.

Sh SACUL (SHUBUTA) FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES, ERODED

This soil is poorly suited to cropland and moderately well suited to pasture. It is limited mainly by poor tilth, low fertility, and a severe erosion hazard. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. Residue left on or near the surface helps to conserve moisture, maintain tilth, control erosion. Lime and fertilizer are generally needed.

This moderately well drained, moderately sloping to strongly sloping soil is on side slopes on uplands. It has a loamy surface layer and a clayey subsoil. Runoff is rapid. Water and air move slowly or very slowly through the subsoil. The soil is acid throughout and has low fertility. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.

These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.

Sk SACUL (SHUBUTA) FINE SANDY LOAM, 8 TO 16 PERCENT SLOPES, ERODED

This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.

This moderately well drained, moderately sloping to strongly sloping soil is on side slopes on uplands. It has a loamy surface layer and a clayey subsoil. Runoff is rapid. Water and air move slowly or very slowly through the subsoil. The soil is acid throughout and has low fertility. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.

Map Symbol	Description
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These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.

Sm SHUBUTA GRAVELLY FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES

The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.

This well drained, very gently sloping to gently sloping soil is on uplands. It has a loamy surface layer and a clayey subsoil. Natural fertility is low. Runoff is medium. Water and air move very slowly through the subsoil. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.

These are well drained, loamy soils with a moderately high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly pine is 80, shortleaf is 70.

Sn SHUBUTA GRAVELLY FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES, ERODED

The potential for cropland is fair and the potential for pastureland is good. The suited crops are wheat, and corn. The main pasture plants are bermudagrasses, bahiagrass, and crimson clover. Conservation tillage is needed to reduce erosion when this soil is used for cropland. Crop residue on the surface will reduce erosion, help maintain organic matter content, and reduce crusting. Most crops will need lime and a complete fertilizer.

This well drained, very gently sloping to gently sloping soil is on uplands. It has a loamy surface layer and a clayey subsoil. Natural fertility is low. Runoff is medium. Water and air move very slowly through the subsoil. The subsoil has a high

Map Symbol	Description
	<p>shrink-swell potential. In places, the soil is moderately eroded.</p> <p>These are well drained, loamy soils with a moderately high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly pine is 80, shortleaf is 70.</p>
So	<p>SHUBUTA GRAVELLY FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES</p> <p>This soil is poorly suited to cropland and moderately well suited to pasture. It is limited mainly by poor tilth, low fertility, and a severe erosion hazard. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. Residue left on or near the surface helps to conserve moisture, maintain tilth, control erosion. Lime and fertilizer are generally needed.</p> <p>This well drained, moderately sloping to strongly sloping soil is on uplands. It has a loamy or gravelly surface layer and a clayey subsoil. Natural fertility is low. Runoff is rapid. Water and air move very slowly through the subsoil. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.</p> <p>These are well drained, loamy soils with a moderately high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly pine is 80, shortleaf is 70.</p>
Sp	<p>SHUBUTA GRAVELLY FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES, ERODED</p> <p>This soil is poorly suited to cropland and moderately well suited to pasture. It is limited mainly by poor tilth, low fertility, and a severe erosion hazard. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. Residue left on or near the surface helps to conserve moisture, maintain tilth, control erosion. Lime and fertilizer are generally needed.</p> <p>This well drained, moderately sloping to strongly sloping soil is on uplands. It has a loamy or gravelly surface layer and a clayey subsoil. Natural fertility is low. Runoff is rapid. Water and air move very slowly through the subsoil. The subsoil has a high shrink-swell potential. In places, the soil is</p>

Map Symbol	Description
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moderately eroded.

These are well drained, loamy soils with a moderately high potential for productivity. There are no serious management problems. They are best suited for southern pines. Site index for loblolly pine is 80, shortleaf is 70.

Sr SACUL (SHUBUTA) GRAVELLY FINE SANDY LOAM, 8 TO 20 PERCENT SLOPES

This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.

This moderately well drained, moderately sloping to strongly sloping soil is on side slopes on uplands. It has a loamy surface layer and a clayey subsoil. Runoff is rapid. Water and air move slowly or very slowly through the subsoil. The soil is acid throughout and has low fertility. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.

These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.

Ss SACUL (SHUBUTA) SOILS, 5 TO 30 PERCENT SLOPES, SEVERELY ERODED

This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.

This moderately steep and steep, moderately well drained soil is on side slopes on uplands. The soil has a loamy surface layer and a clayey and loamy subsoil. Permeability is slow. The soil has a seasonal high water table in winter and spring. Natural fertility is low. In places, the soil is moderately eroded.

These are well drained to slightly wet, clayey soils

Map Symbol	Description
	<p>with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.</p>
St	<p>SACUL (SHUBUTA)-BOSWELL GRAVELLY SANDY LOAMS, 8 TO 30 PERCENT SLOPES ERODED</p> <p>This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.</p> <p>These strongly sloping to steep, moderately well drained soils are on uplands. The Shubuta soil is on narrow ridgetops and the upper parts of side slopes. The Boswell soil is on the middle and lower parts of side slopes. Both soils have a gravelly surface layer and a clayey subsoil. Water and air move slowly or very slowly through the subsoils. Surface runoff is rapid. Natural fertility is low.</p> <p>These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.</p>
Su	<p>SACUL (SHUBUTA) AND DARLEY (CUTHBERT) GRAVELLY SANDY LOAMS, 8 TO 30 PERCENT SLOPES</p> <p>This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.</p> <p>These soils are moderately steep and are on side slopes on uplands. The Darley soil is on the upper parts of slopes and is well drained. It has a gravelly surface layer and a clayey subsoil. Fractured layers of ironstone are in the subsoil. The Sacul soil is on the lower parts of side slopes and is moderately well drained. It has a loamy surface layer and a clayey subsoil. Natural fertility is low or medium. Surface runoff is rapid. The Sacul soil has a high shrink-swell potential in the subsoil.</p>

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These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.

These are well drained, gravelly soils with a subsoil of clayey material and ironstone; steep or moderately steep slopes. There is a moderately high potential for productivity. Equipment limitations and seedling mortality are moderate. These soils are best suited for southern pines. Site index for loblolly pine is 85, shortleaf pine 75.

Sv CADDO-MESSER (STOUGH) COMPLEX, MOUNDED, 0 TO 1 PERCENT SLOPES

The potential for cropland and pastureland is fair. Wetness is the main limitation. Suitable crops are soybeans, corn, truck crops and grain sorghum. Pasture plants are small grains, ryegrass, common bermudagrass, bahiagrass, vetch and tall fescue. Drainage is needed when this soil is cultivated. Drop residue on the surface will reduce erosion, help maintain organic matter and reduce crusting. Most crops respond well to lime and a complete fertilizer.

These Caddo and Messer soils are in broad areas on the terrace uplands. The Caddo soil is poorly drained and is in swales and on level areas. It makes up most of the map unit. The Messer soil is moderately well drained and is on mounds and low ridges. Both soils are acid and loamy throughout the profile. Permeability is slow in both soils. Runoff is slow on the Caddo soil and medium on the Messer soil. Both soils have a seasonal high water table for long periods in winter and spring.

These are slightly to moderately wet, acid, loamy and clayey soils. The potential for productivity is high. Equipment limitations are moderate due to excess water. Silvicultural operations should be restricted to dry weather periods. These soils are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.

This group consists of wet, occasionally to frequently flooded loamy soils with a high potential for productivity. Equipment limitations are severe and seedling mortality is moderate to severe. This is due

Map Symbol	Description
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primarily to excess water. These soils are well suited for either southern pine or hardwood. Silvicultural operations should be restricted to dry weather periods. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for loblolly and slash pine is 90, cottonwood 90-100, green ash, water oak and sweetgum 90.

Sw CADDO-MESSER (STOUGH) SILT LOAM, 0 TO 3 PERCENT SLOPES

The potential for cropland and pastureland is fair. Wetness is the main limitation. Suitable crops are soybeans, corn, truck crops and grain sorghum. Pasture plants are small grains, ryegrass, common bermudagrass, bahiagrass, vetch and tall fescue. Drainage is needed when this soil is cultivated. Drop residue on the surface will reduce erosion, help maintain organic matter and reduce crusting. Most crops respond well to lime and a complete fertilizer.

These Caddo and Messer soils are in broad areas on the terrace uplands. The Caddo soil is poorly drained and is in swales and on level areas. It makes up most of the map unit. The Messer soil is moderately well drained and is on mounds and low ridges. Both soils are acid and loamy throughout the profile. Permeability is slow in both soils. Runoff is slow on the Caddo soil and medium on the Messer soil. Both soils have a seasonal high water table for long periods in winter and spring.

These are slightly to moderately wet, acid, loamy and clayey soils. The potential for productivity is high. Equipment limitations are moderate due to excess water. Silvicultural operations should be restricted to dry weather periods. These soils are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.

This group consists of wet, occasionally to frequently flooded loamy soils with a high potential for productivity. Equipment limitations are severe and seedling mortality is moderate to severe. This is due primarily to excess water. These soils are well suited for either southern pine or hardwood. Silvicultural operations should be restricted to dry weather periods. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for loblolly and slash pine is 90, cottonwood 90-100, green ash, water oak and sweetgum 90.

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Sx WRIGHTSVILLE-VIDRINE (STOUGH) SILT LOAMS, (CLAY
SUBSTRATUM), 0 TO 1 PERCENT SLOPES

The potential for cropland and pastureland is fair. Wetness is the main limitation. Suitable crops are soybeans, corn, truck crops and grain sorghum. Pasture plants are small grains, ryegrass, common bermudagrass, bahiagrass, vetch and tall fescue. Drainage is needed when this soil is cultivated. Drop residue on the surface will reduce erosion, help maintain organic matter and reduce crusting. Most crops respond well to lime and a complete fertilizer.

These poorly drained Wrightsville soils and somewhat poorly drained Vidrine soils are on the terrace uplands. The Wrightsville soil is on broad flats and makes up most of the map unit. The Vidrine soil is on low circular mounds or smoothed mound areas and makes up a lesser part of the map unit. Both soils have a loamy surface layer and a clayey and loamy subsoil. Both soils have low fertility. Permeability is very slow in the Wrightsville soil and slow in the Vidrine soil. A seasonal high water table is present in both soils for long periods in winter and spring. Surface runoff is slow on the Wrightsville soil and medium on the Vidrine soil. The shrink-swell potential is high in both soils. Slopes range from less than 1 percent on the Wrightsville soil to about 3 percent on the Vidrine soil.

This group consists of wet, occasionally to frequently flooded loamy soils with a high potential for productivity. Equipment limitations are severe and seedling mortality is moderate to severe. This is due primarily to excess water. These soils are well suited for either southern pine or hardwood. Silvicultural operations should be restricted to dry weather periods. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for loblolly and slash pine is 90, cottonwood 90-100, green ash, water oak and sweetgum 90.

Soils in this group are wet and clayey with a moderately high potential for productivity. Equipment limitations are severe and seedling mortality is moderate. This is due primarily to excess water, silvicultural operations should be restricted to dry weather periods. These soils are suited to either southern pines or hardwood. Site index for loblolly and slash pines is 80, oaks and sweetgum 80.

Map Symbol	Description
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Sy WRIGHTSVILLE-VIDRINE (STOUGH) SILT LOAMS, (CLAY
SUBSTRATUM), 1 TO 3 PERCENT SLOPES

The potential for cropland and pastureland is fair. Wetness is the main limitation. Suitable crops are soybeans, corn, truck crops and grain sorghum. Pasture plants are small grains, ryegrass, common bermudagrass, bahiagrass, vetch and tall fescue. Drainage is needed when this soil is cultivated. Drop residue on the surface will reduce erosion, help maintain organic matter and reduce crusting. Most crops respond well to lime and a complete fertilizer.

These poorly drained Wrightsville soils and somewhat poorly drained Vidrine soils are on the terrace uplands. The Wrightsville soil is on broad flats and makes up most of the map unit. The Vidrine soil is on low circular mounds or smoothed mound areas and makes up a lesser part of the map unit. Both soils have a loamy surface layer and a clayey and loamy subsoil. Both soils have low fertility. Permeability is very slow in the Wrightsville soil and slow in the Vidrine soil. A seasonal high water table is present in both soils for long periods in winter and spring. Surface runoff is slow on the Wrightsville soil and medium on the Vidrine soil. The shrink-swell potential is high in both soils. Slopes range from less than 1 percent on the Wrightsville soil to about 3 percent on the Vidrine soil.

This group consists of wet, occasionally to frequently flooded loamy soils with a high potential for productivity. Equipment limitations are severe and seedling mortality is moderate to severe. This is due primarily to excess water. These soils are well suited for either southern pine or hardwood. Silvicultural operations should be restricted to dry weather periods. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for loblolly and slash pine is 90, cottonwood 90-100, green ash, water oak and sweetgum 90.

Soils in this group are wet and clayey with a moderately high potential for productivity. Equipment limitations are severe and seedling mortality is moderate. This is due primarily to excess water, silvicultural operations should be restricted to dry weather periods. These soils are suited to either southern pines or hardwood. Site index for loblolly and slash pines is 80, oaks and sweetgum 80.

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Sz EASTWOOD (SUSQUEHANNA) FINE SANDY LOAM, 1 TO 8 PERCENT SLOPES

This soil is generally unsuited for cropland because of slope and the hazard of erosion. The potential for pastureland is fair. The main pasture plants are common bermudagrass, bahiagrass, and crimson clover. The strong slopes present an erosion hazard during planting and limit the use of some farm equipment.

This moderately well drained, gently sloping soil is on ridgetops on uplands. It has a loamy surface layer and a clayey subsoil. Runoff is medium. Water and air move slowly or very slowly through the subsoil. The soil is acid throughout and has low fertility. The subsoil has a high shrink-swell potential. In places, the soil is moderately eroded.

These are well drained to slightly wet, clayey soils with a moderately high potential for productivity. Slight to moderate erosion hazard and moderate equipment limitations due to clay subsoil. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine is 70.

Td SHATTA (TILDEN) SOILS, 1 TO 8 PERCENT SLOPES, SEVERELY ERODED

This moderately well drained, very gently sloping or gently sloping soil is on terraces or uplands. It is loamy throughout and has a fragipan in the subsoil which restricts plant roots. Natural fertility is low or moderately low. Runoff is medium. Water and air move through the upper part of the subsoil at a moderate rate, and they move slowly or moderately slowly through the fragipan. A seasonal high water table perches on the fragipan for short periods. In places, the soil is moderately eroded.

Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. They are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.

Tf SHATTA (TILDEN) VERY FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES

The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, grain sorghum, and truck crops. Pasture plants are bermudagrasses, bahiagrass, ryegrass, tall fescue, and

Map Symbol	Description
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white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. Land leveling will improve surface drainage. Crop residue management will help reduce soil erosion. Most crops, respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.

This moderately well drained, very gently sloping or gently sloping soil is on terraces or uplands. It is loamy throughout and has a fragipan in the subsoil which restricts plant roots. Natural fertility is low or moderately low. Runoff is medium. Water and air move through the upper part of the subsoil at a moderate rate, and they move slowly or moderately slowly through the fragipan. A seasonal high water table perches on the fragipan for short periods. In places, the soil is moderately eroded.

Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. They are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.

Ts SHATTA (TILDEN) VERY FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES

The potential for cropland is fair and the potential for pastureland is good. Suitable crops are millet, small grains, ryegrass, soybeans, corn, grain sorghum, and truck crops. The main pasture plants are bermudagrass, bahiagrass, and crimson clover. Contour farming or conservation tillage is needed to control runoff and help reduce erosion. Most crops respond well to lime and a complete fertilizer.

This moderately well drained, very gently sloping or gently sloping soil is on terraces or uplands. It is loamy throughout and has a fragipan in the subsoil which restricts plant roots. Natural fertility is low or moderately low. Runoff is medium. Water and air move through the upper part of the subsoil at a moderate rate, and they move slowly or moderately slowly through the fragipan. A seasonal high water table perches on the fragipan for short periods. In places, the soil is moderately eroded.

Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. They are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.

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Tv SHATTA (TILDEN) VERY FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES, ERODED

The potential for cropland is fair and the potential for pastureland is good. Suitable crops are millet, small grains, ryegrass, soybeans, corn, grain sorghum, and truck crops. The main pasture plants are bermudagrass, bahiagrass, and crimson clover. Contour farming or conservation tillage is needed to control runoff and help reduce erosion. Most crops respond well to lime and a complete fertilizer.

This moderately well drained, very gently sloping or gently sloping soil is on terraces or uplands. It is loamy throughout and has a fragipan in the subsoil which restricts plant roots. Natural fertility is low or moderately low. Runoff is medium. Water and air move through the upper part of the subsoil at a moderate rate, and they move slowly or moderately slowly through the fragipan. A seasonal high water table perches on the fragipan for short periods. In places, the soil is moderately eroded.

Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. They are well suited for either southern pines or hardwood. Site index for loblolly and slash pine is 90, oaks and sweetgum 90.

Va WOLFPEN (VAUCLUSE) LOAMY FINE SAND, 1 TO 5 PERCENT SLOPES

The potential for cropland and pastureland is fair. Crops such as watermelons and peanuts are well suited. Suitable pasture plants include bermudagrasses, bahiagrass, and crimson clover. This soil is fairly easy to keep in good tilth. It is easy to work when moist but traction is poor when dry. Proper management of crop residue will help to reduce erosion. Conservation tillage or contour farming is needed when this soil is cropped. Response to fertilizer is fair. Lime is generally needed.

This gently sloping, moderately well drained soil is on ridgetops on uplands. It has thick sandy surface and subsurface layers and a loamy and clayey subsoil. Natural fertility is low. Permeability is rapid in the sandy upper part of the soil, moderate in the middle part, and moderately slow in the lower part. The available water capacity is low or moderate. The soil has a seasonal high water table perched on the subsoil

Map Symbol	Description
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during the wet season.

These are excessively drained, sandy soils with a moderately high potential for productivity. Erosion hazard and equipment limitations are slight to moderate. Seedling mortality is severe. More seedlings than the recommended rate should be planted on these soils to ensure a stand. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine 70.

Vc WOLFPEN (VAUCLUSE) LOAMY FINE SAND, 1 TO 5 PERCENT SLOPES, ERODED

The potential for cropland and pastureland is fair. Crops such as watermelons and peanuts are well suited. Suitable pasture plants include bermudagrasses, bahiagrass, and crimson clover. This soil is fairly easy to keep in good tilth. It is easy to work when moist but traction is poor when dry. Proper management of crop residue will help to reduce erosion. Conservation tillage or contour farming is needed when this soil is cropped. Response to fertilizer is fair. Lime is generally needed.

This gently sloping, moderately well drained soil is on ridgetops on uplands. It has thick sandy surface and subsurface layers and a loamy and clayey subsoil. Natural fertility is low. Permeability is rapid in the sandy upper part of the soil, moderate in the middle part, and moderately slow in the lower part. The available water capacity is low or moderate. The soil has a seasonal high water table perched on the subsoil during the wet season.

These are excessively drained, sandy soils with a moderately high potential for productivity. Erosion hazard and equipment limitations are slight to moderate. Seedling mortality is severe. More seedlings than the recommended rate should be planted on these soils to ensure a stand. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine 70.

Vf WOLFPEN (VAUCLUSE) LOAMY FINE SAND, 5 TO 8 PERCENT SLOPES

The potential for cropland and pastureland is fair. Crops such as watermelons and peanuts are well suited. Suitable pasture plants include bermudagrasses, bahiagrass, and crimson clover. This soil is fairly easy to keep in good tilth. It is easy to work when

Map Symbol	Description
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moist but traction is poor when dry. Proper management of crop residue will help to reduce erosion. Conservation tillage or contour farming is needed when this soil is cropped. Response to fertilizer is fair. Lime is generally needed.

This is a well drained, strongly sloping to moderately steep soil on uplands. It has thick sandy surface and subsurface layers and a loamy subsoil. The soil has low fertility and a low or moderate available water capacity. Permeability is rapid in the upper part of the soil and moderate in the lower part. Surface runoff is medium.

These are excessively drained, sandy soils with a moderately high potential for productivity. Erosion hazard and equipment limitations are slight to moderate. Seedling mortality is severe. More seedlings than the recommended rate should be planted on these soils to ensure a stand. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine 70.

Vm WOLFPEN (VAUCLUSE) LOAMY FINE SAND, 5 TO 8 PERCENT SLOPES, ERODED

The potential for cropland and pastureland is fair. Crops such as watermelons and peanuts are well suited. Suitable pasture plants include bermudagrasses, bahiagrass, and crimson clover. This soil is fairly easy to keep in good tilth. It is easy to work when moist but traction is poor when dry. Proper management of crop residue will help to reduce erosion. Conservation tillage or contour farming is needed when this soil is cropped. Response to fertilizer is fair. Lime is generally needed.

This is a well drained, strongly sloping to moderately steep soil on uplands. It has thick sandy surface and subsurface layers and a loamy subsoil. The soil has low fertility and a low or moderate available water capacity. Permeability is rapid in the upper part of the soil and moderate in the lower part. Surface runoff is medium.

These are excessively drained, sandy soils with a moderately high potential for productivity. Erosion hazard and equipment limitations are slight to moderate. Seedling mortality is severe. More seedlings than the recommended rate should be planted on these soils to ensure a stand. These soils are best suited for southern pine. Site index for loblolly and

Map Symbol	Description
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slash pine is 80, shortleaf pine 70.

Vs WOLFPEN (VAUCLUSE) LOAMY FINE SAND, 8 TO 16 PERCENT
SLOPES, ERODED

This soil is unsuited for cropland; the erosion hazard is too severe. The potential for pastureland is poor. The steep slopes, low fertility, limited choice of plants, and droughtiness are unfavorable features for this use. Erosion is a hazard during pasture establishment. Suitable pasture plants are bermudagrasses, bahiagrass, and crimson clover. A complete fertilizer and lime are needed.

This is a well drained, strongly sloping to moderately steep soil on uplands. It has thick sandy surface and subsurface layers and a loamy subsoil. The soil has low fertility and a low or moderate available water capacity. Permeability is rapid in the upper part of the soil and moderate in the lower part. Surface runoff is medium.

These are excessively drained, sandy soils with a moderately high potential for productivity. Erosion hazard and equipment limitations are slight to moderate. Seedling mortality is severe. More seedlings than the recommended rate should be planted on these soils to ensure a stand. These soils are best suited for southern pine. Site index for loblolly and slash pine is 80, shortleaf pine 70.

Wr WRIGHTSVILLE-VIDRINE COMPLEX, MOUNDED

The potential for cropland and pastureland is fair. Wetness is the main limitation. Suitable crops are soybeans, corn, truck crops and grain sorghum. Pasture plants are small grains, ryegrass, common bermudagrass, bahiagrass, vetch and tall fescue. Drainage is needed when this soil is cultivated. Drop residue on the surface will reduce erosion, help maintain organic matter and reduce crusting. Most crops respond well to lime and a complete fertilizer.

These poorly drained Wrightsville soils and somewhat poorly drained Vidrine soils are on the terrace uplands. The Wrightsville soil is on broad flats and makes up most of the map unit. The Vidrine soil is on low circular mounds or smoothed mound areas and makes up a lesser part of the map unit. Both soils have a loamy surface layer and a clayey and loamy subsoil. Both soils have low fertility. Permeability is very slow in the Wrightsville soil and slow in the Vidrine

Map Symbol	Description
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soil. A seasonal high water table is present in both soils for long periods in winter and spring. Surface runoff is slow on the Wrightsville soil and medium on the Vidrine soil. The shrink-swell potential is high in both soils. Slopes range from less than 1 percent on the Wrightsville soil to about 3 percent on the Vidrine soil.

This group consists of wet, occasionally to frequently flooded loamy soils with a high potential for productivity. Equipment limitations are severe and seedling mortality is moderate to severe. This is due primarily to excess water. These soils are well suited for either southern pine or hardwood. Silvicultural operations should be restricted to dry weather periods. Plant more seedlings than the recommended rate on these soils to ensure a stand. Site index for loblolly and slash pine is 90, cottonwood 90-100, green ash, water oak and sweetgum 90.

Soils in this group are wet and clayey with a moderately high potential for productivity. Equipment limitations are severe and seedling mortality is moderate. This is due primarily to excess water, silvicultural operations should be restricted to dry weather periods. These soils are suited to either southern pines or hardwood. Site index for loblolly and slash pines is 80, oaks and sweetgum 80.

Wt WRIGHTSVILLE SILT LOAM

The potential for cropland and pastureland is fair. Wetness is the main limitation. Suitable crops are soybeans, corn, truck crops and grain sorghum. Pasture plants are small grains, ryegrass, common bermudagrass, bahiagrass, vetch and tall fescue. Drainage is needed when this soil is cultivated. Drop residue on the surface will reduce erosion, help maintain organic matter and reduce crusting. Most crops respond well to lime and a complete fertilizer.

This poorly drained, level soil is in depressional areas along drainageways on uplands. It has a loamy surface layer and a clayey subsoil. Natural fertility is low. Runoff is slow, and water moves very slowly through the soil. This soil is wet during much of winter and spring. The subsoil has a high shrink-swell potential.

Soils in this group are wet and clayey with a moderately high potential for productivity. Equipment limitations are severe and seedling mortality is

Map Symbol	Description
	<p>moderate. This is due primarily to excess water, silvicultural operations should be restricted to dry weather periods. These soils are suited to either southern pines or hardwood. Site index for loblolly and slash pines is 80, oaks and sweetgum 80.</p>
Wv	<p>WRIGHTSVILLE SILTY CLAY</p> <p>The potential for cropland and pastureland is good. Suitable crops are soybeans, cotton, grain sorghum, and rice. Pasture plants are common bermudagrass, bahiagrass, ryegrass, tall fescue, and white clover. This soil can be worked only within a narrow range of moisture content. A drainage system is needed. Crop residue management will help reduce erosion. Most crops, respond well to nitrogen. Lime and other fertilizers generally are not needed.</p> <p>This nearly level, poorly drained soil is on terraces. It has a clayey surface layer, a loamy subsurface layer, and a clayey subsoil. Water and air move very slowly through the soil. Surface runoff is slow. The soil has a seasonal high water table for long periods in winter and spring. Natural fertility is low.</p> <p>Soils in this group are wet and clayey with a moderately high potential for productivity. Equipment limitations are severe and seedling mortality is moderate. This is due primarily to excess water, silvicultural operations should be restricted to dry weather periods. These soils are suited to either southern pines or hardwood. Site index for loblolly and slash pines is 80, oaks and sweetgum 80.</p>
Ya	<p>ARMISTEAD (YAHOLA) CLAY, (OVERWASH), 0 TO 1 PERCENT SLOPES</p> <p>The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, and grain sorghum. Pasture plants are bermudagrasses, bahiagrass, ryegrass tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. A drainage system is generally needed to remove excess surface water. Crop residue management will reduce erosion. Most crops respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.</p> <p>This level, somewhat poorly drained soil is on natural levees on the alluvial plain. It has a clayey surface layer and loamy subsoil. Natural fertility is high. Permeability is slow in the surface layer and</p>

Map Symbol	Description
	<p>moderately slow in the subsoil. The soil has a seasonal high water table in winter and spring. The shrink-swell potential is low in the subsoil.</p> <p>Soils in this group are moderately wet, loamy and clayey with a high potential for productivity. Equipment limitations are moderate and seedling mortality is slight to moderate. This is due primarily to excess water. These soils are best suited for southern hardwood. Site index for green ash is 80, cottonwood 110, oaks and sweetgum 90.</p>
Yc	<p>ARMISTEAD (YAHOLA) CLAY, OVERWASH, 1 TO 3 PERCENT SLOPES</p> <p>The potential for cropland is fair and the potential for pastureland is good. Suitable crops are millet, small grains, ryegrass, soybeans, corn, grain sorghum, and truck crops. The main pasture plants are bermudagrass, bahiagrass, and crimson clover. Contour farming or conservation tillage is needed to control runoff and help reduce erosion. Most crops respond well to lime and a complete fertilizer.</p> <p>This level, somewhat poorly drained soil is on natural levees on the alluvial plain. It has a clayey surface layer and loamy subsoil. Natural fertility is high. Permeability is slow in the surface layer and moderately slow in the subsoil. The soil has a seasonal high water table in winter and spring. The shrink-swell potential is low in the subsoil.</p> <p>Soils in this group are moderately wet, loamy and clayey with a high potential for productivity. Equipment limitations are moderate and seedling mortality is slight to moderate. This is due primarily to excess water. These soils are best suited for southern hardwood. Site index for green ash is 80, cottonwood 110, oaks and sweetgum 90.</p>
Yh	<p>NORWOOD (YAHOLA) SILT LOAM, 0 TO 1 PERCENT SLOPES</p> <p>The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, grain sorghum, and truck crops. Pasture plants are bermudagrasses, bahiagrass, ryegrass, tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. Land leveling will improve surface drainage. Crop residue management will help reduce soil erosion. Most crops, respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.</p>

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This well drained, level soil is on natural levees on the Red River flood plain. It is loamy and alkaline throughout. Natural fertility is high. Movement of air and water through the soil is moderate. Runoff is slow. This soil dries quickly after rains.

These are well drained, loamy soils with a very high potential for productivity. There are no serious management problems. These soils are best suited for bottomland hardwoods. Site index for green ash is 90, cottonwood 110, sweetgum 100-110, and oaks 90.

Ym NORWOOD (YAHOLA) SILT LOAM, 1 TO 3 PERCENT SLOPES

The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, grain sorghum, and truck crops. Pasture plants are tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. Proper row direction is needed to help control erosion. Crop residue management will also help reduce erosion. Most crops respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.

This well drained, loamy soil is on parallel ridges and swales on natural levees on the Red River flood plain. It is protected from flooding by man-made levees. The soil is loamy throughout and has high fertility. Runoff is slow. Movement of water and air through the soil is moderate.

These are well drained, loamy soils with a very high potential for productivity. There are no serious management problems. These soils are best suited for bottomland hardwoods. Site index for green ash is 90, cottonwood 110, sweetgum 100-110, and oaks 90.

Yn NORWOOD (YAHOLA) SILTY CLAY LOAM, 0 TO 1 PERCENT SLOPES

The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, and grain sorghum. Pasture plants are bermudagrasses, bahiagrass, ryegrass tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. A drainage system is generally needed to remove excess surface water. Crop residue management will reduce erosion. Most crops respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.

Map Symbol	Description
	<p>This well drained, level soil is on natural levees on the Red River flood plain. It is loamy and alkaline throughout. Natural fertility is high. Movement of air and water through the soil is moderate. Runoff is slow, and excess water accumulates for short periods after rains. This soil dries moderately slowly after rains.</p> <p>These are well drained, loamy soils with a very high potential for productivity. There are no serious management problems. These soils are best suited for bottomland hardwoods. Site index for green ash is 90, cottonwood 110, sweetgum 100-110, and oaks 90.</p>
Yo	<p>NORWOOD (YAHOLA) SILTY CLAY LOAM, 1 TO 3 PERCENT SLOPES</p> <p>The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, grain sorghum, and truck crops. Pasture plants are tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. Proper row direction is needed to help control erosion. Crop residue management will also help reduce erosion. Most crops respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.</p> <p>This well drained, loamy soil is on parallel ridges and swales on natural levees on the Red River flood plain. It is protected from flooding by man-made levees. The soil is loamy throughout and has high fertility. Runoff is slow. Movement of water and air through the soil is moderate.</p> <p>These are well drained, loamy soils with a very high potential for productivity. There are no serious management problems. These soils are best suited for bottomland hardwoods. Site index for green ash is 90, cottonwood 110, sweetgum 100-110, and oaks 90.</p>
Yp	<p>SEVERN (YAHOLA) SOILS, OVERFLOW, 0 TO 3 PERCENT SLOPES</p> <p>The potential for cropland is very poor. Flooding is too severe for most crops. The potential for pastureland is poor. Flooding restricts choice of plants. Common bermudagrass and bahiagrass can be grown but grazing time has to be restricted during flood periods.</p> <p>This well drained, undulating soil is on ridges and swales on the Red River alluvial plain. It is on the unprotected side of the man-made levee and is subject to frequent flooding. This soil is loamy throughout and</p>

Map Symbol	Description
	<p>has high fertility. Runoff is slow. Movement of water and air through the soil is moderate.</p> <p>Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. These soils are best suited for southern hardwoods. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.</p>
Yr	<p>SEVERN (YAHOLA) VERY FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES</p> <p>The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, grain sorghum, and truck crops. Pasture plants are bermudagrasses, bahiagrass, ryegrass, tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. Land leveling will improve surface drainage. Crop residue management will help reduce soil erosion. Most crops, respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.</p> <p>This well drained, level soil is on natural levees on the Red River flood plain. It is loamy and alkaline throughout. Natural fertility is high. Movement of air and water through the soil is moderate. Runoff is slow. This soil dries quickly after rains.</p> <p>Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. These soils are best suited for southern hardwoods. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.</p>
Ys	<p>SEVERN (YAHOLA) VERY FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES</p> <p>The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, grain sorghum, and truck crops. Pasture plants are tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. Proper row direction is needed to help control erosion. Crop residue management will also help reduce erosion. Most crops respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.</p> <p>This well drained, level soil is on natural levees on the Red River flood plain. It is loamy and alkaline throughout. Natural fertility is high. Movement of air</p>

Map Symbol	Description
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and water through the soil is moderate. Runoff is slow. This soil dries quickly after rains.

Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. These soils are best suited for southern hardwoods. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

Yt SEVERN (YAHOLA) VERY FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES

The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, grain sorghum, and truck crops. Pasture plants are tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. Proper row direction is needed to help control erosion. Crop residue management will also help reduce erosion. Most crops respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.

This well drained, loamy soil is on parallel ridges and swales on natural levees on the Red River flood plain. It is protected from flooding by man-made levees. The soil is loamy throughout and has high fertility. Runoff is slow. Movement of water and air through the soil is moderate.

Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. These soils are best suited for southern hardwoods. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.

Yv SEVERN (YAHOLA) VERY FINE SANDY LOAM, UNDULATING

The potential for cropland and pastureland is excellent. Suitable crops are cotton, soybeans, corn, grain sorghum, and truck crops. Pasture plants are tall fescue, and white clover. Traffic pans develop easily, but can be broken by chiseling or deep plowing. Proper row direction is needed to help control erosion. Crop residue management will also help reduce erosion. Most crops respond well to nitrogen fertilizers. Lime and other fertilizers generally are not needed.

This well drained, loamy soil is on parallel ridges and swales on natural levees on the Red River flood plain. It is protected from flooding by man-made levees. The

Map Symbol	Description
	soil is loamy throughout and has high fertility. Runoff is slow. Movement of water and air through the soil is moderate.
	Soils in this group are well drained and loamy with a high potential for productivity. There are no serious management problems. These soils are best suited for southern hardwoods. Site index for green ash is 80, cottonwood 100, oaks and sweetgum 90.
