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*\*County specific computer generated reports.*

## ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Cheyenne, Nebraska: Published

Map symbol	Soil name	Acres	Percent
Ao	Alliance Loam, 0 To 1 Percent Slopes-----	21,562	2.8
AoB	Alliance Loam, 1 To 3 Percent Slopes-----	67,243	8.8
AoC	Alliance Loam, 3 To 6 Percent Slopes-----	14,985	2.0
AtB	Altvan Loam, 1 To 3 Percent Slopes-----	11,624	1.5
AtC	Altvan Loam, 3 To 6 Percent Slopes-----	11,062	1.4
AvD	Altvan-Dix Complex, 3 To 9 Percent Slopes-----	15,704	2.1
Bb	Bankard Loamy Sand, 0 To 2 Percent Slopes-----	6,264	0.8
Bc	Bankard Loamy Fine Sand, Channeled-----	8,904	1.2
Be	Bayard Fine Sandy Loam, 0 To 1 Percent Slopes-----	4,975	0.6
BeB	Bayard Fine Sandy Loam, 1 To 3 Percent Slopes-----	13,110	1.7
BeC	Bayard Fine Sandy Loam, 3 To 6 Percent Slopes-----	10,950	1.4
BeD	Bayard Fine Sandy Loam, 6 To 9 Percent Slopes-----	4,406	0.6
BeE	Bayard Fine Sandy Loam, 9 To 20 Percent Slopes-----	1,118	0.1
Bg	Bridget Very Fine Sandy Loam, 0 To 1 Percent Slopes-----	7,159	0.9
BgB	Bridget Very Fine Sandy Loam, 1 To 3 Percent Slopes-----	8,062	1.1
BgC	Bridget Very Fine Sandy Loam, 3 To 6 Percent Slopes-----	4,428	0.6
BgD	Bridget Very Fine Sandy Loam, 6 To 9 Percent Slopes-----	998	0.1
BuC	Busher Fine Sandy Loam, 3 To 6 Percent Slopes-----	856	0.1
BxD	Busher-Tassel Complex, 3 To 9 Percent Slopes-----	4,689	0.6
ByE	Busher-Tassel Complex, 9 To 20 Percent Slopes-----	5,050	0.7
CcF	Canyon Fine Sandy Loam, 6 To 30 Percent Slopes-----	14,939	2.0
CdG	Canyon-Rock Outcrop Complex, 11 To 60 Percent Slopes-----	13,658	1.8
CeE	Canyon-Bayard Complex, 6 To 20 Percent Slopes-----	31,425	4.1
CtB	Creighton Very Fine Sandy Loam, 1 To 3 Percent Slopes-----	1,015	0.1
CtC	Creighton Very Fine Sandy Loam, 3 To 6 Percent Slopes-----	606	*
DhD	Dix Gravelly Loam, 3 To 11 Percent Slopes-----	11,698	1.5
DhG	Dix Gravelly Loam, 11 To 50 Percent Slopes-----	8,556	1.1
Du	Duroc Loam, 0 To 1 Percent Slopes-----	63,778	8.3
DuB	Duroc Loam, 1 To 3 Percent Slopes-----	14,424	1.9
Dv	Duroc Loam, Terrace, Gravelly Substratum, 0 To 1 Percent Slopes-----	690	*
Dx	Duroc Silt Loam, Terrace, 0 To 1 Percent Slopes-----	7,770	1.0
DyE	Dwyer Loamy Fine Sand, 9 To 17 Percent Slopes-----	399	*
ErE	Epping-Mitchell Complex, 3 To 20 Percent Slopes-----	2,617	0.3
Gd	Glenberg Fine Sandy Loam, 0 To 2 Percent Slopes-----	7,002	0.9
Go	Goshen Silt Loam, 0 To 1 Percent Slopes-----	7,295	1.0
GP	Gravel Pit-----	357	*
JmB	Jayem Fine Sandy Loam, 1 To 3 Percent Slopes-----	4,586	0.6
JmC	Jayem Fine Sandy Loam, 3 To 6 Percent Slopes-----	6,070	0.8
Jo	Johnstown Loam, 0 To 1 Percent Slopes-----	6,863	0.9
Ke	Keith Loam, 0 To 1 Percent Slopes-----	5,168	0.7
KeB	Keith Loam, 1 To 3 Percent Slopes-----	69,391	9.1
KeC	Keith Loam, 3 To 6 Percent Slopes-----	6,229	0.8
Ku	Kuma Loam, 0 To 1 Percent Slopes-----	94,869	12.4
LD	Sanitary Landfill-----	12	*
Lm	Las Loam, 0 To 1 Percent Slopes-----	3,559	0.5
Lw	Las Animas Loam, 0 To 2 Percent Slopes-----	888	0.1
Ly	Lodgepole Silt Loam, 0 To 1 Percent Slopes-----	1,783	0.2
M-W	Miscellaneous Water, Sewage Lagoons-----	21	*
Mc	Mccook Very Fine Sandy Loam, 0 To 1 Percent Slopes-----	2,242	0.3
MkC	Mitchell Very Fine Sandy Loam, 3 To 6 Percent Slopes-----	1,212	0.2
MkD	Mitchell Very Fine Sandy Loam, 6 To 9 Percent Slopes-----	1,167	0.2
MkE	Mitchell Very Fine Sandy Loam, 9 To 20 Percent Slopes-----	516	*
ReG	Rock Outcrop-Epping Complex, 11 To 60 Percent Slopes-----	864	0.1
RhG	Rock Outcrop-Tassel Complex, 20 To 60 Percent Slopes-----	668	*
Ro	Rosebud Loam, 0 To 1 Percent Slopes-----	4,599	0.6
RoB	Rosebud Loam, 1 To 3 Percent Slopes-----	23,464	3.1
RoC	Rosebud Loam, 3 To 6 Percent Slopes-----	12,515	1.6
RsD	Rosebud-Canyon Complex, 3 To 9 Percent Slopes-----	15,141	2.0
Sb	Satanta Loam, Gravelly Substratum, 0 To 1 Percent Slopes-----	2,254	0.3
SbB	Satanta Loam, Gravelly Substratum, 1 To 3 Percent Slopes-----	13,072	1.7
SbC	Satanta Loam, Gravelly Substratum, 3 To 6 Percent Slopes-----	5,690	0.7
SnC	Sidney Loam, 3 To 6 Percent Slopes-----	3,654	0.5
SoD	Sidney-Canyon Complex, 3 To 9 Percent Slopes-----	55,524	7.3
TbF	Tassel-Busher Complex, 3 To 30 Percent Slopes-----	8,069	1.1
TcG	Tassel-Busher-Rock Outcrop Complex, 11 To 60 Percent Slopes-----	3,116	0.4
UyB	Ulysses Loam, 1 To 3 Percent Slopes-----	1,428	0.2
UyC	Ulysses Loam, 3 To 6 Percent Slopes-----	672	*
VdD	Valent Loamy Fine Sand, 6 To 9 Percent Slopes-----	539	*
W	Water-----	275	*
	Total-----	765,498	100.0

\* Less than 0.1 percent.



NONTECHNICAL SOIL DESCRIPTIONS  
Cheyenne, Nebraska

Nontechnical soil descriptions describe soil properties or management considerations specific to a soil map unit or group of map units, shown in the NonTechnical Descriptions report. These descriptions are written in terminology that Non-technical 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 other NRCS employees for distribution to land users. Soil map unit descriptions and National Soil Information System records are the basis for these descriptions.

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Ao Alliance Loam, 0 To 1 Percent Slopes

Alliance soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a nearly level plain on tableland. The runoff class is low. The parent material consists of loess over sandstone. The soil is 40 to 60 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderately slow. It has a moderate available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 1 It is in the nonirrigated land capability classification 2c.

AoB Alliance Loam, 1 To 3 Percent Slopes

Alliance soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a gently sloping plain on tableland. The runoff class is medium. The parent material consists of loess over sandstone. The soil is 40 to 60 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderately slow. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 2e.

AoC Alliance Loam, 3 To 6 Percent Slopes

Alliance soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping hillslope on upland. The runoff class is medium. The parent material consists of loess over sandstone. The soil is 40 to 60 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderately slow. It has a moderate available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

AtB Altvan Loam, 1 To 3 Percent Slopes

Altvan soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a gently sloping plain on tableland. The runoff class is medium. The parent material consists of loess over sandy and gravelly alluvium. This soil is well drained. The slowest permeability is moderate. It has a moderate available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

AtC Altvan Loam, 3 To 6 Percent Slopes

Altvan soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping hillslope on upland. The runoff class is medium. The parent material consists of loess over sandy and gravelly alluvium. This soil is well drained. The slowest permeability is moderate. It has a moderate available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 4e.

AvD Altvan-Dix Complex, 3 To 9 Percent Slopes

Altvan soil makes up 65 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is high. The parent material consists of loess over sandy and gravelly alluvium. This soil is well drained. The slowest permeability is moderate. It has a moderate available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 4e.

Dix soil makes up 35 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is very low. The parent material consists of loamy residuum over gravelly outwash. This soil is excessively drained. The slowest permeability is moderately rapid. It has a low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. This soil is in the Shallow To Gravel - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 6s.

NONTECHNICAL SOIL DESCRIPTIONS--Continued  
Cheyenne, Nebraska

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**Bb Bankard Loamy Sand, 0 To 2 Percent Slopes**

Bankard soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a nearly level to gently sloping flood plain on valley. The runoff class is negligible. The parent material consists of sandy alluvium. This soil is somewhat excessively drained. The slowest permeability is rapid. It has a moderate available water capacity and a low shrink swell potential. This soil is occasionally flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. It has a horizon that is slightly sodic. This soil is in the Sandy Lowland - Veg. Zone 1 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 4e.

**Bc Bankard Loamy Fine Sand, Channeled**

Bankard soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a nearly level to gently sloping flood plain on valley. The runoff class is negligible. The parent material consists of sandy alluvium. This soil is somewhat excessively drained. The slowest permeability is rapid. It has a moderate available water capacity and a low shrink swell potential. This soil is frequently flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Shallow To Gravel - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 6w.

**Be Bayard Fine Sandy Loam, 0 To 1 Percent Slopes**

Bayard soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a nearly level stream terrace on valley. The runoff class is negligible. The parent material consists of colluvial-alluvial sediments from calcareous sandstone. This soil is well drained. The slowest permeability is moderately rapid. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Sandy - Veg. Zone 1 range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 2e.

**BeB Bayard Fine Sandy Loam, 1 To 3 Percent Slopes**

Bayard soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a gently sloping stream terrace on valley. The runoff class is very low. The parent material consists of colluvial-alluvial sediments from calcareous sandstone. This soil is well drained. The slowest permeability is moderately rapid. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Sandy - Veg. Zone 1 range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 3e.

**BeC Bayard Fine Sandy Loam, 3 To 6 Percent Slopes**

Bayard soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping stream terrace on valley. The runoff class is low. The parent material consists of colluvial-alluvial sediments from calcareous sandstone. This soil is well drained. The slowest permeability is moderately rapid. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Sandy - Veg. Zone 1 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 4e.

**BeD Bayard Fine Sandy Loam, 6 To 9 Percent Slopes**

Bayard soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is low. The parent material consists of colluvial-alluvial sediments from calcareous sandstone. This soil is well drained. The slowest permeability is moderately rapid. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Sandy - Veg. Zone 1 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 4e.

**BeE Bayard Fine Sandy Loam, 9 To 20 Percent Slopes**

Bayard soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a strongly sloping to moderately steep hillslope on upland. The runoff class is low. The parent material consists of colluvial-alluvial sediments from calcareous sandstone. This soil is well drained. The slowest permeability is moderately rapid. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Sandy - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 6e.

**Bg Bridget Very Fine Sandy Loam, 0 To 1 Percent Slopes**

Bridget soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a nearly level stream terrace on valley. The runoff class is negligible. The parent material consists of loamy colluvium. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 2c.

NONTECHNICAL SOIL DESCRIPTIONS--Continued  
Cheyenne, Nebraska

**BgB Bridget Very Fine Sandy Loam, 1 To 3 Percent Slopes**

Bridget soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a gently sloping stream terrace on valley. The runoff class is low. The parent material consists of loamy colluvium. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 2e.

**BgC Bridget Very Fine Sandy Loam, 3 To 6 Percent Slopes**

Bridget soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping stream terrace on valley. The runoff class is low. The parent material consists of loamy colluvium. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

**BgD Bridget Very Fine Sandy Loam, 6 To 9 Percent Slopes**

Bridget soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is medium. The parent material consists of loamy colluvium. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 4e.

**BuC Busher Fine Sandy Loam, 3 To 6 Percent Slopes**

Busher soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping hillslope on upland. The runoff class is medium. The parent material consists of residuum weathered from sandstone. The soil is 40 to 60 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderately rapid. It has a moderate available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Sandy - Veg. Zone 1 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

**BxD Busher-Tassel Complex, 3 To 9 Percent Slopes**

Busher soil makes up 70 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is low. The parent material consists of residuum weathered from sandstone. The soil is 40 to 60 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderately rapid. It has a moderate available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Sandy - Veg. Zone 1 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 4e.

Tassel soil makes up 30 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is high. The parent material consists of residuum weathered from calcareous sandstone. The soil is 6 to 20 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderately rapid. It has a very low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Shallow Limy - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 6s.

**ByE Busher-Tassel Complex, 9 To 20 Percent Slopes**

Busher soil makes up 65 percent of the map unit. This map unit is in the This soil occurs on a strongly sloping to moderately steep hillslope on upland. The runoff class is low. The parent material consists of residuum weathered from sandstone. The soil is 40 to 60 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderately rapid. It has a moderate available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Sandy - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 6e.

Tassel soil makes up 35 percent of the map unit. This map unit is in the This soil occurs on a strongly sloping to moderately steep hillslope on upland. The runoff class is high. The parent material consists of residuum weathered from calcareous sandstone. The soil is 6 to 20 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderately rapid. It has a very low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Shallow Limy - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 6s.

NONTECHNICAL SOIL DESCRIPTIONS--Continued  
Cheyenne, Nebraska

CcF Canyon Fine Sandy Loam, 6 To 30 Percent Slopes

Canyon soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping to steep hillslope on upland. The runoff class is very high. The parent material consists of calcareous loamy residuum weathered from limestone and sandstone. The soil is 6 to 20 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderate. It has a very low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Shallow Limy - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 6s.

CdG Canyon-Rock Outcrop Complex, 11 To 60 Percent Slopes

Canyon soil makes up 60 percent of the map unit. This map unit is in the This soil occurs on a strongly sloping to steep hillslope on upland. The runoff class is very high. The parent material consists of calcareous loamy residuum weathered from limestone and sandstone. The soil is 6 to 20 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderate. It has a very low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Shallow Limy - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 7s.

CeE Canyon-Bayard Complex, 6 To 20 Percent Slopes

Canyon soil makes up 55 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping to moderately steep hillslope on upland. The runoff class is high. The parent material consists of calcareous loamy residuum weathered from limestone and sandstone. The soil is 6 to 20 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderate. It has a very low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Shallow Limy - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 6s.

Bayard soil makes up 45 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping to moderately steep hillslope on upland. The runoff class is low. The parent material consists of colluvial-alluvial sediments from calcareous sandstone. This soil is well drained. The slowest permeability is moderately rapid. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Sandy - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 6e.

CtB Creighton Very Fine Sandy Loam, 1 To 3 Percent Slopes

Creighton soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a gently sloping plain on upland. The runoff class is negligible. The parent material consists of calcareous loamy eolian deposits derived from limestone. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. It has a horizon that is slightly sodic. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 2e.

CtC Creighton Very Fine Sandy Loam, 3 To 6 Percent Slopes

Creighton soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping hillslope on upland. The runoff class is low. The parent material consists of calcareous loamy eolian deposits derived from limestone. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. It has a horizon that is slightly sodic. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

DhD Dix Gravelly Loam, 3 To 11 Percent Slopes

Dix soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is very low. The parent material consists of loamy residuum over gravelly outwash. This soil is excessively drained. The slowest permeability is moderate. It has a low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Shallow To Gravel - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 6s.

DhG Dix Gravelly Loam, 11 To 50 Percent Slopes

Dix soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a strongly sloping to very steep hillslope on upland. The runoff class is low. The parent material consists of loamy residuum over gravelly outwash. This soil is excessively drained. The slowest permeability is moderate. It has a very low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Shallow To Gravel - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 7s.

NONTECHNICAL SOIL DESCRIPTIONS--Continued  
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Du Duroc Loam, 0 To 1 Percent Slopes

Duroc soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a nearly level swale on upland. The runoff class is negligible. The parent material consists of alluvium. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. It has a horizon that is slightly sodic. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 1 It is in the nonirrigated land capability classification 2c.

DuB Duroc Loam, 1 To 3 Percent Slopes

Duroc soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a gently sloping swale on upland. The runoff class is negligible. The parent material consists of alluvium. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. It has a horizon that is slightly sodic. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 2e.

Dv Duroc Loam, Terrace, Gravelly Substratum, 0 To 1 Percent Slopes

Duroc soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a nearly level stream terrace on valley. The runoff class is negligible. The parent material consists of alluvium. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 1 It is in the nonirrigated land capability classification 3c.

Dx Duroc Silt Loam, Terrace, 0 To 1 Percent Slopes

Duroc soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a nearly level stream terrace on valley. The runoff class is negligible. The parent material consists of alluvium. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. It has a horizon that is slightly sodic. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 1 It is in the nonirrigated land capability classification 3c.

DyE Dwyer Loamy Fine Sand, 9 To 17 Percent Slopes

Dwyer soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a strongly sloping to moderately steep dune on valley. The runoff class is very low. The parent material consists of eolian sands. This soil is excessively drained. The slowest permeability is rapid. It has a low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Sands - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 6e.

ErE Epping-Mitchell Complex, 3 To 20 Percent Slopes

Epping soil makes up 55 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping to moderately steep hillslope on upland. The runoff class is very high. The parent material consists of loamy residuum weathered from siltstone. The soil is 10 to 20 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderate. It has a very low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Shallow Limy - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 6s.

Mitchell soil makes up 45 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping to moderately steep hillslope on upland. The runoff class is medium. The parent material consists of loamy alluvium derived from siltstone. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Limy Upland - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 6e.

Gd Glenberg Fine Sandy Loam, 0 To 2 Percent Slopes

Glenberg soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a nearly level to gently sloping flood plain on valley. The runoff class is negligible. The parent material consists of stratified calcareous alluvium. This soil is well drained. The slowest permeability is moderately rapid. It has a moderate available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Sandy Lowland - Veg. Zone 1 range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 3e.

NONTECHNICAL SOIL DESCRIPTIONS--Continued  
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Go Goshen Silt Loam, 0 To 1 Percent Slopes

Goshen soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a nearly level swale on upland. The runoff class is negligible. The parent material consists of silty alluvium. This soil is well drained. The slowest permeability is moderate. It has a very high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 1 It is in the nonirrigated land capability classification 2c.

JmB Jayem Fine Sandy Loam, 1 To 3 Percent Slopes

Jayem soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a gently sloping plain on upland. The runoff class is very low. The parent material consists of sandy and silty eolian deposits. This soil is well drained. The slowest permeability is moderately rapid. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 2 percent calcium carbonate. This soil is in the Sandy - Veg. Zone 1 range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 3e.

JmC Jayem Fine Sandy Loam, 3 To 6 Percent Slopes

Jayem soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping hillslope on upland. The runoff class is low. The parent material consists of sandy and silty eolian deposits. This soil is well drained. The slowest permeability is moderately rapid. It has a moderate available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 2 percent calcium carbonate. This soil is in the Sandy - Veg. Zone 1 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 4e.

Jo Johnstown Loam, 0 To 1 Percent Slopes

Johnstown soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a nearly level plain on tableland. The runoff class is negligible. The parent material consists of loess over gravelly sand. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 1 It is in the nonirrigated land capability classification 2c.

Ke Keith Loam, 0 To 1 Percent Slopes

Keith soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a nearly level plain on tableland. The runoff class is negligible. The parent material consists of loess. This soil is well drained. The slowest permeability is moderate. It has a very high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 1 It is in the nonirrigated land capability classification 2c.

KeB Keith Loam, 1 To 3 Percent Slopes

Keith soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a gently sloping plain on tableland. The runoff class is low. The parent material consists of loess. This soil is well drained. The slowest permeability is moderate. It has a very high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 2e.

KeC Keith Loam, 3 To 6 Percent Slopes

Keith soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping hillslope on upland. The runoff class is low. The parent material consists of loess. This soil is well drained. The slowest permeability is moderate. It has a very high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

Ku Kuma Loam, 0 To 1 Percent Slopes

Kuma soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a nearly level plain on tableland. The runoff class is negligible. The parent material consists of loess. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 1 It is in the nonirrigated land capability classification 2c.

NONTECHNICAL SOIL DESCRIPTIONS--Continued  
Cheyenne, Nebraska

Lm Las Loam, 0 To 1 Percent Slopes

Las soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a nearly level flood plain on valley. The runoff class is negligible. The parent material consists of alluvium. This soil is somewhat poorly drained. The slowest permeability is moderately slow. It has a high available water capacity and a moderate shrink swell potential. This soil is occasionally flooded and is not ponded. The top of the seasonal high water table is at 30 inches. The soil contains a maximum amount of 15 percent calcium carbonate. This soil contains a very slightly saline horizon, This soil is in the Subirrigated - Veg. Zone 1 range site. This soil is in the irrigated land capability class 2w. It is in the nonirrigated land capability classification 4w.

Lw Las Animas Loam, 0 To 2 Percent Slopes

Las Animas soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a nearly level to gently sloping flood plain on valley. The runoff class is low. The parent material consists of calcareous stratified alluvium. This soil is poorly drained. The slowest permeability is moderate. It has a low available water capacity and a low shrink swell potential. This soil is frequently flooded and is not ponded. The top of the seasonal high water table is at 9 inches. This soil contains a very slightly saline horizon, This soil is in the Subirrigated - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 5w.

Ly Lodgepole Silt Loam, 0 To 1 Percent Slopes

Lodgepole soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a nearly level depression on tableland. The runoff class is negligible. The parent material consists of loess. This soil is somewhat poorly drained. The slowest permeability is very slow. It has a high available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 0 inches. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Clayey Overflow - Veg. Zone 1 range site. This soil is in the irrigated land capability class 4w. It is in the nonirrigated land capability classification 3w.

Mc Mccook Very Fine Sandy Loam, 0 To 1 Percent Slopes

Mccook soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a nearly level flood plain on valley. The runoff class is negligible. The parent material consists of stratified calcareous alluvium. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Silty Lowland - Veg. Zone 1 range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 2c.

MkC Mitchell Very Fine Sandy Loam, 3 To 6 Percent Slopes

Mitchell soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping hillslope on upland. The runoff class is low. The parent material consists of loamy alluvium derived from siltstone. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Limy Upland - Veg. Zone 1 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

MkD Mitchell Very Fine Sandy Loam, 6 To 9 Percent Slopes

Mitchell soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is medium. The parent material consists of loamy alluvium derived from siltstone. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Limy Upland - Veg. Zone 1 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 4e.

MkE Mitchell Very Fine Sandy Loam, 9 To 20 Percent Slopes

Mitchell soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a strongly sloping to moderately steep hillslope on upland. The runoff class is medium. The parent material consists of loamy alluvium derived from siltstone. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Limy Upland - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 6e.

ReG Rock Outcrop-Epping Complex, 11 To 60 Percent Slopes

Epping soil makes up 45 percent of the map unit. This map unit is in the This soil occurs on a strongly sloping to steep hillslope on upland. The runoff class is very high. The parent material consists of loamy residuum weathered from siltstone. The soil is 10 to 20 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderate. It has a very low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Shallow Limy - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 7s.

NONTECHNICAL SOIL DESCRIPTIONS--Continued  
Cheyenne, Nebraska

RhG Rock Outcrop-Tassel Complex, 20 To 60 Percent Slopes

Tassel soil makes up 45 percent of the map unit. This map unit is in the This soil occurs on a steep to very steep hillslope on upland. The runoff class is very high. The parent material consists of residuum weathered from calcareous sandstone. The soil is 6 to 20 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderately rapid. It has a very low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Shallow Limy - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 7s.

Ro Rosebud Loam, 0 To 1 Percent Slopes

Rosebud soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a nearly level divide on upland. The runoff class is low. The parent material consists of loess over weakly cemented fine grained sandstone. The soil is 20 to 40 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderate. It has a low available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. It has a horizon that is slightly sodic. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 1 It is in the nonirrigated land capability classification 3c.

RoB Rosebud Loam, 1 To 3 Percent Slopes

Rosebud soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a gently sloping hillslope on upland. The runoff class is medium. The parent material consists of loess over weakly cemented fine grained sandstone. The soil is 20 to 40 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderate. It has a low available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. It has a horizon that is slightly sodic. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

RoC Rosebud Loam, 3 To 6 Percent Slopes

Rosebud soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping hillslope on upland. The runoff class is high. The parent material consists of loess over weakly cemented fine grained sandstone. The soil is 20 to 40 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderate. It has a low available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. It has a horizon that is slightly sodic. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 4e.

RsD Rosebud-Canyon Complex, 3 To 9 Percent Slopes

Rosebud soil makes up 55 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is high. The parent material consists of loess over weakly cemented fine grained sandstone. The soil is 20 to 40 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderate. It has a low available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. It has a horizon that is slightly sodic. This soil is in the Silty - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 4e.

Canyon soil makes up 45 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is high. The parent material consists of calcareous loamy residuum weathered from limestone and sandstone. The soil is 6 to 20 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderate. It has a very low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Shallow Limy - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 6s.

Sb Satanta Loam, Gravelly Substratum, 0 To 1 Percent Slopes

Satanta soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a nearly level plain on tableland. The runoff class is negligible. The parent material consists of loamy eolian deposits. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 1 It is in the nonirrigated land capability classification 2c.

SbB Satanta Loam, Gravelly Substratum, 1 To 3 Percent Slopes

Satanta soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a gently sloping plain on tableland. The runoff class is low. The parent material consists of loamy eolian deposits. This soil is well drained. The slowest permeability is moderate. It has a very high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 2e.

NONTECHNICAL SOIL DESCRIPTIONS--Continued  
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**SbC Satanta Loam, Gravelly Substratum, 3 To 6 Percent Slopes**

Satanta soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping hillslope on upland. The runoff class is low. The parent material consists of loamy eolian deposits. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

**SnC Sidney Loam, 3 To 6 Percent Slopes**

Sidney soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping hillslope on upland. The runoff class is low. The parent material consists of calcareous loamy residuum weathered from weakly cemented fine grained sandstone. The soil is 40 to 60 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderate. It has a moderate available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil contains a very slightly saline horizon, it has a horizon that is slightly sodic. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

**SoD Sidney-Canyon Complex, 3 To 9 Percent Slopes**

Sidney soil makes up 55 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is medium. The parent material consists of calcareous loamy residuum weathered from weakly cemented fine grained sandstone. The soil is 40 to 60 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderate. It has a moderate available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil contains a very slightly saline horizon, it has a horizon that is slightly sodic. This soil is in the Silty - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 4e.

Canyon soil makes up 45 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is high. The parent material consists of calcareous loamy residuum weathered from limestone and sandstone. The soil is 6 to 20 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderate. It has a very low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Shallow Limy - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 6s.

**TbF Tassel-Busher Complex, 3 To 30 Percent Slopes**

Tassel soil makes up 55 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping to steep hillslope on upland. The runoff class is very high. The parent material consists of residuum weathered from calcareous sandstone. The soil is 6 to 20 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderately rapid. It has a very low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Shallow Limy - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 6s.

Busher soil makes up 45 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping to steep hillslope on upland. The runoff class is medium. The parent material consists of residuum weathered from sandstone. The soil is 40 to 60 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderately rapid. It has a moderate available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Sandy - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 6e.

**TcG Tassel-Busher-Rock Outcrop Complex, 11 To 60 Percent Slopes**

Tassel soil makes up 55 percent of the map unit. This map unit is in the This soil occurs on a strongly sloping to very steep hillslope on upland. The runoff class is very high. The parent material consists of residuum weathered from calcareous sandstone. The soil is 6 to 20 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderately rapid. It has a very low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Shallow Limy - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 6s.

Busher soil makes up 30 percent of the map unit. This map unit is in the This soil occurs on a strongly sloping to steep hillslope on upland. The runoff class is medium. The parent material consists of residuum weathered from sandstone. The soil is 40 to 60 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderately rapid. It has a moderate available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Sandy - Veg. Zone 1 range site. It is in the nonirrigated land capability classification 6e.

NONTECHNICAL SOIL DESCRIPTIONS--Continued  
Cheyenne, Nebraska

## UyB Ulysses Loam, 1 To 3 Percent Slopes

Ulysses soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a gently sloping divide on upland. The runoff class is low. The parent material consists of calcareous loess. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 2e.

## UyC Ulysses Loam, 3 To 6 Percent Slopes

Ulysses soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a moderately sloping hillslope on upland. The runoff class is low. The parent material consists of calcareous loess. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 1 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

## VdD Valent Loamy Fine Sand, 6 To 9 Percent Slopes

Valent soil makes up 100 percent of the map unit. This map unit is in the This soil occurs on a strongly sloping dune on upland. The runoff class is very low. The parent material consists of eolian sands. This soil is excessively drained. The slowest permeability is rapid. It has a low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. This soil is in the Sands - Veg. Zone 1 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 6e.



**Ao—Alliance loam, 0 to 1 percent slopes**

## Map Unit Composition

Alliance: 100 percent

## Component Descriptions

Alliance

MLRA: -

Landform: Plain on tableland

Parent material: Loess over sandstone

Slope: 0 to 1 percent

Depth to restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: Moderately slow (About 0.20 in/hr)

Available water capacity: Moderate (About 8.6 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Silty - Veg. Zone 1

Land capability (irrigated): 1

Land capability (nonirrigated): 2c

## Typical Profile:

H1—0 to 7 inches; loam

H2—7 to 33 inches; silty clay loam, silt loam

H3—33 to 45 inches; silt loam

CR—52 to 60 inches; weathered bedrock

**Minor Components****Lodgepole****AoB—Alliance loam, 1 to 3 percent slopes**

## Map Unit Composition

Alliance: 100 percent

## Component Descriptions

Alliance

MLRA: -

Landform: Plain on tableland

Parent material: Loess over sandstone

Slope: 1 to 3 percent

Depth to restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: Moderately slow (About 0.20 in/hr)

Available water capacity: High (About 9.4 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Medium

Ecological site: Silty - Veg. Zone 1

Land capability (irrigated): 2e

Land capability (nonirrigated): 2e

## Typical Profile:

H1—0 to 9 inches; loam

H2—9 to 21 inches; silty clay loam, silt loam

H3—21 to 52 inches; silt loam

CR—52 to 60 inches; weathered bedrock

**Minor Components****Lodgepole****AoC—Alliance loam, 3 to 6 percent slopes**

## Map Unit Composition

Alliance: 100 percent

## Component Descriptions

Alliance

MLRA: -

Landform: Hillslope on upland

Parent material: Loess over sandstone

Slope: 3 to 6 percent

Depth to restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: Moderately slow (About 0.20 in/hr)

Available water capacity: Moderate (About 8.1 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

*Runoff class:* Medium  
*Ecological site:* Silty - Veg. Zone 1  
*Land capability (irrigated):* 3e  
*Land capability (nonirrigated):* 3e

*Typical Profile:*  
 H1—0 to 7 inches; loam  
 H2—7 to 26 inches; silty clay loam, silt loam  
 H3—26 to 43 inches; very fine sandy loam  
 CR—43 to 60 inches; weathered bedrock

### **AtB—Altvan loam, 1 to 3 percent slopes**

Map Unit Composition

Altvan: 100 percent

Component Descriptions  
 Altvan  
 MLRA: -  
*Landform:* Plain on tableland  
*Parent material:* Loess over sandy and gravelly alluvium  
*Slope:* 1 to 3 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Moderate (About 6.9 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Medium  
*Ecological site:* Silty - Veg. Zone 1  
*Land capability (irrigated):* 3e  
*Land capability (nonirrigated):* 3e

*Typical Profile:*  
 H1—0 to 11 inches; loam  
 H2—11 to 21 inches; clay loam  
 H3—21 to 30 inches; loam  
 H4—30 to 34 inches; fine sandy loam  
 H5—34 to 60 inches; gravelly sand

### **AtC—Altvan loam, 3 to 6 percent slopes**

Map Unit Composition

Altvan: 100 percent

Component Descriptions  
 Altvan  
 MLRA: -  
*Landform:* Hillslope on upland  
*Parent material:* Loess over sandy and gravelly alluvium  
*Slope:* 3 to 6 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Moderate (About 6.8 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Medium  
*Ecological site:* Silty - Veg. Zone 1  
*Land capability (irrigated):* 4e  
*Land capability (nonirrigated):* 4e

*Typical Profile:*  
 H1—0 to 5 inches; loam  
 H2—5 to 21 inches; clay loam  
 H3—21 to 30 inches; loam  
 H4—30 to 34 inches; fine sandy loam  
 H5—34 to 60 inches; gravelly sand

### **AvD—Altvan-Dix complex, 3 to 9 percent slopes**

Map Unit Composition

Altvan: 65 percent  
 Dix: 35 percent

Component Descriptions  
 Altvan  
 MLRA: -  
*Landform:* Hillslope on upland  
*Parent material:* Loess over sandy and gravelly alluvium  
*Slope:* 3 to 9 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Moderate (About 7.3 inches)

*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* High  
*Ecological site:* Silty - Veg. Zone 1  
*Land capability (irrigated):* 4e  
*Land capability (nonirrigated):* 4e

*Typical Profile:*

H1—0 to 7 inches; loam  
 H2—7 to 26 inches; clay loam  
 H3—26 to 33 inches; loam  
 H4—33 to 37 inches; fine sandy loam  
 H5—37 to 60 inches; gravelly coarse sand

Dix

*MLRA:* -

*Landform:* Hillslope on upland

*Parent material:* Loamy residuum over gravelly outwash

*Slope:* 3 to 9 percent

*Drainage class:* Excessively drained

*Slowest permeability:* Moderately rapid (About 2.00 in/hr)

*Available water capacity:* Low (About 5.4 inches)

*Shrink-swell potential:* Low (About 1.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Very low

*Ecological site:* Shallow To Gravel - Veg. Zone 1

*Land capability (nonirrigated):* 6s

*Typical Profile:*

H1—0 to 18 inches; sandy loam  
 H2—18 to 60 inches; gravelly loamy coarse sand

## **Bb—Bankard loamy sand, 0 to 2 percent slopes**

Map Unit Composition

Bankard: 100 percent

Component Descriptions

Bankard

*MLRA:* -

*Landform:* Flood plain on valley

*Parent material:* Sandy alluvium

*Slope:* 0 to 2 percent

*Drainage class:* Somewhat excessively drained

*Slowest permeability:* Rapid (About 5.95 in/hr)

*Available water capacity:* Moderate (About 6.3 inches)

*Shrink-swell potential:* Low (About 1.5 LEP)

*Flooding hazard:* Occasional

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Negligible

*Ecological site:* Sandy Lowland - Veg. Zone 1

*Land capability (irrigated):* 4e

*Land capability (nonirrigated):* 4e

*Typical Profile:*

H1—0 to 6 inches; loamy sand  
 H2—6 to 60 inches; stratified gravelly coarse sand to loamy fine sand

### **Minor Components**

#### **Wt At 0-1 Foot**

## **Bc—Bankard loamy fine sand, Channeled**

Map Unit Composition

Bankard: 100 percent

Component Descriptions

Bankard

*MLRA:* -

*Landform:* Flood plain on valley

*Parent material:* Sandy alluvium

*Slope:* 0 to 2 percent

*Drainage class:* Somewhat excessively drained

*Slowest permeability:* Rapid (About 5.95 in/hr)

*Available water capacity:* Moderate (About 6.7 inches)

*Shrink-swell potential:* Low (About 1.5 LEP)

*Flooding hazard:* Frequent

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Negligible

*Ecological site:* Shallow To Gravel - Veg. Zone 1

*Land capability (nonirrigated):* 6w

*Typical Profile:*

H1—0 to 11 inches; loamy fine sand  
 H2—11 to 20 inches; stratified sand to loamy fine sand  
 H3—20 to 60 inches; stratified gravelly coarse sand to loamy fine sand

**Minor Components**  
**Wt At 0-1 Foot**

**Be—Bayard fine sandy loam, 0 to 1 percent slopes**

Map Unit Composition

Bayard: 100 percent

Component Descriptions

Bayard

MLRA: -

Landform: Stream terrace on valley

Parent material: Colluvial-alluvial sediments  
 from calcareous sandstone

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderately rapid (About  
 2.00 in/hr)

Available water capacity: Moderate (About 8.9  
 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6  
 feet

Runoff class: Negligible

Ecological site: Sandy - Veg. Zone 1

Land capability (irrigated): 2e

Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 8 inches; fine sandy loam

H2—8 to 60 inches; fine sandy loam

**BeB—Bayard fine sandy loam, 1 to 3 percent slopes**

Map Unit Composition

Bayard: 100 percent

Component Descriptions

Bayard

MLRA: -

Landform: Stream terrace on valley

Parent material: Colluvial-alluvial sediments  
 from calcareous sandstone

Slope: 1 to 3 percent

Drainage class: Well drained

Slowest permeability: Moderately rapid (About  
 2.00 in/hr)

Available water capacity: Moderate (About 9.0  
 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6  
 feet

Runoff class: Very low

Ecological site: Sandy - Veg. Zone 1

Land capability (irrigated): 2e

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 10 inches; fine sandy loam

H2—10 to 60 inches; fine sandy loam, loamy  
 very fine sand

**BeC—Bayard fine sandy loam, 3 to 6 percent slopes**

Map Unit Composition

Bayard: 100 percent

Component Descriptions

Bayard

MLRA: -

Landform: Stream terrace on valley

Parent material: Colluvial-alluvial sediments  
 from calcareous sandstone

Slope: 3 to 6 percent

Drainage class: Well drained

Slowest permeability: Moderately rapid (About  
 2.00 in/hr)

Available water capacity: Moderate (About 8.9  
 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6  
 feet

Runoff class: Low

Ecological site: Sandy - Veg. Zone 1

Land capability (irrigated): 3e

Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 8 inches; fine sandy loam

H2—8 to 60 inches; fine sandy loam

**Minor Components**

**Perched Wt**

**BeD—Bayard fine sandy loam, 6 to 9 percent slopes**

## Map Unit Composition

Bayard: 100 percent

## Component Descriptions

Bayard

MLRA: -

*Landform:* Hillslope on upland*Parent material:* Colluvial-alluvial sediments from calcareous sandstone*Slope:* 6 to 9 percent*Drainage class:* Well drained*Slowest permeability:* Moderately rapid (About 2.00 in/hr)*Available water capacity:* Moderate (About 8.9 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Low*Ecological site:* Sandy - Veg. Zone 1*Land capability (irrigated):* 4e*Land capability (nonirrigated):* 4e*Typical Profile:*

H1—0 to 8 inches; fine sandy loam

H2—8 to 60 inches; fine sandy loam, loamy very fine sand

**Minor Components****Perched Wt****BeE—Bayard fine sandy loam, 9 to 20 percent slopes**

## Map Unit Composition

Bayard: 100 percent

## Component Descriptions

Bayard

MLRA: -

*Landform:* Hillslope on upland*Parent material:* Colluvial-alluvial sediments from calcareous sandstone*Slope:* 9 to 20 percent*Drainage class:* Well drained*Slowest permeability:* Moderately rapid (About 2.00 in/hr)*Available water capacity:* Moderate (About 9.0 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Low*Ecological site:* Sandy - Veg. Zone 1*Land capability (nonirrigated):* 6e*Typical Profile:*

H1—0 to 10 inches; fine sandy loam

H2—10 to 60 inches; fine sandy loam

**Bg—Bridget very fine sandy loam, 0 to 1 percent slopes**

## Map Unit Composition

Bridget: 100 percent

## Component Descriptions

Bridget

MLRA: -

*Landform:* Stream terrace on valley*Parent material:* Loamy colluvium*Slope:* 0 to 1 percent*Drainage class:* Well drained*Slowest permeability:* Moderate (About 0.60 in/hr)*Available water capacity:* High (About 11.6 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Negligible*Ecological site:* Silty - Veg. Zone 1*Land capability (irrigated):* 2e*Land capability (nonirrigated):* 2c*Typical Profile:*

H1—0 to 10 inches; very fine sandy loam

H2—10 to 15 inches; very fine sandy loam

H3—15 to 60 inches; silt loam

**BgB—Bridget very fine sandy loam, 1 to 3 percent slopes**

## Map Unit Composition

Bridget: 100 percent

## Component Descriptions

Bridget

MLRA: -

*Landform:* Stream terrace on valley*Parent material:* Loamy colluvium*Slope:* 1 to 3 percent*Drainage class:* Well drained*Slowest permeability:* Moderate (About 0.60 in/hr)*Available water capacity:* High (About 11.7 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Low*Ecological site:* Silty - Veg. Zone 1*Land capability (irrigated):* 2e*Land capability (nonirrigated):* 2e*Typical Profile:*

H1—0 to 8 inches; very fine sandy loam

H2—8 to 19 inches; very fine sandy loam

H3—19 to 60 inches; very fine sandy loam

**BgC—Bridget very fine sandy loam, 3 to 6 percent slopes**

## Map Unit Composition

Bridget: 100 percent

## Component Descriptions

Bridget

MLRA: -

*Landform:* Stream terrace on valley*Parent material:* Loamy colluvium*Slope:* 3 to 6 percent*Drainage class:* Well drained*Slowest permeability:* Moderate (About 0.60 in/hr)*Available water capacity:* High (About 11.6 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Low*Ecological site:* Silty - Veg. Zone 1*Land capability (irrigated):* 3e*Land capability (nonirrigated):* 3e*Typical Profile:*

H1—0 to 11 inches; very fine sandy loam

H2—11 to 19 inches; very fine sandy loam

H3—19 to 60 inches; very fine sandy loam

**BgD—Bridget very fine sandy loam, 6 to 9 percent slopes**

## Map Unit Composition

Bridget: 100 percent

## Component Descriptions

Bridget

MLRA: -

*Landform:* Hillslope on upland*Parent material:* Loamy colluvium*Slope:* 6 to 9 percent*Drainage class:* Well drained*Slowest permeability:* Moderate (About 0.60 in/hr)*Available water capacity:* High (About 11.6 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Medium*Ecological site:* Silty - Veg. Zone 1*Land capability (irrigated):* 4e*Land capability (nonirrigated):* 4e*Typical Profile:*

H1—0 to 11 inches; very fine sandy loam

H2—11 to 19 inches; very fine sandy loam

H3—19 to 60 inches; very fine sandy loam

**BuC—Busher fine sandy loam, 3 to 6 percent slopes**

## Map Unit Composition

Busher: 100 percent

## Component Descriptions

Busher

MLRA: -

Landform: Hillslope on upland

Parent material: Residuum weathered from sandstone

Slope: 3 to 6 percent

Depth to restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: Moderately rapid (About 2.00 in/hr)

Available water capacity: Moderate (About 8.1 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Medium

Ecological site: Sandy - Veg. Zone 1

Land capability (irrigated): 3e

Land capability (nonirrigated): 3e

## Typical Profile:

H1—0 to 11 inches; fine sandy loam

H2—11 to 56 inches; loamy very fine sand, fine sandy loam

CR—56 to 60 inches; weathered bedrock

### **BxD—Busher-Tassel complex, 3 to 9 percent slopes**

## Map Unit Composition

Busher: 70 percent

Tassel: 30 percent

## Component Descriptions

Busher

MLRA: -

Landform: Hillslope on upland

Parent material: Residuum weathered from sandstone

Slope: 3 to 9 percent

Depth to restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: Moderately rapid (About 2.00 in/hr)

Available water capacity: Moderate (About 7.4 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Sandy - Veg. Zone 1

Land capability (irrigated): 4e

Land capability (nonirrigated): 4e

## Typical Profile:

H1—0 to 19 inches; fine sandy loam

H2—19 to 45 inches; loamy very fine sand, fine sandy loam

CR—45 to 60 inches; weathered bedrock

Tassel

MLRA: -

Landform: Hillslope on upland

Parent material: Residuum weathered from calcareous sandstone

Slope: 3 to 9 percent

Depth to restrictive feature: 6 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: Moderately rapid (About 2.00 in/hr)

Available water capacity: Very low (About 1.9 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: High

Ecological site: Shallow Limy - Veg. Zone 1

Land capability (nonirrigated): 6s

## Typical Profile:

H1—0 to 5 inches; fine sandy loam

H2—5 to 17 inches; fine sandy loam

CR—17 to 60 inches; weathered bedrock

### **ByE—Busher-Tassel complex, 9 to 20 percent slopes**

## Map Unit Composition

Busher: 65 percent

Tassel: 35 percent

## Component Descriptions

Busher

*MLRA:* -*Landform:* Hillslope on upland*Parent material:* Residuum weathered from sandstone*Slope:* 9 to 20 percent*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)*Drainage class:* Well drained*Slowest permeability:* Moderately rapid (About 2.00 in/hr)*Available water capacity:* Moderate (About 6.9 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Low*Ecological site:* Sandy - Veg. Zone 1*Land capability (nonirrigated):* 6e*Typical Profile:*

H1—0 to 16 inches; fine sandy loam

H2—16 to 42 inches; fine sandy loam

CR—42 to 60 inches; weathered bedrock

Tassel

*MLRA:* -*Landform:* Hillslope on upland*Parent material:* Residuum weathered from calcareous sandstone*Slope:* 9 to 20 percent*Depth to restrictive feature:* 6 to 20 inches to bedrock (paralithic)*Drainage class:* Well drained*Slowest permeability:* Moderately rapid (About 2.00 in/hr)*Available water capacity:* Very low (About 1.9 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* High*Ecological site:* Shallow Limy - Veg. Zone 1*Land capability (nonirrigated):* 6s*Typical Profile:*

H1—0 to 6 inches; loamy very fine sand

H2—6 to 18 inches; loamy very fine sand

CR—18 to 60 inches; weathered bedrock

**CcF—Canyon fine sandy loam, 6 to 30 percent slopes**

## Map Unit Composition

Canyon: 100 percent

## Component Descriptions

Canyon

*MLRA:* -*Landform:* Hillslope on upland*Parent material:* Calcareous loamy residuum weathered from limestone and sandstone*Slope:* 6 to 30 percent*Depth to restrictive feature:* 6 to 20 inches to bedrock (paralithic)*Drainage class:* Well drained*Slowest permeability:* Moderate (About 0.60 in/hr)*Available water capacity:* Very low (About 1.8 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Very high*Ecological site:* Shallow Limy - Veg. Zone 1*Land capability (nonirrigated):* 6s*Typical Profile:*

H1—0 to 6 inches; fine sandy loam

H2—6 to 11 inches; gravelly loam

CR—11 to 60 inches; weathered bedrock

**CdG—Canyon-Rock outcrop complex, 11 to 60 percent slopes**

## Map Unit Composition

Canyon: 60 percent

Rock outcrop: 40 percent

## Component Descriptions

Canyon

*MLRA:* -*Landform:* Hillslope on upland*Parent material:* Calcareous loamy residuum weathered from limestone and sandstone*Slope:* 11 to 45 percent

*Depth to restrictive feature:* 6 to 20 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Very low (About 2.1 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Very high  
*Ecological site:* Shallow Limy - Veg. Zone 1  
*Land capability (nonirrigated):* 7s

*Typical Profile:*

H1—0 to 10 inches; fine sandy loam  
 H2—10 to 14 inches; loam  
 CR—14 to 60 inches; weathered bedrock

## Rock outcrop

*MLRA:* -  
*Landform:* Hillslope on upland  
*Slope:* 11 to 60 percent  
*Depth to restrictive feature:* 0 inches to bedrock (paralithic)  
*Available water capacity:* Very low (About 0.0 inches)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Very high  
*Ecological site:* No Site - Veg. Zone 1  
*Land capability (nonirrigated):* 8s

## **CeE—Canyon-Bayard complex, 6 to 20 percent slopes**

## Map Unit Composition

Canyon: 55 percent  
 Bayard: 45 percent

## Component Descriptions

Canyon  
*MLRA:* -  
*Landform:* Hillslope on upland  
*Parent material:* Calcareous loamy residuum weathered from limestone and sandstone  
*Slope:* 6 to 20 percent  
*Depth to restrictive feature:* 6 to 20 inches to bedrock (paralithic)  
*Drainage class:* Well drained

*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Very low (About 1.8 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* High  
*Ecological site:* Shallow Limy - Veg. Zone 1  
*Land capability (nonirrigated):* 6s

*Typical Profile:*

H1—0 to 6 inches; fine sandy loam  
 H2—6 to 11 inches; gravelly loam  
 CR—11 to 60 inches; weathered bedrock

## Bayard

*MLRA:* -  
*Landform:* Hillslope on upland  
*Parent material:* Colluvial-alluvial sediments from calcareous sandstone  
*Slope:* 6 to 20 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderately rapid (About 2.00 in/hr)  
*Available water capacity:* Moderate (About 9.0 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Low  
*Ecological site:* Sandy - Veg. Zone 1  
*Land capability (nonirrigated):* 6e

*Typical Profile:*

H1—0 to 12 inches; fine sandy loam  
 H2—12 to 60 inches; fine sandy loam, very fine sandy loam

## **CtB—Creighton very fine sandy loam, 1 to 3 percent slopes**

## Map Unit Composition

Creighton: 100 percent

## Component Descriptions

Creighton  
*MLRA:* -  
*Landform:* Plain on upland

*Parent material:* Calcareous loamy eolian deposits derived from limestone  
*Slope:* 1 to 3 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* High (About 9.2 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Negligible  
*Ecological site:* Silty - Veg. Zone 1  
*Land capability (irrigated):* 2e  
*Land capability (nonirrigated):* 2e

*Typical Profile:*

H1—0 to 11 inches; very fine sandy loam  
 H2—11 to 40 inches; very fine sandy loam  
 H3—40 to 60 inches; very fine sandy loam

**CtC—Creighton very fine sandy loam, 3 to 6 percent slopes**

Map Unit Composition

Creighton: 100 percent

Component Descriptions

Creighton  
*MLRA:* -  
*Landform:* Hillslope on upland  
*Parent material:* Calcareous loamy eolian deposits derived from limestone  
*Slope:* 3 to 6 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* High (About 9.2 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Low  
*Ecological site:* Silty - Veg. Zone 1  
*Land capability (irrigated):* 3e  
*Land capability (nonirrigated):* 3e

*Typical Profile:*

H1—0 to 10 inches; very fine sandy loam  
 H2—10 to 30 inches; very fine sandy loam

H3—30 to 60 inches; very fine sandy loam

**DhD—Dix gravelly loam, 3 to 11 percent slopes**

Map Unit Composition

Dix: 100 percent

Component Descriptions

Dix  
*MLRA:* -  
*Landform:* Hillslope on upland  
*Parent material:* Loamy residuum over gravelly outwash  
*Slope:* 3 to 11 percent  
*Drainage class:* Excessively drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Low (About 3.3 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Very low  
*Ecological site:* Shallow To Gravel - Veg. Zone 1  
*Land capability (nonirrigated):* 6s

*Typical Profile:*

H1—0 to 11 inches; gravelly loam  
 H2—11 to 19 inches; gravelly loamy coarse sand  
 H3—19 to 60 inches; very gravelly coarse sand, very gravelly sand

**DhG—Dix gravelly loam, 11 to 50 percent slopes**

Map Unit Composition

Dix: 100 percent

Component Descriptions

Dix  
*MLRA:* -  
*Landform:* Hillslope on upland  
*Parent material:* Loamy residuum over gravelly outwash

*Slope:* 11 to 50 percent  
*Drainage class:* Excessively drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Very low (About 3.0 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Low  
*Ecological site:* Shallow To Gravel - Veg. Zone 1  
*Land capability (nonirrigated):* 7s

*Typical Profile:*

H1—0 to 10 inches; gravelly loam  
 H@—10 to 60 inches; very gravelly coarse sand

**Du—Duroc loam, 0 to 1 percent slopes**

## Map Unit Composition

Duroc: 100 percent

## Component Descriptions

Duroc  
 MLRA: -  
*Landform:* Swale on upland  
*Parent material:* Alluvium  
*Slope:* 0 to 1 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* High (About 9.6 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Negligible  
*Ecological site:* Silty - Veg. Zone 1  
*Land capability (irrigated):* 1  
*Land capability (nonirrigated):* 2c

*Typical Profile:*

H1—0 to 19 inches; loam  
 H2—19 to 55 inches; loam, silt loam  
 H3—55 to 60 inches; loam

**Minor Components****Lodgepole****DuB—Duroc loam, 1 to 3 percent slopes**

## Map Unit Composition

Duroc: 100 percent

## Component Descriptions

Duroc  
 MLRA: -  
*Landform:* Swale on upland  
*Parent material:* Alluvium  
*Slope:* 1 to 3 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* High (About 9.6 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Negligible  
*Ecological site:* Silty - Veg. Zone 1  
*Land capability (irrigated):* 2e  
*Land capability (nonirrigated):* 2e

*Typical Profile:*

H1—0 to 19 inches; loam  
 H2—19 to 35 inches; silt loam  
 H3—35 to 60 inches; silt loam

**Minor Components****Lodgepole****Dv—Duroc loam, Terrace, gravelly Substratum, 0 to 1 percent slopes**

## Map Unit Composition

Duroc: 100 percent

## Component Descriptions

Duroc  
 MLRA: -

*Landform:* Stream terrace on valley  
*Parent material:* Alluvium  
*Slope:* 0 to 1 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* High (About 9.7 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Negligible  
*Ecological site:* Silty - Veg. Zone 1  
*Land capability (irrigated):* 1  
*Land capability (nonirrigated):* 3c

*Typical Profile:*

H1—0 to 10 inches; loam  
 H2—10 to 29 inches; clay loam  
 H3—29 to 49 inches; loam  
 H4—49 to 60 inches; gravelly sand

**Dx—Duroc silt loam, Terrace, 0 to 1 percent slopes**

## Map Unit Composition

Duroc: 100 percent

## Component Descriptions

Duroc  
 MLRA: -  
*Landform:* Stream terrace on valley  
*Parent material:* Alluvium  
*Slope:* 0 to 1 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* High (About 9.7 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Negligible  
*Ecological site:* Silty - Veg. Zone 1  
*Land capability (irrigated):* 1  
*Land capability (nonirrigated):* 3c

*Typical Profile:*

H1—0 to 8 inches; silt loam  
 H2—8 to 41 inches; silt loam  
 H3—41 to 60 inches; silt loam

**Minor Components  
Lodgepole****DyE—Dwyer loamy fine sand, 9 to 17 percent slopes**

## Map Unit Composition

Dwyer: 100 percent

## Component Descriptions

Dwyer  
 MLRA: -  
*Landform:* Dune on valley  
*Parent material:* Eolian sands  
*Slope:* 9 to 17 percent  
*Drainage class:* Excessively drained  
*Slowest permeability:* Rapid (About 5.95 in/hr)  
*Available water capacity:* Low (About 5.4 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Very low  
*Ecological site:* Sands - Veg. Zone 1  
*Land capability (nonirrigated):* 6e

*Typical Profile:*

H1—0 to 4 inches; loamy fine sand  
 H2—4 to 60 inches; fine sand, loamy fine sand

**ErE—Epping-Mitchell complex, 3 to 20 percent slopes**

## Map Unit Composition

Epping: 55 percent  
 Mitchell: 45 percent

## Component Descriptions

Epping  
 MLRA: -  
*Landform:* Hillslope on upland

*Parent material:* Loamy residuum weathered from siltstone  
*Slope:* 3 to 20 percent  
*Depth to restrictive feature:* 10 to 20 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Very low (About 2.2 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Very high  
*Ecological site:* Shallow Limy - Veg. Zone 1  
*Land capability (nonirrigated):* 6s

*Typical Profile:*  
 H1—0 to 5 inches; loam  
 H2—5 to 13 inches; loam  
 CR—13 to 60 inches; weathered bedrock

Mitchell  
*MLRA:* -  
*Landform:* Hillslope on upland  
*Parent material:* Loamy alluvium derived from siltstone  
*Slope:* 3 to 20 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* High (About 11.2 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Medium  
*Ecological site:* Limy Upland - Veg. Zone 1  
*Land capability (nonirrigated):* 6e

*Typical Profile:*  
 H1—0 to 4 inches; very fine sandy loam  
 H2—4 to 60 inches; very fine sandy loam

### **Gd—Glenberg fine sandy loam, 0 to 2 percent slopes**

Map Unit Composition

Glenberg: 100 percent

Component Descriptions  
 Glenberg  
*MLRA:* -  
*Landform:* Flood plain on valley  
*Parent material:* Stratified calcareous alluvium  
*Slope:* 0 to 2 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderately rapid (About 2.00 in/hr)  
*Available water capacity:* Moderate (About 7.4 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Negligible  
*Ecological site:* Sandy Lowland - Veg. Zone 1  
*Land capability (irrigated):* 2e  
*Land capability (nonirrigated):* 3e

*Typical Profile:*  
 H1—0 to 6 inches; fine sandy loam  
 H2—6 to 60 inches; stratified fine sand to loam

### **Minor Components Wt At 0-1 Foot**

### **Go—Goshen silt loam, 0 to 1 percent slopes**

Map Unit Composition

Goshen: 100 percent

Component Descriptions  
 Goshen  
*MLRA:* -  
*Landform:* Swale on upland  
*Parent material:* Silty alluvium  
*Slope:* 0 to 1 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Very high (About 12.0 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Negligible  
*Ecological site:* Silty - Veg. Zone 1

*Land capability (irrigated):* 1  
*Land capability (nonirrigated):* 2c

*Typical Profile:*

H1—0 to 12 inches; silt loam  
 H2—12 to 44 inches; silty clay loam, silt loam  
 H3—44 to 60 inches; silt loam

**Minor Components**  
**Lodgepole**

**GP—Gravel Pit**

Map Unit Composition

Pits: 100 percent

Component Descriptions

Pits

*MLRA:* -

*Slope:* 0 to 30 percent

*Drainage class:* Excessively drained

*Slowest permeability:* Rapid (About 6.00 in/hr)

*Available water capacity:* Low (About 3.5 inches)

*Shrink-swell potential:* Low (About 1.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Land capability (nonirrigated):* 8s

**JmB—Jayem fine sandy loam, 1 to 3 percent slopes**

Map Unit Composition

Jayem: 100 percent

Component Descriptions

Jayem

*MLRA:* -

*Landform:* Plain on upland

*Parent material:* Sandy and silty eolian deposits

*Slope:* 1 to 3 percent

*Drainage class:* Well drained

*Slowest permeability:* Moderately rapid (About 2.00 in/hr)

*Available water capacity:* High (About 10.5 inches)

*Shrink-swell potential:* Low (About 1.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Very low

*Ecological site:* Sandy - Veg. Zone 1

*Land capability (irrigated):* 2e

*Land capability (nonirrigated):* 3e

*Typical Profile:*

H1—0 to 14 inches; fine sandy loam  
 H2—14 to 46 inches; fine sandy loam  
 H3—30 to 60 inches; fine sandy loam

**Minor Components**  
**Perched Wt**

**JmC—Jayem fine sandy loam, 3 to 6 percent slopes**

Map Unit Composition

Jayem: 100 percent

Component Descriptions

Jayem

*MLRA:* -

*Landform:* Hillslope on upland

*Parent material:* Sandy and silty eolian deposits

*Slope:* 3 to 6 percent

*Drainage class:* Well drained

*Slowest permeability:* Moderately rapid (About 2.00 in/hr)

*Available water capacity:* Moderate (About 8.3 inches)

*Shrink-swell potential:* Low (About 1.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Low

*Ecological site:* Sandy - Veg. Zone 1

*Land capability (irrigated):* 3e

*Land capability (nonirrigated):* 4e

*Typical Profile:*

H1—0 to 19 inches; fine sandy loam  
 H2—19 to 30 inches; fine sandy loam  
 H3—30 to 60 inches; fine sandy loam

**Minor Components**  
**Perched Wt**

## Jo—Johnstown loam, 0 to 1 percent slopes

### Map Unit Composition

Johnstown: 100 percent

### Component Descriptions

Johnstown

*MLRA:* -

*Landform:* Plain on tableland

*Parent material:* Loess over gravelly sand

*Slope:* 0 to 1 percent

*Drainage class:* Well drained

*Slowest permeability:* Moderate (About 0.60 in/hr)

*Available water capacity:* High (About 9.5 inches)

*Shrink-swell potential:* Moderate (About 4.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Negligible

*Ecological site:* Silty - Veg. Zone 1

*Land capability (irrigated):* 1

*Land capability (nonirrigated):* 2c

#### *Typical Profile:*

H1—0 to 9 inches; loam

H2—9 to 22 inches; clay loam

H3—22 to 46 inches; silt loam

H4—46 to 60 inches; gravelly coarse sand

## Ke—Keith loam, 0 to 1 percent slopes

### Map Unit Composition

Keith: 100 percent

### Component Descriptions

Keith

*MLRA:* -

*Landform:* Plain on tableland

*Parent material:* Loess

*Slope:* 0 to 1 percent

*Drainage class:* Well drained

*Slowest permeability:* Moderate (About 0.60 in/hr)

*Available water capacity:* Very high (About 12.8 inches)

*Shrink-swell potential:* Moderate (About 4.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Negligible

*Ecological site:* Silty - Veg. Zone 1

*Land capability (irrigated):* 1

*Land capability (nonirrigated):* 2c

#### *Typical Profile:*

H1—0 to 9 inches; loam

H2—9 to 25 inches; silt loam, silty clay loam

H3—23 to 60 inches; silt loam, very fine sandy loam

### Minor Components

#### Lodgepole

## KeB—Keith loam, 1 to 3 percent slopes

### Map Unit Composition

Keith: 100 percent

### Component Descriptions

Keith

*MLRA:* -

*Landform:* Plain on tableland

*Parent material:* Loess

*Slope:* 1 to 3 percent

*Drainage class:* Well drained

*Slowest permeability:* Moderate (About 0.60 in/hr)

*Available water capacity:* Very high (About 12.3 inches)

*Shrink-swell potential:* Moderate (About 4.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Low

*Ecological site:* Silty - Veg. Zone 1

*Land capability (irrigated):* 2e

*Land capability (nonirrigated):* 2e

#### *Typical Profile:*

H1—0 to 9 inches; loam  
 H2—9 to 25 inches; silt loam, silty clay loam  
 H3—25 to 60 inches; silt loam, very fine sandy loam

**Minor Components**  
**Lodgepole**

**KeC—Keith loam, 3 to 6 percent slopes**

Map Unit Composition

Keith: 100 percent

Component Descriptions

Keith

MLRA: -

Landform: Hillslope on upland

Parent material: Loess

Slope: 3 to 6 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Very high (About 12.3 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Silty - Veg. Zone 1

Land capability (irrigated): 3e

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 11 inches; loam

H2—11 to 36 inches; silt loam

H3—36 to 60 inches; silt loam, very fine sandy loam

**Minor Components**  
**Lodgepole**

**Ku—Kuma loam, 0 to 1 percent slopes**

Map Unit Composition

Kuma: 100 percent

Component Descriptions

Kuma

MLRA: -

Landform: Plain on tableland

Parent material: Loess

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 11.3 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Negligible

Ecological site: Silty - Veg. Zone 1

Land capability (irrigated): 1

Land capability (nonirrigated): 2c

Typical Profile:

H1—0 to 7 inches; loam

H2—7 to 42 inches; silty clay loam, silt loam

H3—42 to 60 inches; loam, very fine sandy loam

**Minor Components**  
**Lodgepole**

**LD—Sanitary Landfill**

Map Unit Composition

**Lm—Las loam, 0 to 1 percent slopes**

Map Unit Composition

Las: 100 percent

Component Descriptions

Las

MLRA: -

*Landform:* Flood plain on valley  
*Parent material:* Alluvium  
*Slope:* 0 to 1 percent  
*Drainage class:* Somewhat poorly drained  
*Slowest permeability:* Moderately slow (About 0.20 in/hr)  
*Available water capacity:* High (About 10.2 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* Occasional  
*Depth to seasonal water saturation:* About 24 to 36 inches  
*Runoff class:* Negligible  
*Ecological site:* Subirrigated - Veg. Zone 1  
*Land capability (irrigated):* 2w  
*Land capability (nonirrigated):* 4w

*Typical Profile:*  
 H1—0 to 4 inches; loam  
 H2—4 to 60 inches; clay loam, loam, sandy loam

**Minor Components  
 Wt At 0-1 Foot**

**Lw—Las Animas loam, 0 to 2 percent slopes**

Map Unit Composition

Las Animas: 100 percent

Component Descriptions

Las Animas  
*MLRA:* -  
*Landform:* Flood plain on valley  
*Parent material:* Calcareous stratified alluvium  
*Slope:* 0 to 2 percent  
*Drainage class:* Poorly drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Low (About 5.8 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* Frequent  
*Depth to seasonal water saturation:* About 0 to 18 inches  
*Runoff class:* Low  
*Ecological site:* Subirrigated - Veg. Zone 1  
*Land capability (nonirrigated):* 5w

*Typical Profile:*  
 H1—0 to 5 inches; loam

H2—5 to 60 inches; stratified loamy fine sand to very fine sandy loam

**Minor Components  
 Wt At 0-1 Foot**

**Ly—Lodgepole silt loam, 0 to 1 percent slopes**

Map Unit Composition

Lodgepole: 100 percent

Component Descriptions

Lodgepole  
*MLRA:* -  
*Landform:* Depression on tableland  
*Parent material:* Loess  
*Slope:* 0 to 1 percent  
*Drainage class:* Somewhat poorly drained  
*Slowest permeability:* Very slow (About 0.00 in/hr)  
*Available water capacity:* High (About 10.8 inches)  
*Shrink-swell potential:* High (About 7.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* About 0 to 0 inches  
*Runoff class:* Negligible  
*Ecological site:* Clayey Overflow - Veg. Zone 1  
*Land capability (irrigated):* 4w  
*Land capability (nonirrigated):* 3w

*Typical Profile:*

H1—0 to 9 inches; silt loam  
 H2—9 to 47 inches; silty clay loam, silty clay, clay  
 H3—47 to 58 inches; silt loam, very fine sandy loam, loam  
 H4—58 to 60 inches; sandy loam, fine sandy loam, loamy sand

**Minor Components  
 Ponded Soils**

**M-W—Miscellaneous Water, Sewage Lagoons**

Map Unit Composition

Miscellaneous Water: 100 percent

Component Descriptions

Miscellaneous Water

*MLRA:* -

*Depth to seasonal water saturation:* More than 6 feet

**Mc—Mccook very fine sandy loam,  
0 to 1 percent slopes**

Map Unit Composition

Mccook: 100 percent

Component Descriptions

Mccook

*MLRA:* -

*Landform:* Flood plain on valley

*Parent material:* Stratified calcareous alluvium

*Slope:* 0 to 1 percent

*Drainage class:* Well drained

*Slowest permeability:* Moderate (About 0.60 in/hr)

*Available water capacity:* High (About 10.6 inches)

*Shrink-swell potential:* Low (About 1.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Negligible

*Ecological site:* Silty Lowland - Veg. Zone 1

*Land capability (irrigated):* 2e

*Land capability (nonirrigated):* 2c

*Typical Profile:*

H1—0 to 12 inches; very fine sandy loam

H2—12 to 60 inches; very fine sandy loam, silt loam, loam

**MkC—Mitchell very fine sandy loam, 3 to 6 percent slopes**

Map Unit Composition

Mitchell: 100 percent

Component Descriptions

Mitchell

*MLRA:* -

*Landform:* Hillslope on upland

*Parent material:* Loamy alluvium derived from siltstone

*Slope:* 3 to 6 percent

*Drainage class:* Well drained

*Slowest permeability:* Moderate (About 0.60 in/hr)

*Available water capacity:* High (About 11.1 inches)

*Shrink-swell potential:* Low (About 1.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Low

*Ecological site:* Limy Upland - Veg. Zone 1

*Land capability (irrigated):* 3e

*Land capability (nonirrigated):* 3e

*Typical Profile:*

H1—0 to 11 inches; very fine sandy loam

H2—11 to 60 inches; very fine sandy loam, silt loam

**MkD—Mitchell very fine sandy loam, 6 to 9 percent slopes**

Map Unit Composition

Mitchell: 100 percent

Component Descriptions

Mitchell

*MLRA:* -

*Landform:* Hillslope on upland

*Parent material:* Loamy alluvium derived from siltstone

*Slope:* 6 to 9 percent

*Drainage class:* Well drained

*Slowest permeability:* Moderate (About 0.60 in/hr)

*Available water capacity:* High (About 11.2 inches)

*Shrink-swell potential:* Low (About 1.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Medium

*Ecological site:* Limy Upland - Veg. Zone 1

*Land capability (irrigated):* 4e

*Land capability (nonirrigated):* 4e

*Typical Profile:*

H1—0 to 5 inches; very fine sandy loam  
H2—5 to 60 inches; silt loam

### **MkE—Mitchell very fine sandy loam, 9 to 20 percent slopes**

## Map Unit Composition

Mitchell: 100 percent

## Component Descriptions

Mitchell

*MLRA:* -

*Landform:* Hillslope on upland

*Parent material:* Loamy alluvium derived from siltstone

*Slope:* 9 to 20 percent

*Drainage class:* Well drained

*Slowest permeability:* Moderate (About 0.60 in/hr)

*Available water capacity:* High (About 11.2 inches)

*Shrink-swell potential:* Low (About 1.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Medium

*Ecological site:* Limy Upland - Veg. Zone 1

*Land capability (nonirrigated):* 6e

*Typical Profile:*

H1—0 to 5 inches; very fine sandy loam  
H2—5 to 60 inches; very fine sandy loam

### **ReG—Rock outcrop-Epping complex, 11 to 60 percent slopes**

## Map Unit Composition

Rock outcrop: 55 percent

Epping: 45 percent

## Component Descriptions

Rock outcrop

*MLRA:* -

*Landform:* Hillslope on upland

*Slope:* 11 to 60 percent

*Depth to restrictive feature:* 0 inches to bedrock (paralithic)

*Available water capacity:* Very low (About 0.0 inches)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Very high

*Ecological site:* No Site - Veg. Zone 1

*Land capability (nonirrigated):* 8s

## Epping

*MLRA:* -

*Landform:* Hillslope on upland

*Parent material:* Loamy residuum weathered from siltstone

*Slope:* 11 to 45 percent

*Depth to restrictive feature:* 10 to 20 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Slowest permeability:* Moderate (About 0.60 in/hr)

*Available water capacity:* Very low (About 1.7 inches)

*Shrink-swell potential:* Low (About 1.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Very high

*Ecological site:* Shallow Limy - Veg. Zone 1

*Land capability (nonirrigated):* 7s

*Typical Profile:*

H1—0 to 4 inches; loam  
H2—4 to 10 inches; silt loam  
CR—10 to 60 inches; weathered bedrock

### **RhG—Rock outcrop-Tassel complex, 20 to 60 percent slopes**

## Map Unit Composition

Rock outcrop: 55 percent

Tassel: 45 percent

## Component Descriptions

Rock outcrop

*MLRA:* -

*Landform:* Hillslope on upland

*Slope:* 20 to 60 percent

*Depth to restrictive feature:* 0 inches to bedrock (paralithic)

*Available water capacity:* Very low (About 0.0 inches)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Very high  
*Ecological site:* No Site - Veg. Zone 1  
*Land capability (nonirrigated):* 8s

Tassel  
*MLRA:* -  
*Landform:* Hillslope on upland  
*Parent material:* Residuum weathered from calcareous sandstone  
*Slope:* 20 to 60 percent  
*Depth to restrictive feature:* 6 to 20 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Slowest permeability:* Moderately rapid (About 2.00 in/hr)  
*Available water capacity:* Very low (About 1.8 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Very high  
*Ecological site:* Shallow Limy - Veg. Zone 1  
*Land capability (nonirrigated):* 7s

*Typical Profile:*  
 H1—0 to 3 inches; loamy very fine sand  
 H2—3 to 12 inches; loamy very fine sand  
 H3—12 to 60 inches; weathered bedrock

## **Ro—Rosebud loam, 0 to 1 percent slopes**

Map Unit Composition

Rosebud: 100 percent

Component Descriptions

Rosebud  
*MLRA:* -  
*Landform:* Divide on upland  
*Parent material:* Loess over weakly cemented fine grained sandstone  
*Slope:* 0 to 1 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Well drained

*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Low (About 4.0 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Low  
*Ecological site:* Silty - Veg. Zone 1  
*Land capability (irrigated):* 1  
*Land capability (nonirrigated):* 3c

*Typical Profile:*  
 H1—0 to 6 inches; loam  
 H2—6 to 18 inches; clay loam, loam  
 H3—18 to 23 inches; sandy loam  
 CR—23 to 60 inches; weathered bedrock

## **Minor Components**

### **Lodgepole**

## **RoB—Rosebud loam, 1 to 3 percent slopes**

Map Unit Composition

Rosebud: 100 percent

Component Descriptions

Rosebud  
*MLRA:* -  
*Landform:* Hillslope on upland  
*Parent material:* Loess over weakly cemented fine grained sandstone  
*Slope:* 1 to 3 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Low (About 4.8 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Medium  
*Ecological site:* Silty - Veg. Zone 1  
*Land capability (irrigated):* 3e  
*Land capability (nonirrigated):* 3e

*Typical Profile:*

H1—0 to 4 inches; loam  
 H2—4 to 15 inches; clay loam  
 H3—15 to 30 inches; loam  
 CR—30 to 60 inches; weathered bedrock

**Minor Components**  
**Lodgepole**

**RoC—Rosebud loam, 3 to 6 percent slopes**

Map Unit Composition

Rosebud: 100 percent

Component Descriptions

Rosebud

MLRA: -

Landform: Hillslope on upland

Parent material: Loess over weakly cemented fine grained sandstone

Slope: 3 to 6 percent

Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Low (About 5.0 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: High

Ecological site: Silty - Veg. Zone 1

Land capability (irrigated): 3e

Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 6 inches; loam  
 H2—6 to 22 inches; clay loam, loam  
 H3—22 to 30 inches; very fine sandy loam  
 CR—30 to 60 inches; weathered bedrock

**RsD—Rosebud-Canyon complex, 3 to 9 percent slopes**

Map Unit Composition

Rosebud: 55 percent

Canyon: 45 percent

Component Descriptions

Rosebud

MLRA: -

Landform: Hillslope on upland

Parent material: Loess over weakly cemented fine grained sandstone

Slope: 3 to 9 percent

Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Low (About 4.9 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: High

Ecological site: Silty - Veg. Zone 1

Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 4 inches; loam  
 H2—4 to 17 inches; clay loam  
 H3—17 to 33 inches; sandy loam  
 CR—33 to 60 inches; weathered bedrock

Canyon

MLRA: -

Landform: Hillslope on upland

Parent material: Calcareous loamy residuum weathered from limestone and sandstone

Slope: 3 to 9 percent

Depth to restrictive feature: 6 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Very low (About 2.3 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: High

Ecological site: Shallow Limy - Veg. Zone 1

Land capability (nonirrigated): 6s

Typical Profile:

H1—0 to 4 inches; loam  
 H2—4 to 15 inches; loam  
 CR—15 to 60 inches; weathered bedrock

### **Sb—Satanta loam, gravelly Substratum, 0 to 1 percent slopes**

#### Map Unit Composition

Satanta: 100 percent

#### Component Descriptions

Satanta

MLRA: -

Landform: Plain on tableland

Parent material: Loamy eolian deposits

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 9.6 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Negligible

Ecological site: Silty - Veg. Zone 1

Land capability (irrigated): 1

Land capability (nonirrigated): 2c

#### Typical Profile:

H1—0 to 7 inches; loam

H2—7 to 29 inches; clay loam, loam

H3—29 to 56 inches; loam

H4—56 to 60 inches; gravelly sandy loam

#### **Minor Components Lodgepole**

### **SbB—Satanta loam, gravelly Substratum, 1 to 3 percent slopes**

#### Map Unit Composition

Satanta: 100 percent

#### Component Descriptions

Satanta

MLRA: -

Landform: Plain on tableland

Parent material: Loamy eolian deposits

Slope: 1 to 3 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Very high (About 15.3 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Silty - Veg. Zone 1

Land capability (irrigated): 2e

Land capability (nonirrigated): 2e

#### Typical Profile:

H1—0 to 10 inches; loam

H2—10 to 2,744 inches; clay loam, loam

H3—27 to 56 inches; fine sandy loam

H4—56 to 60 inches; gravelly loamy sand

### **SbC—Satanta loam, gravelly Substratum, 3 to 6 percent slopes**

#### Map Unit Composition

Satanta: 100 percent

#### Component Descriptions

Satanta

MLRA: -

Landform: Hillslope on upland

Parent material: Loamy eolian deposits

Slope: 3 to 6 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 9.6 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Silty - Veg. Zone 1

Land capability (irrigated): 3e

Land capability (nonirrigated): 3e

#### Typical Profile:

H1—0 to 10 inches; loam

H2—10 to 27 inches; clay loam, loam

H3—27 to 56 inches; loam

H4—56 to 60 inches; gravelly sandy loam

### **SnC—Sidney loam, 3 to 6 percent slopes**

Map Unit Composition

Sidney: 100 percent

Component Descriptions

Sidney

*MLRA:* -

*Landform:* Hillslope on upland

*Parent material:* Calcareous loamy residuum weathered from weakly cemented fine grained sandstone

*Slope:* 3 to 6 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Slowest permeability:* Moderate (About 0.60 in/hr)

*Available water capacity:* Moderate (About 8.5 inches)

*Shrink-swell potential:* Low (About 1.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Low

*Ecological site:* Silty - Veg. Zone 1

*Land capability (irrigated):* 3e

*Land capability (nonirrigated):* 3e

*Typical Profile:*

H1—0 to 7 inches; loam

H2—7 to 19 inches; loam

H3—19 to 50 inches; loam

CR—50 to 60 inches; weathered bedrock

### **SoD—Sidney-Canyon complex, 3 to 9 percent slopes**

Map Unit Composition

Sidney: 55 percent

Canyon: 45 percent

Component Descriptions

Sidney

*MLRA:* -

*Landform:* Hillslope on upland

*Parent material:* Calcareous loamy residuum weathered from weakly cemented fine grained sandstone

*Slope:* 3 to 9 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Slowest permeability:* Moderate (About 0.60 in/hr)

*Available water capacity:* Moderate (About 8.5 inches)

*Shrink-swell potential:* Low (About 1.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Medium

*Ecological site:* Silty - Veg. Zone 1

*Land capability (nonirrigated):* 4e

*Typical Profile:*

H1—0 to 7 inches; loam

H2—7 to 18 inches; loam

H3—18 to 50 inches; loam

CR—50 to 60 inches; weathered bedrock

Canyon

*MLRA:* -

*Landform:* Hillslope on upland

*Parent material:* Calcareous loamy residuum weathered from limestone and sandstone

*Slope:* 3 to 9 percent

*Depth to restrictive feature:* 6 to 20 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Slowest permeability:* Moderate (About 0.60 in/hr)

*Available water capacity:* Very low (About 2.1 inches)

*Shrink-swell potential:* Low (About 1.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* High

*Ecological site:* Shallow Limy - Veg. Zone 1

*Land capability (nonirrigated):* 6s

*Typical Profile:*

H1—0 to 6 inches; loam

H2—6 to 11 inches; gravelly loam

CR—11 to 60 inches; weathered bedrock

### **TbF—Tassel-Busher complex, 3 to 30 percent slopes**

#### Map Unit Composition

Tassel: 55 percent  
Busher: 45 percent

#### Component Descriptions

Tassel

*MLRA:* -

*Landform:* Hillslope on upland

*Parent material:* Residuum weathered from calcareous sandstone

*Slope:* 3 to 30 percent

*Depth to restrictive feature:* 6 to 20 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Slowest permeability:* Moderately rapid (About 2.00 in/hr)

*Available water capacity:* Very low (About 1.9 inches)

*Shrink-swell potential:* Low (About 1.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Very high

*Ecological site:* Shallow Limy - Veg. Zone 1

*Land capability (nonirrigated):* 6s

#### *Typical Profile:*

H1—0 to 6 inches; loamy very fine sand  
H2—6 to 13 inches; loamy very fine sand  
CR—13 to 60 inches; weathered bedrock

Busher

*MLRA:* -

*Landform:* Hillslope on upland

*Parent material:* Residuum weathered from sandstone

*Slope:* 3 to 30 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Slowest permeability:* Moderately rapid (About 2.00 in/hr)

*Available water capacity:* Moderate (About 8.2 inches)

*Shrink-swell potential:* Low (About 1.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Medium

*Ecological site:* Sandy - Veg. Zone 1

*Land capability (nonirrigated):* 6e

#### *Typical Profile:*

H1—0 to 18 inches; fine sandy loam  
H2—18 to 55 inches; loamy very fine sand, fine sandy loam  
CR—55 to 60 inches; weathered bedrock

### **TcG—Tassel-Busher-Rock outcrop complex, 11 to 60 percent slopes**

#### Map Unit Composition

Tassel: 55 percent  
Busher: 30 percent  
Minor components: 15 percent

#### Component Descriptions

Tassel

*MLRA:* -

*Landform:* Hillslope on upland

*Parent material:* Residuum weathered from calcareous sandstone

*Slope:* 11 to 60 percent

*Depth to restrictive feature:* 6 to 20 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Slowest permeability:* Moderately rapid (About 2.00 in/hr)

*Available water capacity:* Very low (About 1.9 inches)

*Shrink-swell potential:* Low (About 1.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Very high

*Ecological site:* Shallow Limy - Veg. Zone 1

*Land capability (nonirrigated):* 6s

#### *Typical Profile:*

H1—0 to 8 inches; loamy very fine sand  
H2—8 to 14 inches; loamy very fine sand  
CR—14 to 60 inches; weathered bedrock

Busher

*MLRA:* -

*Landform:* Hillslope on upland

*Parent material:* Residuum weathered from sandstone

*Slope:* 11 to 30 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Slowest permeability:* Moderately rapid (About 2.00 in/hr)

*Available water capacity:* Moderate (About 6.8 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Medium  
*Ecological site:* Sandy - Veg. Zone 1  
*Land capability (nonirrigated):* 6e

*Typical Profile:*

H1—0 to 10 inches; fine sandy loam  
 H2—10 to 42 inches; loamy very fine sand, very fine sandy loam  
 CR—42 to 60 inches; weathered bedrock

**Minor Components****Rock outcrop**

*Composition:* About 15 percent  
*Slope:* 11 to 60 percent  
*Depth to restrictive feature:* 0 inches to bedrock (paralithic)  
*Ecological site:* No Site - Veg. Zone 1

**UyB—Ulysses loam, 1 to 3 percent slopes**

## Map Unit Composition

Ulysses: 100 percent

## Component Descriptions

Ulysses  
*MLRA:* -  
*Landform:* Divide on upland  
*Parent material:* Calcareous loess  
*Slope:* 1 to 3 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* High (About 9.2 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Low  
*Ecological site:* Silty - Veg. Zone 1  
*Land capability (irrigated):* 2e  
*Land capability (nonirrigated):* 2e

*Typical Profile:*

H1—0 to 6 inches; loam  
 H2—6 to 18 inches; silt loam

H3—18 to 60 inches; silt loam

**UyC—Ulysses loam, 3 to 6 percent slopes**

## Map Unit Composition

Ulysses: 100 percent

## Component Descriptions

Ulysses  
*MLRA:* -  
*Landform:* Hillslope on upland  
*Parent material:* Calcareous loess  
*Slope:* 3 to 6 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* High (About 9.4 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Low  
*Ecological site:* Silty - Veg. Zone 1  
*Land capability (irrigated):* 3e  
*Land capability (nonirrigated):* 3e

*Typical Profile:*

H1—0 to 9 inches; loam  
 H2—9 to 19 inches; silt loam  
 H3—19 to 60 inches; very fine sandy loam, silt loam

**VdD—Valent loamy fine sand, 6 to 9 percent slopes**

## Map Unit Composition

Valent: 100 percent

## Component Descriptions

Valent  
*MLRA:* -  
*Landform:* Dune on upland  
*Parent material:* Eolian sands  
*Slope:* 8 to 9 percent

*Drainage class:* Excessively drained  
*Slowest permeability:* Rapid (About 5.95 in/hr)  
*Available water capacity:* Low (About 4.8 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Very low  
*Ecological site:* Sands - Veg. Zone 1  
*Land capability (irrigated):* 4e  
*Land capability (nonirrigated):* 6e

*Typical Profile:*

H1—0 to 6 inches; loamy fine sand  
 H2—6 to 60 inches; loamy fine sand

Map Unit Composition

Water: 100 percent

Component Descriptions

Water

*MLRA:* -

*Depth to seasonal water saturation:* More than 6 feet

*General Considerations:* Water includes streams, lakes, ponds, and estuaries. These areas are covered with water in most years, at least during the period that is warm enough for plants to grow. Many areas are covered throughout the year.

**W—Water**

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive land-forming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes. In the capability system, soils are generally grouped at three levels: capability class, subclass, and unit.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

(Class 1) soils have slight limitations that restrict their use.

(Class 2) soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

(Class 3) soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

(Class 4) soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

(Class 5) soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

(Class 6) soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

(Class 7) soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

(Class 8) soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, e, w, s, or c, to the class numeral, for example, 2e. The letter e shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; w shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); s shows that the soil is limited mainly because it is shallow, droughty, or stony; and c, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by w, s, or c because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, 2e-4 and 3e-6. These units are not given in all soil surveys.

The capability classification of map units in this survey area is given in the section "Detailed Soil Map Units" and in the Land Capability and Component Yields table.

#### Crop Yield Estimates

The average yields per acre that can be expected of the principal crops under a high level of management are shown in "Land Capability and Component Yields" table. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, animal waste manure, and green manure crops; and harvesting that ensures the smallest possible loss.

For yields of irrigated crops, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in this table, are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service (NRCS) or the Cooperative Extension Service (CES) can provide information about the management and productivity of the soils for those crops.

LAND CAPABILITY AND YIELDS PER ACRE OF CROPS--Continued  
Cheyenne, Nebraska

(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are those that can be expected under a high level of nonirrigated and irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land Capability		Corn		Winter wheat	
	N	I	N	I	N	I
			Bu		Bu	
Ao: ALLIANCE-----	2c	1	---	145.00	43.00	---
AoB: ALLIANCE-----	2e	2e	---	140.00	41.00	---
AoC: ALLIANCE-----	3e	3e	---	130.00	36.00	---
AtB: ALTVAN-----	3e	3e	---	125.00	34.00	---
AtC: ALTVAN-----	4e	4e	---	110.00	28.00	---
AvD: ALTVAN-----	4e	4e	---	95.00	23.00	---
DIX-----	6s	---	---	---	---	---
Bb: BANKARD-----	4e	4e	---	100.00	22.00	---
Bc: BANKARD-----	6w	---	---	---	---	---
Be: BAYARD-----	2e	2e	---	140.00	41.00	---
BeB: BAYARD-----	3e	2e	---	135.00	37.00	---
BeC: BAYARD-----	4e	3e	---	125.00	34.00	---
BeD: BAYARD-----	4e	4e	---	115.00	29.00	---
BeE: BAYARD-----	6e	---	---	---	---	---
Bg: BRIDGET-----	2c	2e	---	145.00	42.00	---
BgB: BRIDGET-----	2e	2e	---	140.00	40.00	---
BgC: BRIDGET-----	3e	3e	---	130.00	35.00	---
BgD: BRIDGET-----	4e	4e	---	115.00	30.00	---
BuC: BUSHER-----	3e	3e	---	120.00	33.00	---
BxD: BUSHER-----	4e	4e	---	100.00	27.00	---
TASSEL-----	6s	---	---	---	---	---
ByE: BUSHER-----	6e	---	---	---	---	---
TASSEL-----	6s	---	---	---	---	---
CcF: CANYON-----	6s	---	---	---	---	---
CdG: CANYON-----	7s	---	---	---	---	---
ROCK OUTCROP----	8s	---	---	---	---	---
CeE: CANYON-----	6s	---	---	---	---	---
BAYARD-----	6e	---	---	---	---	---

LAND CAPABILITY AND YIELDS PER ACRE OF CROPS--Continued  
Cheyenne, Nebraska

(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are those that can be expected under a high level of nonirrigated and irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land Capability		Corn		Winter wheat	
	N	I	N	I	N	I
			Bu		Bu	
CtB: CREIGHTON-----	2e	2e	---	135.00	39.00	---
CtC: CREIGHTON-----	3e	3e	---	120.00	34.00	---
DhD: DIX-----	6s	---	---	---	---	---
DhG: DIX-----	7s	---	---	---	---	---
Du: DUROC-----	2c	1	---	150.00	47.00	---
DuB: DUROC-----	2e	2e	---	140.00	45.00	---
Dv: DUROC-----	3c	1	---	140.00	41.00	---
Dx: DUROC-----	3c	1	---	140.00	43.00	---
DyE: DWYER-----	6e	---	---	---	---	---
ErE: EPPING-----	6s	---	---	---	---	---
MITCHELL-----	6e	---	---	---	---	---
Gd: GLENBERG-----	3e	2e	---	135.00	36.00	---
Go: GOSHEN-----	2c	1	---	145.00	46.00	---
GP: PITS-----	8s	---	---	---	---	---
JmB: JAYEM-----	3e	2e	---	130.00	35.00	---
JmC: JAYEM-----	4e	3e	---	120.00	30.00	---
Jo: JOHNSTOWN-----	2c	1	---	145.00	43.00	---
Ke: KEITH-----	2c	1	---	145.00	44.00	---
KeB: KEITH-----	2e	2e	---	140.00	42.00	---
KeC: KEITH-----	3e	3e	---	130.00	37.00	---
Ku: KUMA-----	2c	1	---	146.00	45.00	---
LD:	---	---	---	---	---	---
Lm: LAS-----	4w	2w	---	135.00	28.00	---
Lw: LAS ANIMAS-----	5w	---	---	---	---	---
Ly: LODGEPOLE-----	3w	4w	---	90.00	22.00	---
M-W: MISCELLANEOUS WATER-----	---	---	---	---	---	---
Mc: MCCOOK-----	2c	2e	---	140.00	40.00	---

LAND CAPABILITY AND YIELDS PER ACRE OF CROPS--Continued  
Cheyenne, Nebraska

(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are those that can be expected under a high level of nonirrigated and irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land Capability		Corn		Winter wheat	
	N	I	N	I	N	I
			Bu		Bu	
MkC: MITCHELL-----	3e	3e	---	125.00	34.00	---
MkD: MITCHELL-----	4e	4e	---	105.00	29.00	---
MkE: MITCHELL-----	6e	---	---	---	---	---
ReG: ROCK OUTCROP----	8s	---	---	---	---	---
EPPING-----	7s	---	---	---	---	---
RhG: ROCK OUTCROP----	8s	---	---	---	---	---
TASSEL-----	7s	---	---	---	---	---
Ro: ROSEBUD-----	3c	1	---	135.00	38.00	---
RoB: ROSEBUD-----	3e	3e	---	130.00	36.00	---
RoC: ROSEBUD-----	4e	3e	---	110.00	31.00	---
RsD: ROSEBUD-----	4e	---	---	---	28.00	---
CANYON-----	6s	---	---	---	---	---
Sb: SATANTA-----	2c	1	---	145.00	40.00	---
Sbb: SATANTA-----	2e	2e	---	140.00	38.00	---
Sbc: SATANTA-----	3e	3e	---	125.00	32.00	---
SnC: SIDNEY-----	3e	3e	---	125.00	32.00	---
SoD: SIDNEY-----	4e	---	---	---	27.00	---
CANYON-----	6s	---	---	---	---	---
TbF: TASSEL-----	6s	---	---	---	---	---
BUSHER-----	6e	---	---	---	---	---
TcG: TASSEL-----	6s	---	---	---	---	---
BUSHER-----	6e	---	---	---	---	---
UyB: ULYSSES-----	2e	2e	---	120.00	36.00	---
UyC: ULYSSES-----	3e	3e	---	105.00	31.00	---
VdD: VALENT-----	6e	4e	---	100.00	---	---
W: WATER-----	---	---	---	---	---	---



Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed in the following table. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in the "Acres and Proportionate Extent of Soils" table. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described in other tables in this document."

Map symbol	Mapunit name	Farmland Classification
Ao	Alliance loam, 0 to 1 percent slopes	Prime farmland if irrigated
AoB	Alliance loam, 1 to 3 percent slopes	Prime farmland if irrigated
AoC	Alliance loam, 3 to 6 percent slopes	Prime farmland if irrigated
AtB	Altvan loam, 1 to 3 percent slopes	Prime farmland if irrigated
AtC	Altvan loam, 3 to 6 percent slopes	Prime farmland if irrigated
Be	Bayard fine sandy loam, 0 to 1 percent slopes	Prime farmland if irrigated
BeB	Bayard fine sandy loam, 1 to 3 percent slopes	Prime farmland if irrigated
BeC	Bayard fine sandy loam, 3 to 6 percent slopes	Prime farmland if irrigated
Bg	Bridget very fine sandy loam, 0 to 1 percent slopes	Prime farmland if irrigated
BgB	Bridget very fine sandy loam, 1 to 3 percent slopes	Prime farmland if irrigated
BgC	Bridget very fine sandy loam, 3 to 6 percent slopes	Prime farmland if irrigated
BuC	Busher fine sandy loam, 3 to 6 percent slopes	Prime farmland if irrigated
CtB	Creighton very fine sandy loam, 1 to 3 percent slopes	Prime farmland if irrigated
CtC	Creighton very fine sandy loam, 3 to 6 percent slopes	Prime farmland if irrigated
Du	Duroc loam, 0 to 1 percent slopes	Prime farmland if irrigated
DuB	Duroc loam, 1 to 3 percent slopes	Prime farmland if irrigated
Dv	Duroc loam, terrace, gravelly substratum, 0 to 1 percent slopes	Prime farmland if irrigated
Dx	Duroc silt loam, terrace, 0 to 1 percent slopes	Prime farmland if irrigated
Gd	Glenberg fine sandy loam, 0 to 2 percent slopes	Prime farmland if irrigated
Go	Goshen silt loam, 0 to 1 percent slopes	Prime farmland if irrigated
JmB	Jayem fine sandy loam, 1 to 3 percent slopes	Prime farmland if irrigated
JmC	Jayem fine sandy loam, 3 to 6 percent slopes	Prime farmland if irrigated
Jo	Johnstown loam, 0 to 1 percent slopes	Prime farmland if irrigated
Ke	Keith loam, 0 to 1 percent slopes	Prime farmland if irrigated
KeB	Keith loam, 1 to 3 percent slopes	Prime farmland if irrigated
KeC	Keith loam, 3 to 6 percent slopes	Prime farmland if irrigated
Ku	Kuma loam, 0 to 1 percent slopes	Prime farmland if irrigated
Lm	Las loam, 0 to 1 percent slopes	Prime farmland if irrigated
Mc	Mccook very fine sandy loam, 0 to 1 percent slopes	Prime farmland if irrigated
Ro	Rosebud loam, 0 to 1 percent slopes	Prime farmland if irrigated
RoB	Rosebud loam, 1 to 3 percent slopes	Prime farmland if irrigated
RoC	Rosebud loam, 3 to 6 percent slopes	Prime farmland if irrigated
Sb	Satanta loam, gravelly substratum, 0 to 1 percent slopes	Prime farmland if irrigated
SbB	Satanta loam, gravelly substratum, 1 to 3 percent slopes	Prime farmland if irrigated
SbC	Satanta loam, gravelly substratum, 3 to 6 percent slopes	Prime farmland if irrigated
SnC	Sidney loam, 3 to 6 percent slopes	Prime farmland if irrigated
UyB	Ulysses loam, 1 to 3 percent slopes	Prime farmland if irrigated
UyC	Ulysses loam, 3 to 6 percent slopes	Prime farmland if irrigated



SOIL RATING FOR PLANT GROWTH, modified 1998  
Cheyenne, Nebraska

The "Soil Rating for Plant Growth, modified 1998" (SRPG) is a relative rating of the capacity of a soil to produce a specific plant under a defined management system. The index is determined from yield data on a few benchmark soils and is used to calculate yields, the net returns from crops, land assessment values, and taxes and to perform risk analysis when land management decisions are made. Specific information on plants and yields can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Map symbol	Soil name	Crop Index
Ao	Alliance Loam, 0 To 1 Percent Slopes-----	61
AoB	Alliance Loam, 1 To 3 Percent Slopes-----	60
AoC	Alliance Loam, 3 To 6 Percent Slopes-----	56
AtB	Altvan Loam, 1 To 3 Percent Slopes-----	47
AtC	Altvan Loam, 3 To 6 Percent Slopes-----	45
AvD	Altvan-Dix Complex, 3 To 9 Percent Slopes-----	40
Bb	Bankard Loamy Sand, 0 To 2 Percent Slopes-----	29
Bc	Bankard Loamy Fine Sand, Channeled-----	17
Be	Bayard Fine Sandy Loam, 0 To 1 Percent Slopes-----	45
BeB	Bayard Fine Sandy Loam, 1 To 3 Percent Slopes-----	45
BeC	Bayard Fine Sandy Loam, 3 To 6 Percent Slopes-----	43
BeD	Bayard Fine Sandy Loam, 6 To 9 Percent Slopes-----	41
BeE	Bayard Fine Sandy Loam, 9 To 20 Percent Slopes-----	35
Bg	Bridget Very Fine Sandy Loam, 0 To 1 Percent Slopes-----	54
BgB	Bridget Very Fine Sandy Loam, 1 To 3 Percent Slopes-----	53
BgC	Bridget Very Fine Sandy Loam, 3 To 6 Percent Slopes-----	51
BgD	Bridget Very Fine Sandy Loam, 6 To 9 Percent Slopes-----	48
BuC	Busher Fine Sandy Loam, 3 To 6 Percent Slopes-----	51
BxD	Busher-Tassel Complex, 3 To 9 Percent Slopes-----	36
ByE	Busher-Tassel Complex, 9 To 20 Percent Slopes-----	27
CcF	Canyon Fine Sandy Loam, 6 To 30 Percent Slopes-----	4
CdG	Canyon-Rock Outcrop Complex, 11 To 60 Percent Slopes-----	1
CeE	Canyon-Bayard Complex, 6 To 20 Percent Slopes-----	19
CtB	Creighton Very Fine Sandy Loam, 1 To 3 Percent Slopes-----	50
CtC	Creighton Very Fine Sandy Loam, 3 To 6 Percent Slopes-----	49
DhD	Dix Gravelly Loam, 3 To 11 Percent Slopes-----	23
DhG	Dix Gravelly Loam, 11 To 50 Percent Slopes-----	3
Du	Duroc Loam, 0 To 1 Percent Slopes-----	56
DuB	Duroc Loam, 1 To 3 Percent Slopes-----	54
Dv	Duroc Loam, Terrace, Gravelly Substratum, 0 To 1 Percent Slopes-----	62
Dx	Duroc Silt Loam, Terrace, 0 To 1 Percent Slopes-----	56
DyE	Dwyer Loamy Fine Sand, 9 To 17 Percent Slopes-----	22
ErE	Epping-Mitchell Complex, 3 To 20 Percent Slopes-----	21
GP	Gravel Pit-----	18
Gd	Glenberg Fine Sandy Loam, 0 To 2 Percent Slopes-----	37
Go	Goshen Silt Loam, 0 To 1 Percent Slopes-----	61
JmB	Jayem Fine Sandy Loam, 1 To 3 Percent Slopes-----	50
JmC	Jayem Fine Sandy Loam, 3 To 6 Percent Slopes-----	44
Jo	Johnstown Loam, 0 To 1 Percent Slopes-----	64
Ke	Keith Loam, 0 To 1 Percent Slopes-----	64
KeB	Keith Loam, 1 To 3 Percent Slopes-----	63
KeC	Keith Loam, 3 To 6 Percent Slopes-----	61
Ku	Kuma Loam, 0 To 1 Percent Slopes-----	57
LD	Sanitary Landfill-----	0
Lm	Las Loam, 0 To 1 Percent Slopes-----	43
Lw	Las Animas Loam, 0 To 2 Percent Slopes-----	25
Ly	Lodgepole Silt Loam, 0 To 1 Percent Slopes-----	28
M-W	Miscellaneous Water, Sewage Lagoons-----	0
Mc	Mccook Very Fine Sandy Loam, 0 To 1 Percent Slopes-----	51
MkC	Mitchell Very Fine Sandy Loam, 3 To 6 Percent Slopes-----	44
MkD	Mitchell Very Fine Sandy Loam, 6 To 9 Percent Slopes-----	42
MkE	Mitchell Very Fine Sandy Loam, 9 To 20 Percent Slopes-----	36
ReG	Rock Outcrop-Epping Complex, 11 To 60 Percent Slopes-----	1
RhG	Rock Outcrop-Tassel Complex, 20 To 60 Percent Slopes-----	0
Ro	Rosebud Loam, 0 To 1 Percent Slopes-----	28
RoB	Rosebud Loam, 1 To 3 Percent Slopes-----	31
RoC	Rosebud Loam, 3 To 6 Percent Slopes-----	31
RsD	Rosebud-Canyon Complex, 3 To 9 Percent Slopes-----	19
Sb	Satanta Loam, Gravelly Substratum, 0 To 1 Percent Slopes-----	58
SbB	Satanta Loam, Gravelly Substratum, 1 To 3 Percent Slopes-----	59
SbC	Satanta Loam, Gravelly Substratum, 3 To 6 Percent Slopes-----	55
SnC	Sidney Loam, 3 To 6 Percent Slopes-----	42
SoD	Sidney-Canyon Complex, 3 To 9 Percent Slopes-----	25
TbF	Tassel-Busher Complex, 3 To 30 Percent Slopes-----	19
TcG	Tassel-Busher-Rock Outcrop Complex, 11 To 60 Percent Slopes-----	8
UyB	Ulysses Loam, 1 To 3 Percent Slopes-----	48
UyC	Ulysses Loam, 3 To 6 Percent Slopes-----	46
VdD	Valent Loamy Fine Sand, 6 To 9 Percent Slopes-----	22
W	Water-----	0



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(Entries under "Erosion factors--T" apply to the entire profile. Entries under "K", "Kf", "Wind Erodibility Group" and "Wind Erodibility Index" apply only to the surface layer)

Map symbol and soil name	Percent	Irr Cap Class	Nonirr Cap Class	Prime Farmland	Hydro-logic Group	Range site name	Windbreak suitability group	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
Ao:ALLIANCE----	100	1-	2c	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.28	.28	4	5	56
AoB:ALLIANCE----	100	2e-	2e	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.28	.28	4	5	56
AoC:ALLIANCE----	100	3e-	3e	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.28	.28	4	5	56
AtB:ALTVAN-----	100	3e-	3e	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.28	.28	4	5	56
AtC:ALTVAN-----	100	4e-	4e	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.28	.28	4	5	56
AvD:ALTVAN-----	65	4e-	4e	Not prime farmland	B	Silty - Veg. Zone 1		.28	.28	4	5	56
AvD:DIX-----	35	N/A	6s	Not prime farmland	A	Shallow To Gravel - Veg. Zone 1		.20	.20	3	3	86
Bb:BANKARD-----	100	4e-	4e	Not prime farmland	A	Sandy Lowland - Veg. Zone 1		.20	.20	5	2	134
Bc:BANKARD-----	100	N/A	6w	Not prime farmland	A	Shallow To Gravel - Veg. Zone 1		.17	.17	5	2	134
Be:BAYARD-----	100	2e-	2e	Prime farmland if irrigated	B	Sandy - Veg. Zone 1		.20	.20	5	3	86
BeB:BAYARD-----	100	2e-	3e	Prime farmland if irrigated	B	Sandy - Veg. Zone 1		.20	.20	5	3	86
BeC:BAYARD-----	100	3e-	4e	Prime farmland if irrigated	B	Sandy - Veg. Zone 1		.20	.20	5	3	86
BeD:BAYARD-----	100	4e-	4e	Not prime farmland	B	Sandy - Veg. Zone 1		.20	.20	5	3	86
BeE:BAYARD-----	100	N/A	6e	Not prime farmland	B	Sandy - Veg. Zone 1		.20	.20	5	3	86
Bg:BRIDGET-----	100	2e-	2c	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.32	.32	5	3	86
BgB:BRIDGET-----	100	2e-	2e	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.32	.32	5	3	86
BgC:BRIDGET-----	100	3e-	3e	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.32	.32	5	3	86

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(Entries under "Erosion factors--T" apply to the entire profile. Entries under "K", "Kf", "Wind Erodibility Group" and "Wind Erodibility Index" apply only to the surface layer)

Map symbol and soil name	Percent	Irr Cap Class	Nonirr Cap Class	Prime Farmland	Hydro-logic Group	Range site name	Windbreak suitability group	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
BgD:BRIDGET-----	100	4e-	4e	Not prime farmland	B	Silty - Veg. Zone 1		.32	.32	5	3	86
BuC:BUSHER-----	100	3e-	3e	Prime farmland if irrigated	B	Sandy - Veg. Zone 1		.20	.20	4	3	86
BxD:BUSHER-----	70	4e-	4e	Not prime farmland	B	Sandy - Veg. Zone 1		.20	.20	4	3	86
BxD:TASSEL-----	30	N/A	6s	Not prime farmland	D	Shallow Limy - Veg. Zone 1		.24	.24	2	3	86
ByE:BUSHER-----	65	N/A	6e	Not prime farmland	B	Sandy - Veg. Zone 1		.20	.20	4	3	86
ByE:TASSEL-----	35	N/A	6s	Not prime farmland	D	Shallow Limy - Veg. Zone 1		.24	.24	2	2	134
CcF:CANYON-----	100	N/A	6s	Not prime farmland	D	Shallow Limy - Veg. Zone 1		.24	.24	2	3	86
CdG:CANYON-----	60	N/A	7s	Not prime farmland	D	Shallow Limy - Veg. Zone 1		.24	.24	2	3	86
CdG:ROCK OUTCROP	40	N/A	8s	Not prime farmland	D	No Site - Veg. Zone 1		---	---	-	8	0
CeE:CANYON-----	55	N/A	6s	Not prime farmland	D	Shallow Limy - Veg. Zone 1		.24	.24	2	3	86
CeE:BAYARD-----	45	N/A	6e	Not prime farmland	B	Sandy - Veg. Zone 1		.20	.20	5	3	86
CtB:CREIGHTON---	100	2e-	2e	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.32	.32	5	3	86
CtC:CREIGHTON---	100	3e-	3e	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.32	.32	5	3	86
DhD:DIX-----	100	N/A	6s	Not prime farmland	A	Shallow To Gravel - Veg. Zone 1		.15	.28	3	8	0
DhG:DIX-----	100	N/A	7s	Not prime farmland	A	Shallow To Gravel - Veg. Zone 1		.15	.28	3	8	0
Du:DUROC-----	100	1-	2c	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.28	.28	5	5	56
DuB:DUROC-----	100	2e-	2e	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.28	.28	5	5	56
Dv:DUROC-----	100	1-	3c	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.28	.28	4	5	56

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(Entries under "Erosion factors--T" apply to the entire profile. Entries under "K", "Kf", "Wind Erodibility Group" and "Wind Erodibility Index" apply only to the surface layer)

Map symbol and soil name	Percent	Irr Cap Class	Nonirr Cap Class	Prime Farmland	Hydro-logic Group	Range site name	Windbreak suitability group	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
Dx:DUROC-----	100	1-	3c	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.32	.32	5	5	56
DyE:DWYER-----	100	N/A	6e	Not prime farmland	A	Sands - Veg. Zone 1		.17	.17	5	2	134
ErE:EPPING-----	55	N/A	6s	Not prime farmland	D	Shallow Limy - Veg. Zone 1		.37	---	2	4L	86
ErE:MITCHELL----	45	N/A	6e	Not prime farmland	B	Limy Upland - Veg. Zone 1		.43	.43	5	3	86
GP:PITS-----	100	N/A	8s	Not prime farmland	A	Unspecified		.10	.17	2	8	0
Gd:GLENBERG-----	100	2e-	3e	Prime farmland if irrigated	B	Sandy Lowland - Veg. Zone 1		.24	.24	5	3	86
Go:GOSHEN-----	100	1-	2c	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.32	.32	5	5	56
JmB:JAYEM-----	100	2e-	3e	Prime farmland if irrigated	B	Sandy - Veg. Zone 1		.20	.20	5	3	86
JmC:JAYEM-----	100	3e-	4e	Prime farmland if irrigated	B	Sandy - Veg. Zone 1		.20	.20	5	3	86
Jo:JOHNSTOWN----	100	1-	2c	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.28	.28	4	5	56
Ke:KEITH-----	100	1-	2c	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.28	.28	5	5	56
KeB:KEITH-----	100	2e-	2e	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.28	.28	5	5	56
KeC:KEITH-----	100	3e-	3e	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.28	.28	5	5	56
Ku:KUMA-----	100	1-	2c	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.32	.32	5	5	56
LD:-----		N/A	N/A	Not prime farmland		Unspecified		---	---	-	---	---
Lm:LAS-----	100	2w-	4w	Prime farmland if irrigated	C	Subirrigated - Veg. Zone 1		.32	.32	4	4L	86
Lw:LAS ANIMAS---	100	N/A	5w	Not prime farmland	D	Subirrigated - Veg. Zone 1		.32	.32	5	4L	86

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Map symbol and soil name	Percent	Irr Cap Class	Nonirr Cap Class	Prime Farmland	Hydro-logic Group	Range site name	Windbreak suitability group	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
Ly: LODGEPOLE----	100	4w-	3w	Not prime farmland	D	Clayey Overflow - Veg. Zone 1		.37	.37	5	6	48
M- W: MISCELLANEOUS WATER-----	100	N/A	N/A	Not prime farmland		Unspecified		---	---	-	---	---
Mc: MCCOOK-----	100	2e-	2c	Prime farmland if irrigated	B	Silty Lowland - Veg. Zone 1		.32	.32	5	3	86
MkC: MITCHELL----	100	3e-	3e	Not prime farmland	B	Limy Upland - Veg. Zone 1		.43	.43	5	3	86
MkD: MITCHELL----	100	4e-	4e	Not prime farmland	B	Limy Upland - Veg. Zone 1		.43	.43	5	3	86
MkE: MITCHELL----	100	N/A	6e	Not prime farmland	B	Limy Upland - Veg. Zone 1		.43	.43	5	3	86
ReG: ROCK OUTCROP	55	N/A	8s	Not prime farmland	D	No Site - Veg. Zone 1		---	---	-	8	0
ReG: EPPING-----	45	N/A	7s	Not prime farmland	D	Shallow Limy - Veg. Zone 1		.37	---	2	4L	86
RhG: ROCK OUTCROP	55	N/A	8s	Not prime farmland	D	No Site - Veg. Zone 1		---	---	-	8	0
RhG: TASSEL-----	45	N/A	7s	Not prime farmland	D	Shallow Limy - Veg. Zone 1		.24	.24	2	2	134
Ro: ROSEBUD-----	100	1-	3c	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.28	.28	3	5	56
RoB: ROSEBUD-----	100	3e-	3e	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.28	.28	3	5	56
RoC: ROSEBUD-----	100	3e-	4e	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.28	.28	3	5	56
RsD: ROSEBUD-----	55	N/A	4e	Not prime farmland	B	Silty - Veg. Zone 1		.28	.28	3	5	56
RsD: CANYON-----	45	N/A	6s	Not prime farmland	D	Shallow Limy - Veg. Zone 1		.32	.32	2	4L	86
Sb: SATANTA-----	100	1-	2c	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.28	.28	4	6	48
SbB: SATANTA-----	100	2e-	2e	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.28	.28	4	6	48
SbC: SATANTA-----	100	3e-	3e	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.28	.28	4	6	48

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(Entries under "Erosion factors--T" apply to the entire profile. Entries under "K", "Kf", "Wind Erodibility Group" and "Wind Erodibility Index" apply only to the surface layer)

Map symbol and soil name	Percent	Irr Cap Class	Nonirr Cap Class	Prime Farmland	Hydro-logic Group	Range site name	Windbreak suitability group	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
SnC:SIDNEY-----	100	3e-	3e	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.28	.28	4	4L	86
SoD:SIDNEY-----	55	N/A	4e	Not prime farmland	B	Silty - Veg. Zone 1		.28	.28	4	4L	86
SoD:CANYON-----	45	N/A	6s	Not prime farmland	D	Shallow Limy - Veg. Zone 1		.32	.32	2	4L	86
TbF:TASSEL-----	55	N/A	6s	Not prime farmland	D	Shallow Limy - Veg. Zone 1		.24	.24	2	2	134
TbF:BUSHER-----	45	N/A	6e	Not prime farmland	B	Sandy - Veg. Zone 1		.20	.20	4	3	86
TcG:TASSEL-----	55	N/A	6s	Not prime farmland	D	Shallow Limy - Veg. Zone 1		.24	.24	2	2	134
TcG:BUSHER-----	30	N/A	6e	Not prime farmland	B	Sandy - Veg. Zone 1		.20	.20	4	3	86
UyB:ULYSSES-----	100	2e-	2e	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.28	.20	5	5	56
UyC:ULYSSES-----	100	3e-	3e	Prime farmland if irrigated	B	Silty - Veg. Zone 1		.28	.20	5	5	56
VdD:VALENT-----	100	4e-	6e	Not prime farmland	A	Sands - Veg. Zone 1		.17	.17	5	2	134
W:WATER-----	100	N/A	N/A	Not prime farmland		Unspecified		---	---	-	---	0



RANGELAND PRODUCTIVITY  
Cheyenne, Nebraska

Use and Explanation of Rangeland, Grazed Forest Land, Native Pastureland Interpretations

Information in this subsection can be used to plan the use and management of soils for rangeland, grazed forest land, and native pasture. Different kinds of soils vary in their capacity to produce native grasses and other plants suitable for grazing. Information in this subsection provides groupings of similar soils and estimates of potential forage production, which can be used to determine livestock stocking rates.

Rangeland. Range is land on which the native vegetation (climax or natural potential plant community) is predominantly grasses, grasslike plants, forbs, and shrubs suitable for grazing and browsing. Range includes natural grasslands, savannas, many wetlands, some deserts, tundra, and certain shrub and forb communities. Rangeland receives no regular or frequent cultural treatment. The composition and production of the plant community are determined by soil, climate, topography, overstory canopy, and grazing management.

Grazed Forest Land. Includes land on which the understory includes, as an integral part of the forest plant community, plants that can be grazed without significantly impairing other forest values.

Native Pasture. Includes land on which the native vegetation (climax or natural potential plant community) is forest but which is used and managed primarily for production of native plants for forage. Native pasture includes cut-over forest land and forest land cleared and now managed for native or naturalized forage plants.

Rangeland

In areas that have similar climate and topography, differences in the kind and amount of vegetation produced on rangeland are closely related to the kind of soil. Effective management based on the relationship between the soils and vegetation and water.

The Rangeland, Grazed Forest land, Native Pastureland Interpretations shows, for each soil that supports rangeland vegetation, the ecological site and the potential annual production of vegetation in favorable, normal, unfavorable years. An explanation of the column headings in this table follows.

An ecological site is the product of all the environmental factors responsible for its development. It has characteristic soils that have developed over time throughout the soil development process; a characteristic hydrology, particularly infiltration and runoff, that has developed over time; and a characteristic plant community (kind and amount of vegetation). The hydrology of a site is influenced by development of the soil and plant community. The vegetation, soils, and hydrology are all interrelated. Each is influenced by the others and influences the development of the others. The plant community on an ecological site is typified by an association of species that differs from that of other ecological sites in the kind and/or proportion of species or in total production. Descriptions of ecological sites are provided in the Field Office Technical Guide, which is available in local offices of the Natural Resources Conservation Service.

Total dry-weight production is the amount of vegetation that can be expected to grow annually on well managed rangeland that is supporting the potential natural plant community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's growth of leaves, twigs, and fruits of woody plants. It does not include the increase in stem diameter of trees and shrubs. It is expressed in pounds per acre of air-dry vegetation for favorable, average, and unfavorable years. In a favorable year, the amount and distribution of precipitation and the temperatures make growing conditions substantially better than average. In a normal year, growing conditions are about average. In an unfavorable year, growing conditions are well below average, generally because of low available soil moisture. Yields are adjusted to a common percent of air-dry moisture content.

Range management requires a knowledge of the kinds of soil and of the potential natural plant community. It also requires an evaluation of the present range similarity index and rangeland trend. Range similarity index is determined by comparing the present plant community with the potential natural plant community on a particular rangeland ecological site. The more closely the existing community resembles the potential community, the higher the range similarity index. Rangeland trend is defined as the direction of change in an existing plant community relative to the potential natural plant community. Further information about the range similarity index and rangeland trend is available in chapter 4 of the National Range and Pasture Handbook, which is available in local offices of the Natural Resources Conservation Service. The objective in range management is to control grazing so that the plants growing on a site are about the same in kind and amount as the potential natural plant community for that site. Such management generally results in the optimum production of vegetation, control of undesirable brush species, conservation of water, and control of erosion. Sometimes, however, an area with a range similarity index somewhat below the potential meets grazing needs, provides wildlife habitat, and protects soil and water resources.

RANGELAND PRODUCTIVITY--Continued  
Cheyenne, Nebraska

(Only the soils that support rangeland vegetation suitable for grazing are rated.) Refer to range site description to determine the percentage allowable of grasses, forbs, and shrubs for the range ecological site.

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Average year	Unfavorable year
		Lb/acre	Lb/acre	Lb/acre
Ao:				
Alliance-----	Silty - Veg. Zone 1	2,500	1,700	1,000
AoB:				
Alliance-----	Silty - Veg. Zone 1	2,500	1,700	1,000
AoC:				
Alliance-----	Silty - Veg. Zone 1	2,500	1,700	1,000
AtB:				
Altvan-----	Silty - Veg. Zone 1	2,900	2,500	2,100
AtC:				
Altvan-----	Silty - Veg. Zone 1	2,900	2,500	2,100
AvD:				
Altvan-----	Silty - Veg. Zone 1	2,900	2,500	2,100
Dix-----	Shallow To Gravel - Veg. Zone 1	700	600	400
Bb:				
Bankard-----	Sandy Lowland - Veg. Zone 1	2,300	2,100	1,800
Bc:				
Bankard-----	Shallow To Gravel - Veg. Zone 1	900	700	400
Be:				
Bayard-----	Sandy - Veg. Zone 1	2,300	1,600	1,100
BeB:				
Bayard-----	Sandy - Veg. Zone 1	2,300	1,600	1,100
BeC:				
Bayard-----	Sandy - Veg. Zone 1	2,300	1,600	1,100
BeD:				
Bayard-----	Sandy - Veg. Zone 1	2,300	1,600	1,100
BeE:				
Bayard-----	Sandy - Veg. Zone 1	2,300	1,600	1,100
Bg:				
Bridget-----	Silty - Veg. Zone 1	2,500	1,700	1,000
BgB:				
Bridget-----	Silty - Veg. Zone 1	2,500	1,700	1,000
BgC:				
Bridget-----	Silty - Veg. Zone 1	2,500	1,700	1,000
BgD:				
Bridget-----	Silty - Veg. Zone 1	2,500	1,700	1,000
BuC:				
Busher-----	Sandy - Veg. Zone 1	2,300	1,600	1,200
BxD:				
Busher-----	Sandy - Veg. Zone 1	2,300	1,600	1,200
Tassel-----	Shallow Limy - Veg. Zone 1	1,000	700	500
ByE:				
Busher-----	Sandy - Veg. Zone 1	2,300	1,600	1,200
Tassel-----	Shallow Limy - Veg. Zone 1	1,000	700	500
CcF:				
Canyon-----	Shallow Limy - Veg. Zone 1	1,000	700	500
CdG:				
Canyon-----	Shallow Limy - Veg. Zone 1	1,000	700	500
Rock Outcrop-----	No Site - Veg. Zone 1	0	0	0
CeE:				
Canyon-----	Shallow Limy - Veg. Zone 1	1,000	700	500
Bayard-----	Sandy - Veg. Zone 1	2,300	1,600	1,100
CtB:				
Creighton-----	Silty - Veg. Zone 1	2,500	1,700	1,000
CtC:				
Creighton-----	Silty - Veg. Zone 1	2,500	1,700	1,000
DhD:				
Dix-----	Shallow To Gravel - Veg. Zone 1	700	600	400
DhG:				
Dix-----	Shallow To Gravel - Veg. Zone 1	700	600	400
Du:				
Duroc-----	Silty - Veg. Zone 1	3,300	2,500	1,700
DuB:				
Duroc-----	Silty - Veg. Zone 1	3,300	2,500	1,700
Dv:				
Duroc-----	Silty - Veg. Zone 1	2,100	1,700	1,300
Dx:				
Duroc-----	Silty - Veg. Zone 1	3,300	2,500	1,700
DyE:				
Dwyer-----	Sands - Veg. Zone 1	2,300	1,600	1,000
ErE:				
Epping-----	Shallow Limy - Veg. Zone 1	1,000	700	500
Mitchell-----	Limy Upland - Veg. Zone 1	2,000	1,300	700
Gd:				
Glenberg-----	Sandy Lowland - Veg. Zone 1	2,800	2,100	1,300
Go:				
Goshen-----	Silty - Veg. Zone 1	3,300	2,900	2,500
GP:				
Pits-----	---	---	---	---
JmB:				
Jayem-----	Sandy - Veg. Zone 1	2,300	1,600	1,100
JmC:				

RANGELAND PRODUCTIVITY--Continued  
Cheyenne, Nebraska

(Only the soils that support rangeland vegetation suitable for grazing are rated.) Refer to range site description to determine the percentage allowable of grasses, forbs, and shrubs for the range ecological site.

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Average year	Unfavorable year
		Lb/acre	Lb/acre	Lb/acre
Jayem----- Jo:	Sandy - Veg. Zone 1	2,300	1,600	1,100
Johnstown----- Ke:	Silty - Veg. Zone 1	3,800	3,500	3,000
Keith----- KeB:	Silty - Veg. Zone 1	3,300	2,500	1,700
Keith----- KeC:	Silty - Veg. Zone 1	3,300	2,500	1,700
Keith----- Ku:	Silty - Veg. Zone 1	3,300	2,500	1,700
Kuma----- LD:	Silty - Veg. Zone 1	3,300	2,900	2,500
	---	---	---	---
Lm: Las-----	Subirrigated - Veg. Zone 1	5,500	5,300	5,000
Lw: Las Animas-----	Subirrigated - Veg. Zone 1	5,000	4,500	4,000
Ly: Lodgepole-----	Clayey Overflow - Veg. Zone 1	1,200	1,000	700
M-W: Miscellaneous Water-----	---	---	---	---
Mc: Mccook-----	Silty Lowland - Veg. Zone 1	2,800	2,000	1,500
MkC: Mitchell-----	Limy Upland - Veg. Zone 1	2,000	1,300	700
MkD: Mitchell-----	Limy Upland - Veg. Zone 1	2,000	1,300	700
MkE: Mitchell-----	Limy Upland - Veg. Zone 1	2,000	1,300	700
ReG: Rock Outcrop-----	No Site - Veg. Zone 1	0	0	0
Epping----- RhG:	Shallow Limy - Veg. Zone 1	1,000	700	500
Rock Outcrop----- Tassel-----	No Site - Veg. Zone 1	0	0	0
	Shallow Limy - Veg. Zone 1	1,000	700	500
Ro: Rosebud-----	Silty - Veg. Zone 1	2,500	1,700	1,000
RoB: Rosebud-----	Silty - Veg. Zone 1	3,300	2,500	1,700
RoC: Rosebud-----	Silty - Veg. Zone 1	3,300	2,500	1,700
RSD: Rosebud-----	Silty - Veg. Zone 1	3,300	2,500	1,700
Canyon----- Sb:	Shallow Limy - Veg. Zone 1	1,000	700	500
Satanta----- SbB:	Silty - Veg. Zone 1	2,100	1,700	1,300
Satanta----- SbC:	Silty - Veg. Zone 1	2,100	1,700	1,300
Satanta----- SnC:	Silty - Veg. Zone 1	2,100	1,700	1,300
Sidney----- SoD:	Silty - Veg. Zone 1	2,200	1,500	1,000
Sidney----- Canyon-----	Silty - Veg. Zone 1	2,200	1,500	1,000
	Shallow Limy - Veg. Zone 1	1,000	700	500
TbF: Tassel-----	Shallow Limy - Veg. Zone 1	1,000	700	500
Busher----- TcG:	Sandy - Veg. Zone 1	3,000	2,300	1,700
Tassel----- Busher-----	Shallow Limy - Veg. Zone 1	1,000	700	500
	Sandy - Veg. Zone 1	3,000	2,300	1,700
UyB: Ulysses-----	Silty - Veg. Zone 1	2,500	1,700	1,000
UyC: Ulysses-----	Silty - Veg. Zone 1	2,500	1,700	1,000
VdD: Valent-----	Sands - Veg. Zone 1	3,000	2,600	2,000
W: Water-----	---	---	---	---



BUILDING SITE DEVELOPMENT  
Cheyenne, Nebraska

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. These tables show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. Slightly limited indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

BUILDING SITE DEVELOPMENT--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ao: Alliance-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
AoB: Alliance-----	100	Not limited		Not limited		Not limited	
AoC: Alliance-----	100	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell Slope	0.50 0.12
AtB: Altvan-----	100	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
AtC: Altvan-----	100	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell Slope	0.50 0.12
AvD: Altvan-----	65	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell Slope	0.50 0.48
Dix-----	35	Not limited		Not limited		Somewhat limited Slope	0.48
Bb: Bankard-----	100	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
Bc: Bankard-----	100	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
Be: Bayard-----	100	Not limited		Not limited		Not limited	
BeB: Bayard-----	100	Not limited		Not limited		Not limited	
BeC: Bayard-----	100	Not limited		Not limited		Somewhat limited Slope	0.12
BeD: Bayard-----	100	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Very limited Slope	1.00
BeE: Bayard-----	100	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Bg: Bridget-----	100	Not limited		Not limited		Not limited	
BgB: Bridget-----	100	Not limited		Not limited		Not limited	
BgC: Bridget-----	100	Not limited		Not limited		Somewhat limited Slope	0.12
BgD: Bridget-----	100	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Very limited Slope	1.00
BuC: Busher-----	100	Not limited		Not limited		Somewhat limited Slope	0.12
BxD: Busher-----	70	Not limited		Not limited		Somewhat limited Slope	0.48
Tassel-----	30	Somewhat limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock	1.00	Somewhat limited Depth to soft bedrock Slope	1.00 0.48
ByE: Busher-----	65	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Tassel-----	35	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Slope Depth to soft bedrock	1.00 1.00
CcF: Canyon-----	100	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00

BUILDING SITE DEVELOPMENT--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CdG: Canyon-----	60	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Slope Depth to soft bedrock	1.00 1.00
Rock Outcrop-----	40	Not rated		Not rated		Not rated	
CeE: Canyon-----	55	Somewhat limited Depth to soft bedrock Slope	1.00 0.84	Very limited Depth to soft bedrock Slope	1.00 0.84	Very limited Depth to soft bedrock Slope	1.00 1.00
Bayard-----	45	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Very limited Slope	1.00
CtB: Creighton-----	100	Not limited		Not limited		Not limited	
CtC: Creighton-----	100	Not limited		Not limited		Somewhat limited Slope	0.12
DhD: Dix-----	100	Not limited		Not limited		Somewhat limited Slope	0.86
DhG: Dix-----	100	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Du: Duroc-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
DuB: Duroc-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Dv: Duroc-----	100	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
Dx: Duroc-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
DyE: Dwyer-----	100	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Very limited Slope	1.00
ErE: Epping-----	55	Somewhat limited Depth to soft bedrock Slope	1.00 0.63	Very limited Depth to soft bedrock Slope	1.00 0.63	Very limited Depth to soft bedrock Slope	1.00 1.00
Mitchell-----	45	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
Gd: Glenberg-----	100	Not limited		Not limited		Not limited	
Go: Goshen-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
GP: Pits-----	100	Not rated		Not rated		Not rated	
JmB: Jayem-----	100	Not limited		Not limited		Not limited	
JmC: Jayem-----	100	Not limited		Not limited		Somewhat limited Slope	0.12
Jo: Johnstown-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Ke: Keith-----	100	Not limited		Not limited		Not limited	
KeB: Keith-----	100	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
KeC: Keith-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.12
Ku: Kuma-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50

BUILDING SITE DEVELOPMENT--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Lm: Las-----	100	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50
Lw: Las Animas-----	100	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
Ly: Lodgepole-----	100	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
M-W: Miscellaneous Water-	100	Not rated		Not rated		Not rated	
Mc: Mccook-----	100	Not limited		Not limited		Not limited	
MkC: Mitchell-----	100	Not limited		Not limited		Somewhat limited Slope	0.12
MkD: Mitchell-----	100	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Very limited Slope	1.00
MkE: Mitchell-----	100	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
ReG: Rock Outcrop-----	55	Not rated		Not rated		Not rated	
Epping-----	45	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Slope Depth to soft bedrock	1.00 1.00
RhG: Rock Outcrop-----	55	Not rated		Not rated		Not rated	
Tassel-----	45	Very limited Slope Depth to soft bedrock	1.00 1.00	Very limited Slope Depth to soft bedrock	1.00 1.00	Very limited Slope Depth to soft bedrock	1.00 1.00
Ro: Rosebud-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to soft bedrock	0.50 0.42	Somewhat limited Shrink-swell	0.50
RoB: Rosebud-----	100	Not limited		Somewhat limited Depth to soft bedrock	0.42	Not limited	
RoC: Rosebud-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to soft bedrock	0.50 0.42	Somewhat limited Shrink-swell Slope	0.50 0.12
RsD: Rosebud-----	55	Not limited		Somewhat limited Depth to soft bedrock	0.42	Somewhat limited Slope	0.48
Canyon-----	45	Somewhat limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock	1.00	Somewhat limited Depth to soft bedrock Slope	1.00 0.48
Sb: Satanta-----	100	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
SbB: Satanta-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50

BUILDING SITE DEVELOPMENT--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SbC: Satanta-----	100	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell Slope	0.50 0.12
SnC: Sidney-----	100	Not limited		Not limited		Somewhat limited Slope	0.12
SoD: Sidney-----	55	Not limited		Not limited		Somewhat limited Slope	0.48
Canyon-----	45	Somewhat limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock	1.00	Somewhat limited Depth to soft bedrock Slope	1.00 0.48
TbF: Tassel-----	55	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00
Busher-----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
TcG: Tassel-----	55	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Slope Depth to soft bedrock	1.00 1.00
Busher-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
UyB: Ulysses-----	100	Not limited		Not limited		Not limited	
UyC: Ulysses-----	100	Not limited		Not limited		Somewhat limited Slope	0.12
VdD: Valent-----	100	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
W: Water-----	100	Not rated		Not rated		Not rated	

BUILDING SITE DEVELOPMENT--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ao: Alliance-----	100	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
AoB: Alliance-----	100	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
AoC: Alliance-----	100	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
AtB: Altvan-----	100	Somewhat limited Shrink-swell Frost action	0.50 0.50	Very limited Cutbanks cave	1.00	Not limited	
AtC: Altvan-----	100	Somewhat limited Shrink-swell Frost action	0.50 0.50	Very limited Cutbanks cave	1.00	Not limited	
AvD: Altvan-----	65	Somewhat limited Shrink-swell Frost action	0.50 0.50	Very limited Cutbanks cave	1.00	Not limited	
Dix-----	35	Not limited		Very limited Cutbanks cave Depth to dense layer	1.00 0.50	Not limited	
Bb: Bankard-----	100	Very limited Flooding	1.00	Very limited Cutbanks cave Flooding	1.00 0.60	Somewhat limited Flooding	0.60
Bc: Bankard-----	100	Very limited Flooding	1.00	Very limited Cutbanks cave Flooding Depth to dense layer	1.00 0.80 0.50	Very limited Flooding	1.00
Be: Bayard-----	100	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
BeB: Bayard-----	100	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
BeC: Bayard-----	100	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
BeD: Bayard-----	100	Somewhat limited Frost action Slope	0.50 0.00	Somewhat limited Cutbanks cave Slope	0.10 0.00	Somewhat limited Slope	0.00
BeE: Bayard-----	100	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Bg: Bridget-----	100	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
BgB: Bridget-----	100	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
BgC: Bridget-----	100	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
BgD: Bridget-----	100	Somewhat limited Frost action Slope	0.50 0.00	Somewhat limited Cutbanks cave Slope	0.10 0.00	Somewhat limited Slope	0.00
BuC: Busher-----	100	Not limited		Very limited Cutbanks cave	1.00	Not limited	
BxD: Busher-----	70	Not limited		Very limited Cutbanks cave	1.00	Not limited	
Tassel-----	30	Somewhat limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock Cutbanks cave	1.00 0.10	Very limited Depth to bedrock Droughty	1.00 1.00

BUILDING SITE DEVELOPMENT--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ByE: Busher-----	65	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Tassel-----	35	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Droughty Slope	1.00 1.00 1.00
CcF: Canyon-----	100	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Droughty Slope	1.00 1.00 1.00
CdG: Canyon-----	60	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.99
Rock Outcrop-----	40	Not rated		Not rated		Not rated	
CeE: Canyon-----	55	Somewhat limited Depth to soft bedrock Slope	1.00 0.84	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 0.84 0.10	Very limited Depth to bedrock Droughty Slope	1.00 1.00 0.84
Bayard-----	45	Somewhat limited Slope Frost action	0.84 0.50	Somewhat limited Slope Cutbanks cave	0.84 0.10	Somewhat limited Slope	0.84
CtB: Creighton-----	100	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
CtC: Creighton-----	100	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
DhD: Dix-----	100	Not limited		Very limited Cutbanks cave Depth to dense layer	1.00 0.50	Somewhat limited Droughty Gravel content	0.76 0.50
DhG: Dix-----	100	Very limited Slope	1.00	Very limited Cutbanks cave Slope Depth to dense layer	1.00 1.00 0.50	Very limited Slope Droughty Gravel content	1.00 0.92 0.50
Du: Duroc-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
DuB: Duroc-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Dv: Duroc-----	100	Somewhat limited Shrink-swell Frost action	0.50 0.50	Very limited Cutbanks cave	1.00	Not limited	
Dx: Duroc-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
DyE: Dwyer-----	100	Somewhat limited Slope	0.84	Very limited Cutbanks cave Slope	1.00 0.84	Somewhat limited Slope Droughty	0.84 0.06
ErE: Epping-----	55	Somewhat limited Depth to soft bedrock Slope	1.00 0.63	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 0.63 0.10	Very limited Depth to bedrock Droughty Slope	1.00 0.98 0.63
Mitchell-----	45	Somewhat limited Slope	0.63	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope	0.63

BUILDING SITE DEVELOPMENT--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Gd: Glenberg-----	100	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Go: Goshen-----	100	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
GP: Pits-----	100	Not rated		Not rated		Not rated	
JmB: Jayem-----	100	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
JmC: Jayem-----	100	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
Jo: Johnstown-----	100	Somewhat limited Shrink-swell Frost action	0.50 0.50	Very limited Cutbanks cave	1.00	Not limited	
Ke: Keith-----	100	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
KeB: Keith-----	100	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
KeC: Keith-----	100	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Ku: Kuma-----	100	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Lm: Las-----	100	Very limited Flooding	1.00	Very limited Depth to saturated zone	1.00	Somewhat limited Flooding	0.60
		Shrink-swell	0.50	Flooding	0.60		
		Frost action	0.50	Cutbanks cave	0.10		
Lw: Las Animas-----	100	Very limited Frost action	1.00	Very limited Depth to saturated zone	1.00	Very limited Flooding	1.00
		Flooding	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	0.80		
Ly: Lodgepole-----	100	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00	Too clayey	0.03		
M-W: Miscellaneous Water-	100	Not rated		Not rated		Not rated	
MC: Mccook-----	100	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
MkC: Mitchell-----	100	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
MkD: Mitchell-----	100	Somewhat limited Slope	0.00	Somewhat limited Cutbanks cave Slope	0.10 0.00	Somewhat limited Slope	0.00
MkE: Mitchell-----	100	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00

BUILDING SITE DEVELOPMENT--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ReG: Rock Outcrop-----	55	Not rated		Not rated		Not rated	
Epping-----	45	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Droughty Slope	1.00 1.00 1.00
RhG: Rock Outcrop-----	55	Not rated		Not rated		Not rated	
Tassel-----	45	Very limited Slope Depth to soft bedrock	1.00 1.00	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty	1.00 1.00 1.00
Ro: Rosebud-----	100	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Depth to soft bedrock Cutbanks cave	0.42 0.10	Somewhat limited Depth to bedrock Droughty	0.42 0.00
RoB: Rosebud-----	100	Somewhat limited Frost action	0.50	Somewhat limited Depth to soft bedrock Cutbanks cave	0.42 0.10	Somewhat limited Depth to bedrock	0.42
RoC: Rosebud-----	100	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Depth to soft bedrock Cutbanks cave	0.42 0.10	Somewhat limited Depth to bedrock	0.42
RsD: Rosebud-----	55	Somewhat limited Frost action	0.50	Somewhat limited Depth to soft bedrock Cutbanks cave	0.42 0.10	Somewhat limited Depth to bedrock	0.42
Canyon-----	45	Somewhat limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock Cutbanks cave	1.00 0.10	Very limited Depth to bedrock Droughty	1.00 0.95
Sb: Satanta-----	100	Somewhat limited Shrink-swell Frost action	0.50 0.50	Very limited Cutbanks cave	1.00	Not limited	
SbB: Satanta-----	100	Somewhat limited Shrink-swell Frost action	0.50 0.50	Very limited Cutbanks cave	1.00	Not limited	
SbC: Satanta-----	100	Somewhat limited Shrink-swell Frost action	0.50 0.50	Very limited Cutbanks cave	1.00	Not limited	
SnC: Sidney-----	100	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
SoD: Sidney-----	55	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Canyon-----	45	Somewhat limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock Cutbanks cave	1.00 0.10	Very limited Depth to bedrock Droughty	1.00 1.00
TbF: Tassel-----	55	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Droughty Slope	1.00 1.00 1.00
Busher-----	45	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope	1.00

BUILDING SITE DEVELOPMENT--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
TcG: Tassel-----	55	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Droughty Slope	1.00 1.00
Busher-----	30	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope	1.00
UyB: Ulysses-----	100	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
UyC: Ulysses-----	100	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
VdD: Valent-----	100	Somewhat limited Slope	0.04	Very limited Cutbanks cave Slope	1.00 0.04	Somewhat limited Droughty Slope	0.25 0.04
W: Water-----	100	Not rated		Not rated		Not rated	



CONSTRUCTION MATERIALS  
Cheyenne, Nebraska

## Construction Materials

These tables give information about the soils as potential sources of gravel, sand, topsoil, reclamation material, and roadfill. Normal compaction, minor processing, and other standard construction practices are assumed.

The soils are rated good, fair, or poor as potential sources of topsoil, reclamation material, and roadfill. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of topsoil, reclamation material, or roadfill. The lower the number, the greater the limitation.

The soils are rated as a probable or improbable source of sand and gravel. A rating of probable means that the source material is likely to be in or below the soil. The numerical ratings in these columns indicate the degree of probability. The number 0.00 indicates that the soil is an improbable source. A number between 0.00 and 1.00 indicates the degree to which the soil is a probable source of sand or gravel.

Sand and gravel are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In the first table, only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the lowest layer of the soil contains sand or gravel, the soil is rated as a probable source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

CONSTRUCTION MATERIALS--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Ao: Alliance-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
AoB: Alliance-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
AoC: Alliance-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
AtB: Altvan-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Good Thickest layer	0.00
AtC: Altvan-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Good Thickest layer	0.00
AvD: Altvan-----	65	Poor Bottom layer Thickest layer	0.00 0.00	Good Thickest layer	0.00
Dix-----	35	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.09 0.37
Bb: Bankard-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.49 0.50
Bc: Bankard-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.50 0.70
Be: Bayard-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.07 0.07
BeB: Bayard-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.07 0.07
BeC: Bayard-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.07 0.07
BeD: Bayard-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.07 0.07
BeE: Bayard-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.07 0.07
Bg: Bridget-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.06 0.06
BgB: Bridget-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.06 0.06

CONSTRUCTION MATERIALS--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
BgC: Bridget-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.06 0.06
BgD: Bridget-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.06 0.06
BuC: Busher-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.21
BxD: Busher-----	70	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.21
Tassel-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
ByE: Busher-----	65	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.21
Tassel-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
CcF: Canyon-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
CdG: Canyon-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock Outcrop-----	40	Not rated		Not rated	
CeE: Canyon-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Bayard-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.07 0.07
CtB: Creighton-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.07 0.07
CtC: Creighton-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.07 0.07
DhD: Dix-----	100	Fair Thickest layer Bottom layer	0.00 0.12	Fair Thickest layer Bottom layer	0.00 0.91
DhG: Dix-----	100	Fair Thickest layer Bottom layer	0.00 0.12	Fair Thickest layer Bottom layer	0.00 0.91
Du: Duroc-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

CONSTRUCTION MATERIALS--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
DuB: Duroc-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Dv: Duroc-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Good Thickest layer	0.00
Dx: Duroc-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
DyE: Dwyer-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.17 0.21
ErE: Epping-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Mitchell-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.05
Gd: Glenberg-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.07 0.09
Go: Goshen-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
GP: Pits-----	100	Not rated		Not rated	
JmB: Jayem-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.07 0.07
JmC: Jayem-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.07 0.08
Jo: Johnstown-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.95
Ke: Keith-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
KeB: Keith-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
KeC: Keith-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Ku: Kuma-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

CONSTRUCTION MATERIALS--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Lm: Las-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Lw: Las Animas-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.04
Ly: Lodgepole-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.09
M-W: Miscellaneous Water-	100	Not rated		Not rated	
Mc: Mccook-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.05 0.05
MkC: Mitchell-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.05
MkD: Mitchell-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.05
MkE: Mitchell-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.05
ReG: Rock Outcrop-----	55	Not rated		Not rated	
Epping-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
RhG: Rock Outcrop-----	55	Not rated		Not rated	
Tassel-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Ro: Rosebud-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
RoB: Rosebud-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.08
RoC: Rosebud-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
RsD: Rosebud-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.06
Canyon-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

CONSTRUCTION MATERIALS--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Sb: Satanta-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.33
SbB: Satanta-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.33
SbC: Satanta-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.33
SnC: Sidney-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
SoD: Sidney-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Canyon-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
TbF: Tassel-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Busher-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.21
TcG: Tassel-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Busher-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.21
UyB: Ulysses-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
UyC: Ulysses-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
VdD: Valent-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.65 0.99
W: Water-----	100	Not rated		Not rated	

CONSTRUCTION MATERIALS--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ao: Alliance-----	100	Fair Low content of organic matter Water erosion	0.88 0.90	Fair Depth to bedrock Shrink-swell	0.58 0.99	Good	
AoB: Alliance-----	100	Fair Low content of organic matter Water erosion	0.88 0.90	Fair Depth to bedrock	0.58	Good	
AoC: Alliance-----	100	Fair Low content of organic matter Water erosion	0.88 0.90	Fair Depth to bedrock	0.58	Good	
AtB: Altvan-----	100	Fair Low content of organic matter Water erosion	0.12 0.99	Good		Fair Hard to reclaim	0.92
AtC: Altvan-----	100	Fair Low content of organic matter Water erosion	0.12 0.99	Good		Fair Hard to reclaim	0.92
AvD: Altvan-----	65	Fair Low content of organic matter Water erosion	0.12 0.99	Good		Fair Hard to reclaim	0.92
Dix-----	35	Fair Too sandy Low content of organic matter Droughty	0.03 0.88 0.94	Good		Poor Hard to reclaim Rock fragments  Too sandy Hard to reclaim	0.00 0.00  0.03 0.18
Bb: Bankard-----	100	Poor Too sandy Wind erosion Low content of organic matter	0.00 0.00 0.88	Good		Poor Too sandy Rock fragments	0.00 0.12
Bc: Bankard-----	100	Poor Too sandy Wind erosion Low content of organic matter	0.00 0.00 0.88	Good		Poor Hard to reclaim Too sandy Rock fragments	0.00 0.00 0.12
Be: Bayard-----	100	Fair Low content of organic matter	0.88	Good		Good	
BeB: Bayard-----	100	Fair Low content of organic matter	0.88	Good		Good	
BeC: Bayard-----	100	Fair Low content of organic matter	0.88	Good		Good	
BeD: Bayard-----	100	Fair Low content of organic matter	0.88	Good		Good	

CONSTRUCTION MATERIALS--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BeE: Bayard-----	100	Fair Low content of organic matter	0.88	Good		Poor Slope	0.00
Bg: Bridget-----	100	Fair Low content of organic matter Water erosion	0.88 0.90	Good		Good	
BgB: Bridget-----	100	Fair Low content of organic matter Water erosion	0.88 0.90	Good		Good	
BgC: Bridget-----	100	Fair Low content of organic matter Water erosion	0.88 0.90	Good		Good	
BgD: Bridget-----	100	Fair Low content of organic matter Water erosion	0.88 0.90	Good		Good	
BuC: Busher-----	100	Fair Too sandy Low content of organic matter	0.27 0.88	Fair Depth to bedrock	0.58	Fair Too sandy	0.27
BxD: Busher-----	70	Fair Too sandy Low content of organic matter	0.27 0.88	Fair Depth to bedrock	0.58	Fair Too sandy	0.27
Tassel-----	30	Poor Droughty Depth to bedrock	0.00 0.00	Poor Depth to bedrock	0.00	Poor Depth to bedrock	0.00
ByE: Busher-----	65	Fair Too sandy Low content of organic matter	0.27 0.88	Fair Depth to bedrock	0.58	Poor Slope Too sandy	0.00 0.27
Tassel-----	35	Poor Wind erosion Droughty Depth to bedrock	0.00 0.00 0.00	Poor Depth to bedrock	0.00	Poor Depth to bedrock Slope	0.00 0.00
CcF: Canyon-----	100	Poor Droughty Depth to bedrock	0.00 0.00	Poor Depth to bedrock Slope	0.00 0.82	Poor Depth to bedrock Slope Rock fragments	0.00 0.00 0.97
CdG: Canyon-----	60	Poor Droughty Depth to bedrock	0.00 0.00	Poor Depth to bedrock Slope	0.00 0.00	Poor Depth to bedrock Slope Rock fragments	0.00 0.00 0.97
Rock Outcrop-----	40	Not rated		Not rated		Not rated	
CeE: Canyon-----	55	Poor Droughty Depth to bedrock	0.00 0.00	Poor Depth to bedrock	0.00	Poor Depth to bedrock Slope Rock fragments	0.00 0.16 0.97
Bayard-----	45	Fair Low content of organic matter	0.88	Good		Fair Slope	0.16

CONSTRUCTION MATERIALS--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CtB: Creighton-----	100	Fair Low content of organic matter Water erosion	0.88 0.90	Good		Good	
CtC: Creighton-----	100	Fair Low content of organic matter Water erosion	0.18 0.90	Good		Good	
DhD: Dix-----	100	Poor Too sandy Droughty Low content of organic matter	0.00 0.02 0.88	Good		Poor Hard to reclaim Too sandy Hard to reclaim Rock fragments	0.00 0.00 0.00 0.00
DhG: Dix-----	100	Poor Too sandy Droughty Low content of organic matter	0.00 0.00 0.88	Poor Slope	0.00	Poor Hard to reclaim Too sandy Hard to reclaim Rock fragments Slope	0.00 0.00 0.00 0.00 0.00
Du: Duroc-----	100	Fair Water erosion	0.90	Fair Shrink-swell	0.87	Good	
DuB: Duroc-----	100	Fair Low content of organic matter Water erosion	0.88 0.90	Fair Shrink-swell	0.87	Good	
Dv: Duroc-----	100	Good		Good		Fair Hard to reclaim	0.50
Dx: Duroc-----	100	Fair Water erosion	0.90	Fair Shrink-swell	0.87	Good	
DyE: Dwyer-----	100	Poor Wind erosion Too sandy Low content of organic matter Droughty	0.00 0.26 0.88 0.96	Good		Fair Slope Too sandy Rock fragments	0.16 0.26 0.97
ErE: Epping-----	55	Poor Droughty Depth to bedrock Low content of organic matter Water erosion	0.00 0.00 0.88 0.90	Poor Depth to bedrock	0.00	Poor Depth to bedrock Slope	0.00 0.37
Mitchell-----	45	Fair Low content of organic matter Water erosion	0.88 0.90	Good		Fair Slope	0.37
Gd: Glenberg-----	100	Fair Low content of organic matter	0.88	Good		Fair Rock fragments	0.97
Go: Goshen-----	100	Fair Low content of organic matter Water erosion	0.88 0.90	Fair Shrink-swell	0.99	Good	

CONSTRUCTION MATERIALS--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GP: Pits-----	100	Not rated		Not rated		Not rated	
JmB: Jayem-----	100	Fair Low content of organic matter	0.88	Good		Good	
JmC: Jayem-----	100	Fair Low content of organic matter	0.18	Good		Good	
Jo: Johnstown-----	100	Fair Low content of organic matter Water erosion	0.12 0.90	Fair Shrink-swell	0.97	Fair Hard to reclaim	0.98
Ke: Keith-----	100	Fair Low content of organic matter Water erosion	0.12 0.90	Good		Good	
KeB: Keith-----	100	Fair Low content of organic matter Water erosion	0.12 0.90	Good		Good	
KeC: Keith-----	100	Fair Low content of organic matter Water erosion	0.88 0.90	Good		Good	
Ku: Kuma-----	100	Fair Water erosion	0.99	Fair Shrink-swell	0.99	Good	
Lm: Las-----	100	Fair Low content of organic matter	0.12	Fair Shrink-swell Depth to saturated zone	0.87 0.89	Fair Depth to saturated zone	0.89
LW: Las Animas-----	100	Fair Low content of organic matter Droughty	0.88 0.99	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
Ly: Lodgepole-----	100	Poor Too clayey Water erosion	0.00 0.99	Poor Depth to saturated zone Shrink-swell	0.00 0.49	Poor Depth to saturated zone Too Clayey	0.00
M-W: Miscellaneous Water-	100	Not rated		Not rated		Not rated	
Mc: Mccook-----	100	Fair Low content of organic matter Water erosion	0.88 0.90	Good		Good	
MkC: Mitchell-----	100	Fair Low content of organic matter Water erosion	0.88 0.90	Good		Good	

CONSTRUCTION MATERIALS--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MkD: Mitchell-----	100	Fair Low content of organic matter Water erosion	0.88 0.90	Good		Good	
MkE: Mitchell-----	100	Fair Low content of organic matter Water erosion	0.88 0.90	Good		Poor Slope	0.00
ReG: Rock Outcrop-----	55	Not rated		Not rated		Not rated	
Epping-----	45	Poor Droughty Depth to bedrock Low content of organic matter Water erosion	0.00 0.00 0.88 0.90	Poor Depth to bedrock Slope	0.00 0.00	Poor Depth to bedrock Slope	0.00 0.00
RhG: Rock Outcrop-----	55	Not rated		Not rated		Not rated	
Tassel-----	45	Poor Wind erosion Droughty Depth to bedrock	0.00 0.00 0.00	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Depth to bedrock	0.00 0.00
Ro: Rosebud-----	100	Fair Droughty Depth to bedrock Low content of organic matter Water erosion	0.24 0.58 0.88 0.99	Poor Depth to bedrock	0.00	Fair Depth to bedrock	0.58
RoB: Rosebud-----	100	Fair Depth to bedrock Droughty Low content of organic matter Water erosion	0.58 0.70 0.88 0.99	Poor Depth to bedrock	0.00	Fair Depth to bedrock	0.58
RoC: Rosebud-----	100	Fair Depth to bedrock Droughty Low content of organic matter Water erosion	0.58 0.83 0.88 0.99	Poor Depth to bedrock Shrink-swell	0.00 0.99	Fair Depth to bedrock	0.58
RsD: Rosebud-----	55	Fair Depth to bedrock Droughty Low content of organic matter Water erosion	0.58 0.75 0.88 0.99	Poor Depth to bedrock	0.00	Fair Depth to bedrock	0.58
Canyon-----	45	Poor Droughty Depth to bedrock	0.00 0.00	Poor Depth to bedrock	0.00	Poor Depth to bedrock Rock fragments	0.00 0.12
Sb: Satanta-----	100	Fair Low content of organic matter	0.88	Good		Good	
SbB: Satanta-----	100	Good		Fair Shrink-swell	0.99	Good	

CONSTRUCTION MATERIALS--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SbC: Satanta-----	100	Fair Low content of organic matter	0.88	Good		Good	
SnC: Sidney-----	100	Fair Low content of organic matter Sodium content Water erosion	0.88 0.97 0.99	Fair Depth to bedrock	0.58	Fair Sodium content	0.98
SoD: Sidney-----	55	Fair Low content of organic matter Sodium content Water erosion	0.88 0.97 0.99	Fair Depth to bedrock	0.58	Fair Sodium content	0.98
Canyon-----	45	Poor Droughty Depth to bedrock	0.00 0.00	Poor Depth to bedrock	0.00	Poor Depth to bedrock Rock fragments	0.00 0.97
TbF: Tassel-----	55	Poor Wind erosion Droughty Depth to bedrock	0.00 0.00 0.00	Poor Depth to bedrock Slope	0.00 0.92	Poor Depth to bedrock Slope	0.00 0.00
Busher-----	45	Fair Too sandy Low content of organic matter	0.27 0.88	Fair Depth to bedrock Slope	0.58 0.92	Poor Slope Too sandy	0.00 0.27
TcG: Tassel-----	55	Poor Wind erosion Droughty Depth to bedrock Too sandy	0.00 0.00 0.00 0.09	Poor Depth to bedrock Slope	0.00 0.00	Poor Depth to bedrock Slope Too sandy	0.00 0.00 0.09
Busher-----	30	Fair Too sandy Low content of organic matter	0.27 0.88	Fair Slope Depth to bedrock	0.32 0.58	Poor Slope Too sandy	0.00 0.27
UyB: Ulysses-----	100	Fair Low content of organic matter Water erosion	0.88 0.90	Good		Good	
UyC: Ulysses-----	100	Fair Low content of organic matter Water erosion	0.88 0.90	Good		Good	
VdD: Valent-----	100	Poor Too sandy Wind erosion Low content of organic matter Droughty	0.00 0.00 0.12 0.77	Good		Poor Too sandy Slope	0.00 0.96
W: Water-----	100	Not rated		Not rated		Not rated	



RECREATIONAL INTERPRETATIONS  
Cheyenne, Nebraska

## Recreation

The soils of the survey area are rated in the following tables according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. Slightly limited indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in this table can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas.

The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

RECREATIONAL INTERPRETATIONS--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ao: Alliance-----	100	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50
AoB: Alliance-----	100	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty Slope	0.50 0.00
AoC: Alliance-----	100	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty	0.87 0.50
AtB: Altvan-----	100	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty Slope	0.50 0.00
AtC: Altvan-----	100	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty	0.87 0.50
AvD: Altvan-----	65	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Slope Dusty	1.00 0.50
Dix-----	35	Not limited		Not limited		Very limited Slope Gravel content	1.00 0.06
Bb: Bankard-----	100	Very limited Flooding Too sandy	1.00 0.87	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy Flooding	0.87 0.60
Bc: Bankard-----	100	Very limited Flooding Too sandy	1.00 0.96	Somewhat limited Too sandy Flooding	0.96 0.40	Very limited Flooding Too sandy	1.00 0.96
Be: Bayard-----	100	Not limited		Not limited		Not limited	
BeB: Bayard-----	100	Not limited		Not limited		Somewhat limited Slope	0.00
BeC: Bayard-----	100	Not limited		Not limited		Somewhat limited Slope	0.87
BeD: Bayard-----	100	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Very limited Slope	1.00
BeE: Bayard-----	100	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Bg: Bridget-----	100	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50
BgB: Bridget-----	100	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty Slope	0.50 0.00
BgC: Bridget-----	100	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty	0.87 0.50
BgD: Bridget-----	100	Somewhat limited Dusty Slope	0.50 0.00	Somewhat limited Dusty Slope	0.50 0.00	Very limited Slope Dusty	1.00 0.50
BuC: Busher-----	100	Not limited		Not limited		Somewhat limited Slope	0.87
BxD: Busher-----	70	Not limited		Not limited		Very limited Slope	1.00
Tassel-----	30	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Slope	1.00 1.00
ByE: Busher-----	65	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Tassel-----	35	Very limited Depth to bedrock Slope Too sandy	1.00 1.00 0.66	Very limited Depth to bedrock Slope Too sandy	1.00 1.00 0.66	Very limited Slope Depth to bedrock Too sandy	1.00 1.00 0.66
CcF: Canyon-----	100	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00

RECREATIONAL INTERPRETATIONS--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CdG: Canyon-----	60	Slope	1.00	Slope	1.00	Slope Gravel content	1.00 0.04
		Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 1.00 0.04
Rock Outcrop-----	40	Not rated		Not rated		Not rated	
CeE: Canyon-----	55	Very limited Depth to bedrock Slope	1.00 0.84	Very limited Depth to bedrock Slope	1.00 0.84	Very limited Depth to bedrock Slope Gravel content	1.00 1.00 1.00 0.04
Bayard-----	45	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Very limited Slope	1.00
CtB: Creighton-----	100	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty Slope	0.50 0.00
CtC: Creighton-----	100	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty	0.87 0.50
DhD: Dix-----	100	Somewhat limited Dusty Gravel content	0.50 0.50	Somewhat limited Dusty Gravel content	0.50 0.50	Very limited Gravel content Slope Dusty	1.00 1.00 1.00 0.50
DhG: Dix-----	100	Very limited Slope Dusty Gravel content	1.00 0.50 0.50	Very limited Slope Dusty Gravel content	1.00 0.50 0.50	Very limited Gravel content Slope Dusty	1.00 1.00 1.00 0.50
Du: Duroc-----	100	Not limited		Not limited		Not limited	
DuB: Duroc-----	100	Not limited		Not limited		Somewhat limited Slope	0.00
Dv: Duroc-----	100	Not limited		Not limited		Not limited	
Dx: Duroc-----	100	Not limited		Not limited		Not limited	
DyE: Dwyer-----	100	Somewhat limited Slope Too sandy	0.84 0.34	Somewhat limited Slope Too sandy	0.84 0.34	Very limited Slope Too sandy	1.00 1.00 0.34
ErE: Epping-----	55	Very limited Depth to bedrock Slope Dusty Restricted permeability	1.00 0.63 0.50 0.39	Very limited Depth to bedrock Slope Dusty Restricted permeability	1.00 0.63 0.50 0.39	Very limited Depth to bedrock Slope Dusty Restricted permeability	1.00 1.00 1.00 0.50 0.39
Mitchell-----	45	Somewhat limited Slope Dusty	0.63 0.50	Somewhat limited Slope Dusty	0.63 0.50	Very limited Slope Dusty	1.00 1.00 0.50
Gd: Glenberg-----	100	Not limited		Not limited		Not limited	
Go: Goshen-----	100	Not limited		Not limited		Not limited	
GP: Pits-----	100	Not rated		Not rated		Not rated	
JmB: Jayem-----	100	Not limited		Not limited		Somewhat limited Slope	0.00
JmC: Jayem-----	100	Not limited		Not limited		Somewhat limited Slope	0.87
Jo: Johnstown-----	100	Not limited		Not limited		Not limited	
Ke: Keith-----	100	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50
KeB: Keith-----	100	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50

RECREATIONAL INTERPRETATIONS--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
KeC: Keith-----	100	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Slope Somewhat limited Slope Dusty	0.00 0.87 0.50
Ku: Kuma-----	100	Not limited		Not limited		Not limited	
Lm: Las-----	100	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
Lw: Las Animas-----	100	Very limited Flooding	1.00	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Flooding Depth to saturated zone	1.00 1.00
Ly: Lodgepole-----	100	Very limited Depth to saturated zone Restricted permeability	1.00 1.00	Very limited Depth to saturated zone Restricted permeability	1.00 1.00	Very limited Depth to saturated zone Restricted permeability	1.00 1.00
M-W: Miscellaneous Water-	100	Not rated		Not rated		Not rated	
MC: Mccook-----	100	Not limited		Not limited		Not limited	
MkC: Mitchell-----	100	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty	0.87 0.50
MkD: Mitchell-----	100	Somewhat limited Dusty Slope	0.50 0.00	Somewhat limited Dusty Slope	0.50 0.00	Very limited Slope Dusty	1.00 0.50
MkE: Mitchell-----	100	Very limited Slope Dusty	1.00 0.50	Very limited Slope Dusty	1.00 0.50	Very limited Slope Dusty	1.00 0.50
ReG: Rock Outcrop-----	55	Not rated		Not rated		Not rated	
Epping-----	45	Very limited Depth to bedrock Slope Dusty Restricted permeability	1.00 1.00 0.50 0.39	Very limited Depth to bedrock Slope Dusty Restricted permeability	1.00 1.00 0.50 0.39	Very limited Slope Depth to bedrock Dusty Restricted permeability	1.00 1.00 0.50 0.39
RhG: Rock Outcrop-----	55	Not rated		Not rated		Not rated	
Tassel-----	45	Very limited Slope Depth to bedrock Too sandy	1.00 1.00 0.66	Very limited Slope Depth to bedrock Too sandy	1.00 1.00 0.66	Very limited Slope Depth to bedrock Too sandy	1.00 1.00 0.66
Ro: Rosebud-----	100	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50
RoB: Rosebud-----	100	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty Slope	0.50 0.00
RoC: Rosebud-----	100	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty Depth to bedrock	0.87 0.50 0.42
RsD: Rosebud-----	55	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Slope Dusty Depth to bedrock	1.00 0.50 0.42
Canyon-----	45	Very limited Depth to bedrock Dusty	1.00 0.50	Very limited Depth to bedrock Dusty	1.00 0.50	Very limited Depth to bedrock Slope Dusty Gravel content	1.00 1.00 0.50 0.04

RECREATIONAL INTERPRETATIONS--Continued  
Cheyenne, Nebraska

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Map symbol and soil name	Pct of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Sb: Satanta-----	100	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50
SbB: Satanta-----	100	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty Slope	0.50 0.00
SbC: Satanta-----	100	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty	0.87 0.50
SnC: Sidney-----	100	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty	0.87 0.50
SoD: Sidney-----	55	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Slope Dusty	1.00 0.50
Canyon-----	45	Very limited Depth to bedrock Dusty	1.00 0.50	Very limited Depth to bedrock Dusty	1.00 0.50	Very limited Depth to bedrock Slope Dusty Gravel content	1.00 1.00 0.50 0.04
TbF: Tassel-----	55	Very limited Depth to bedrock Slope Too sandy	1.00 1.00 0.66	Very limited Depth to bedrock Slope Too sandy	1.00 1.00 0.66	Very limited Depth to bedrock Slope Too sandy	1.00 1.00 0.66
Busher-----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
TcG: Tassel-----	55	Very limited Depth to bedrock Slope Too sandy	1.00 1.00 0.66	Very limited Depth to bedrock Slope Too sandy	1.00 1.00 0.66	Very limited Slope Depth to bedrock Too sandy	1.00 1.00 0.66
Busher-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
UyB: Ulysses-----	100	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty Slope	0.50 0.00
UyC: Ulysses-----	100	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty	0.87 0.50
VgD: Valent-----	100	Somewhat limited Too sandy Slope	0.95 0.04	Somewhat limited Too sandy Slope	0.95 0.04	Very limited Slope Too sandy	1.00 0.95
W: Water-----	100	Not rated		Not rated		Not rated	

RECREATIONAL INTERPRETATIONS--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Ao: Alliance-----	100	Somewhat limited Dusty	0.50	Not limited	
AoB: Alliance-----	100	Somewhat limited Dusty	0.50	Not limited	
AoC: Alliance-----	100	Somewhat limited Dusty	0.50	Not limited	
AtB: Altvan-----	100	Somewhat limited Dusty	0.50	Not limited	
AtC: Altvan-----	100	Somewhat limited Dusty	0.50	Not limited	
AvD: Altvan-----	65	Somewhat limited Dusty	0.50	Not limited	
Dix-----	35	Not limited		Not limited	
Bb: Bankard-----	100	Somewhat limited Too sandy	0.87	Somewhat limited Flooding	0.60
Bc: Bankard-----	100	Somewhat limited Too sandy Flooding	0.96 0.40	Very limited Flooding	1.00
Be: Bayard-----	100	Not limited		Not limited	
BeB: Bayard-----	100	Not limited		Not limited	
BeC: Bayard-----	100	Not limited		Not limited	
BeD: Bayard-----	100	Not limited		Somewhat limited Slope	0.00
BeE: Bayard-----	100	Somewhat limited Slope	0.00	Very limited Slope	1.00
Bg: Bridget-----	100	Somewhat limited Dusty	0.50	Not limited	
BgB: Bridget-----	100	Somewhat limited Dusty	0.50	Not limited	
BgC: Bridget-----	100	Somewhat limited Dusty	0.50	Not limited	
BgD: Bridget-----	100	Somewhat limited Dusty	0.50	Somewhat limited Slope	0.00
BuC: Busher-----	100	Not limited		Not limited	
BxD: Busher-----	70	Not limited		Not limited	
Tassel-----	30	Not limited		Very limited Depth to bedrock Droughty	1.00 1.00
ByE: Busher-----	65	Somewhat limited Slope	0.00	Very limited Slope	1.00
Tassel-----	35	Somewhat limited Too sandy Slope	0.66 0.00	Very limited Depth to bedrock Droughty Slope	1.00 1.00 1.00
CcF: Canyon-----	100	Somewhat limited Slope	0.18	Very limited Depth to bedrock Droughty Slope	1.00 1.00 1.00
CdG: Canyon-----	60	Very limited Slope	1.00	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.99
Rock Outcrop-----	40	Not rated		Not rated	
CeE: Canyon-----	55	Not limited		Very limited Depth to bedrock	1.00

RECREATIONAL INTERPRETATIONS--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Bayard-----	45	Not limited		Droughty Slope	1.00 0.84
CtB: Creighton-----	100	Somewhat limited Dusty	0.50	Somewhat limited Slope	0.84
CtC: Creighton-----	100	Somewhat limited Dusty	0.50	Not limited	
DhD: Dix-----	100	Somewhat limited Dusty	0.50	Somewhat limited Droughty Gravel content	0.76 0.50
DhG: Dix-----	100	Very limited Slope Dusty	1.00 0.50	Very limited Slope Droughty Gravel content	1.00 0.92 0.50
Du: Duroc-----	100	Not limited		Not limited	
DuB: Duroc-----	100	Not limited		Not limited	
Dv: Duroc-----	100	Not limited		Not limited	
Dx: Duroc-----	100	Not limited		Not limited	
DyE: Dwyer-----	100	Somewhat limited Too sandy	0.34	Somewhat limited Slope Droughty	0.84 0.06
ErE: Epping-----	55	Somewhat limited Dusty	0.50	Very limited Depth to bedrock Droughty Slope	1.00 0.98 0.63
Mitchell-----	45	Somewhat limited Dusty	0.50	Somewhat limited Slope	0.63
Gd: Glenberg-----	100	Not limited		Not limited	
Go: Goshen-----	100	Not limited		Not limited	
GP: Pits-----	100	Not rated		Not rated	
JmB: Jayem-----	100	Not limited		Not limited	
JmC: Jayem-----	100	Not limited		Not limited	
Jo: Johnstown-----	100	Not limited		Not limited	
Ke: Keith-----	100	Somewhat limited Dusty	0.50	Not limited	
KeB: Keith-----	100	Somewhat limited Dusty	0.50	Not limited	
KeC: Keith-----	100	Somewhat limited Dusty	0.50	Not limited	
Ku: Kuma-----	100	Not limited		Not limited	
Lm: Las-----	100	Not limited		Somewhat limited Flooding	0.60
Lw: Las Animas-----	100	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Flooding Depth to saturated zone	1.00 1.00
Ly: Lodgepole-----	100	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
M-W: Miscellaneous Water-	100	Not rated		Not rated	

RECREATIONAL INTERPRETATIONS--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Mc: Mccook-----	100	Not limited		Not limited	
MkC: Mitchell-----	100	Somewhat limited Dusty	0.50	Not limited	
MkD: Mitchell-----	100	Somewhat limited Dusty	0.50	Somewhat limited Slope	0.00
MkE: Mitchell-----	100	Somewhat limited Dusty Slope	0.50 0.00	Very limited Slope	1.00
ReG: Rock Outcrop-----	55	Not rated		Not rated	
Epping-----	45	Very limited Slope Dusty	1.00 0.50	Very limited Depth to bedrock Droughty Slope	1.00 1.00 1.00
RhG: Rock Outcrop-----	55	Not rated		Not rated	
Tassel-----	45	Very limited Slope Too sandy	1.00 0.66	Very limited Depth to bedrock Slope Droughty	1.00 1.00 1.00
Ro: Rosebud-----	100	Somewhat limited Dusty	0.50	Somewhat limited Depth to bedrock Droughty	0.42 0.00
RoB: Rosebud-----	100	Somewhat limited Dusty	0.50	Somewhat limited Depth to bedrock	0.42
RoC: Rosebud-----	100	Somewhat limited Dusty	0.50	Somewhat limited Depth to bedrock	0.42
RsD: Rosebud-----	55	Somewhat limited Dusty	0.50	Somewhat limited Depth to bedrock	0.42
Canyon-----	45	Somewhat limited Dusty	0.50	Very limited Depth to bedrock Droughty	1.00 0.95
Sb: Satanta-----	100	Somewhat limited Dusty	0.50	Not limited	
SbB: Satanta-----	100	Somewhat limited Dusty	0.50	Not limited	
SbC: Satanta-----	100	Somewhat limited Dusty	0.50	Not limited	
SnC: Sidney-----	100	Somewhat limited Dusty	0.50	Not limited	
SoD: Sidney-----	55	Somewhat limited Dusty	0.50	Not limited	
Canyon-----	45	Somewhat limited Dusty	0.50	Very limited Depth to bedrock Droughty	1.00 1.00
TbF: Tassel-----	55	Somewhat limited Too sandy Slope	0.66 0.08	Very limited Depth to bedrock Droughty Slope	1.00 1.00 1.00
Busher-----	45	Somewhat limited Slope	0.08	Very limited Slope	1.00
TcG: Tassel-----	55	Very limited Slope Too sandy	1.00 0.66	Very limited Depth to bedrock Droughty Slope	1.00 1.00 1.00
Busher-----	30	Somewhat limited Slope	0.68	Very limited Slope	1.00
UyB: Ulysses-----	100	Somewhat limited		Not limited	

RECREATIONAL INTERPRETATIONS--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
UyC: Ulysses-----	100	Dusty	0.50	Not limited	
VdD: Valent-----	100	Somewhat limited Dusty	0.50		
W: Water-----	100	Somewhat limited Too sandy	0.95	Somewhat limited Droughty Slope	0.25 0.04
		Not rated		Not rated	



WILDLIFE INTERPRETATIONS  
Cheyenne, Nebraska

Use and Explanation of Wildlife Interpretations

Soils directly affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the development of water impoundments. The kind and abundance of wildlife that populate an area depend largely on the amount and distribution of food, cover, water, and living space. If any one of these elements is missing, inadequate, or inaccessible, wildlife will be scarce or will not inhabit the area. If the soils have the potential, wildlife habitat can be created or improved by planting appropriate vegetation, properly managing the existing plant cover, and fostering the natural establishment of desirable plants.

In the Wildlife Interpretations table, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

Suitability Ratings

The potential of the soil is rated good, fair, poor, or very poor.

Good - means that the element of wildlife habitat or the kind of habitat is easily created, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected if the soil is used for the designated purpose.

Fair - means that the element of wildlife habitat or kind of habitat can be created, improved, or maintained in most places. Moderately intensive management is required for satisfactory results.

Poor - means that limitations are severe for the designated element or kind of wildlife habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and requires intensive effort.

Very Poor - means that limitations are very severe for the designated element or kind of wildlife habitat. Habitat is difficult to create, improve, or maintain in most places, and management is difficult and requires intensive effort.

Description of Wildlife Habitat Elements

Openland habitat consists of croplands, pastures, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. The kind of wildlife attracted to these areas include bobwhite quail, pheasant, meadowlark, field sparrow, killdeer, cottontail rabbit, red fox, and coyote.

Woodland habitat consists of hardwood or conifers, or a mixture of these and associated grasses, legumes and wild herbaceous plants. Examples of wildlife attracted to this habitat are wild turkey, thrushes, woodpeckers, owl, tree squirrels, raccoon, and deer.

Wetland habitat consists of water-tolerant plants in open, marshy or swampy, shallow water areas. Examples of wildlife attracted to this habitat are ducks, geese, herons, bitterns, rails, kingfishers, shorebirds, muskrat, mink, and beaver.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of grain and seed crops are corn, wheat, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations. Examples of grasses and legumes are fescue, lovegrass, bromegrass, clover, and alfalfa.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are bluestem, goldenrod, beggarweed, wheatgrass, and grama.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of these plants are oak, poplar, cherry, sweetgum, apple, hawthorn, dogwood, hickory, blackberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated good are Russian-olive, autumn-olive, and crabapple.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, spruce, fir, cedar, and juniper.

Shrubs are bushy woody plants that produce fruit, buds, twigs, bark, and foliage. Soil properties and features that affect the growth of shrubs are depth of the root zone, available water capacity, salinity, and soil moisture. Examples of shrubs are fragrant sumac, chokecherry, American plum, sand plum, and garden currant.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, saltgrass, cordgrass, rushes, sedges, and cattails.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include bobwhite quail, pheasant, meadowlark, field sparrow, cottontail, red fox and coyote.

Habitat for woodland wildlife consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, thrushes, woodpeckers, squirrels, gray fox, raccoon, and deer.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, and beaver.

Habitat for rangeland wildlife consists of areas of shrubs and wild herbaceous plants. Wildlife attracted to rangeland include antelope, deer, cottontail rabbit, prairie chicken, meadowlark, quail, and pheasant.

WILDLIFE INTERPRETATIONS  
Cheyenne, Nebraska

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Shrubs	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life	Range- land wild- life
Ao: ALLIANCE-----	Good	Good	Good	Good	Good	Good	Very poor	Poor	Good	Good	Poor	Good
AoB: ALLIANCE-----	Good	Good	Good	Good	Good	Good	Very poor	Poor	Good	Good	Poor	Good
AoC: ALLIANCE-----	Good	Good	Good	Good	Good	Good	Very poor	Poor	Good	Good	Poor	Good
AtB: ALTVAN-----	Fair	Good	Good	Good	Fair	Good	Very poor	Very poor	Good	Good	Very poor	Good
AtC: ALTVAN-----	Fair	Good	Good	Good	Fair	Good	Very poor	Very poor	Good	Good	Very poor	Good
AvD: ALTVAN-----	Fair	Good	Good	Good	Fair	Good	Very poor	Very poor	Good	Good	Very poor	Good
DIX-----	Poor	Poor	Poor	Poor	Poor	Poor	Very poor	Very poor	Very poor	Poor	Very poor	Poor
Bb: BANKARD-----	Poor	Poor	Fair	Poor	Fair	Poor	Very poor	Very poor	Poor	Fair	Very poor	Poor
Bc: BANKARD-----	Poor	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor	Fair
Be: BAYARD-----	Good	Good	Good	Good	Good	Fair	Poor	Very poor	Good	Good	Very poor	Fair
BeB: BAYARD-----	Fair	Good	Good	Good	Good	Fair	Poor	Very poor	Good	Fair	Very poor	Fair
BeC: BAYARD-----	Fair	Good	Good	Good	Good	Fair	Poor	Very poor	Good	Fair	Very poor	Fair
BeD: BAYARD-----	Fair	Good	Good	Good	Good	Fair	Poor	Very poor	Good	Fair	Very poor	Fair
BeE: BAYARD-----	Poor	Fair	Good	Good	Good	Fair	Poor	Very poor	Good	Good	Very poor	Fair
Bg: BRIDGET-----	Good	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor	Good
BgB: BRIDGET-----	Good	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor	Good
BgC: BRIDGET-----	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor	Good
BgD: BRIDGET-----	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor	Good
BuC: BUSHER-----	Fair	Good	Good	Fair	Poor	Good	Very poor	Very poor	Good	Fair	Very poor	Good
BxD: BUSHER-----	Fair	Good	Good	Fair	Poor	Good	Very poor	Very poor	Good	Fair	Very poor	Good
TASSEL-----	Poor	Poor	Poor	Fair	Fair	Poor	Very poor	Very poor	Poor	Fair	Very poor	Poor

WILDLIFE INTERPRETATIONS--Continued  
Cheyenne, Nebraska

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Shrubs	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life	Range- land wild- life
ByE: BUSHER-----	Poor	Fair	Fair	Poor	Poor	Fair	Very poor	Very poor	Fair	Fair	Very poor	Fair
TASSEL-----	Poor	Poor	Poor	Fair	Fair	Poor	Very poor	Very poor	Poor	Fair	Very poor	Poor
CcF: CANYON-----	Poor	Poor	Fair	Poor	Poor	Poor	Very poor	Very poor	Poor	Fair	Very poor	Fair
CdG: CANYON-----	Poor	Poor	Fair	Poor	Poor	Poor	Very poor	Very poor	Poor	Fair	Very poor	Fair
ROCK OUTCROP---	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
CeE: CANYON-----	Poor	Poor	Fair	Poor	Poor	Poor	Very poor	Very poor	Poor	Fair	Very poor	Fair
BAYARD-----	Poor	Fair	Good	Good	Good	Fair	Poor	Very poor	Good	Good	Very poor	Fair
CtB: CREIGHTON-----	Good	Good	Fair	Good	Good	Fair	Poor	Poor	Good	Good	Poor	Fair
CtC: CREIGHTON-----	Fair	Good	Fair	Good	Good	Fair	Poor	Very poor	Fair	Good	Poor	Fair
DhD: DIX-----	Poor	Poor	Poor	Poor	Poor	Poor	Very poor	Very poor	Very poor	Poor	Very poor	Poor
DhG: DIX-----	Very poor	Very poor	Very poor	Very poor	Poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
Du: DUROC-----	Good	Good	Fair	Good	Good	Fair	Poor	Very poor	Good	Good	Very poor	Fair
DuB: DUROC-----	Good	Good	Fair	Good	Good	Fair	Poor	Very poor	Good	Good	Very poor	Fair
Dv: DUROC-----	Good	Good	Good	---	---	Good	Poor	Very poor	Good	---	Very poor	Good
Dx: DUROC-----	Fair	Good	Fair	Good	Good	Fair	Poor	Very poor	Fair	Good	Very poor	Fair
DyE: DWYER-----	Poor	Fair	Fair	Poor	Poor	Poor	Very poor	Very poor	Fair	Poor	Very poor	Fair
ErE: EPPING-----	Poor	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor	Fair
MITCHELL-----	Poor	Fair	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor	Fair
Gd: GLENBERG-----	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor	Good
Go: GOSHEN-----	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor	Good
GP: PITS-----	Very poor	Very poor	Poor	Poor	Poor	Poor	Very poor	Fair	Very poor	Very poor	Poor	Poor
JmB: JAYEM-----	Fair	Good	Fair	Good	Good	Fair	Poor	Very poor	Fair	Good	Very poor	Fair

WILDLIFE INTERPRETATIONS--Continued  
Cheyenne, Nebraska

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Shrubs	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life	Range- land wild- life
JmC: JAYEM-----	Fair	Good	Fair	Good	Good	Fair	Poor	Very poor	Fair	Good	Very poor	Fair
Jo: JOHNSTOWN-----	Good	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Fair	Very poor	Good
Ke: KEITH-----	Good	Good	Good	Fair	Fair	Good	Very poor	Very poor	Good	Fair	Very poor	Good
KeB: KEITH-----	Good	Good	Good	Fair	Fair	Good	Very poor	Very poor	Good	Fair	Very poor	Good
KeC: KEITH-----	Fair	Good	Good	Fair	Fair	Good	Very poor	Very poor	Good	Fair	Very poor	Good
Ku: KUMA-----	Good	Good	Fair	---	---	Poor	Poor	Very poor	Fair	---	Very poor	Poor
LD: -----	---	---	---	---	---	---	---	---	---	---	---	---
Lm: LAS-----	Fair	Fair	Fair	---	---	Fair	Fair	Fair	Fair	---	Fair	Fair
Lw: LAS ANIMAS-----	Very poor	Poor	Fair	Poor	Poor	Fair	Good	Good	Poor	Poor	Good	Fair
Ly: LODGEPOLE-----	Poor	Fair	Fair	Poor	Poor	Poor	Good	Good	Fair	Poor	Good	Poor
M-W: MISCELLANEOUS WATER-----	---	---	---	---	---	---	---	---	---	---	---	---
Mc: MCCOOK-----	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor	Good
MkC: MITCHELL-----	Fair	Good	Fair	Good	Good	Good	Poor	Very poor	Fair	Good	Very poor	Fair
MkD: MITCHELL-----	Fair	Good	Fair	Good	Good	Good	Poor	Very poor	Fair	Good	Very poor	Fair
MkE: MITCHELL-----	Poor	Fair	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor	Fair
ReG: ROCK OUTCROP----	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
EPPING-----	Poor	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor	Fair
RhG: ROCK OUTCROP----	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
TASSEL-----	Very poor	Very poor	Poor	Fair	Fair	Poor	Very poor	Very poor	Very poor	Fair	Very poor	Poor
Ro: ROSEBUD-----	Fair	Good	Fair	---	Good	Fair	Very poor	Very poor	Fair	---	Very poor	Fair
RoB: ROSEBUD-----	Good	Good	Fair	---	Good	Fair	Very poor	Very poor	Fair	---	Very poor	Fair
RoC: ROSEBUD-----	Fair	Good	Fair	---	Good	Fair	Very poor	Very poor	Fair	---	Very poor	Fair

WILDLIFE INTERPRETATIONS--Continued  
Cheyenne, Nebraska

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Shrubs	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life	Range- land wild- life
RsD: ROSEBUD-----	Fair	Good	Fair	---	Good	Fair	Very poor	Very poor	Fair	---	Very poor	Fair
CANYON-----	Poor	Poor	Fair	Poor	Poor	Poor	Very poor	Very poor	Poor	Fair	Very poor	Fair
Sb: SATANTA-----	Good	Good	Fair	---	---	Good	Poor	Very poor	Good	---	Very poor	Fair
SbB: SATANTA-----	Good	Good	Fair	---	---	Good	Poor	Very poor	Good	---	Very poor	Fair
SbC: SATANTA-----	Good	Good	Fair	---	---	Good	Poor	Very poor	Good	---	Very poor	Fair
SnC: SIDNEY-----	Fair	Good	Good	Fair	Good	Good	Very poor	Very poor	Good	Good	Very poor	Good
SoD: SIDNEY-----	Fair	Good	Good	Fair	Good	Good	Very poor	Very poor	Good	Good	Very poor	Good
CANYON-----	Poor	Poor	Fair	Poor	Poor	Poor	Very poor	Very poor	Poor	Fair	Very poor	Fair
TbF: TASSEL-----	Poor	Poor	Poor	Fair	Fair	Poor	Very poor	Very poor	Poor	Fair	Very poor	Poor
BUSHER-----	Poor	Fair	Fair	Poor	Poor	Fair	Very poor	Very poor	Fair	Fair	Very poor	Fair
TcG: TASSEL-----	Very poor	Very poor	Poor	Fair	Fair	Poor	Very poor	Very poor	Very poor	Fair	Very poor	Poor
BUSHER-----	Poor	Fair	Fair	Poor	Poor	Fair	Very poor	Very poor	Fair	Fair	Very poor	Fair
UyB: ULYSSES-----	Good	Good	Fair	Good	Good	Fair	Poor	Very poor	Good	Good	Very poor	Fair
UyC: ULYSSES-----	Fair	Good	Fair	Good	Good	Fair	Poor	Very poor	Fair	Good	Very poor	Fair
VdD: VALENT-----	Poor	Fair	Fair	Poor	Poor	Poor	Very poor	Very poor	Fair	Poor	Very poor	Fair
W: WATER-----	---	---	---	---	---	---	---	---	---	---	---	---



YIELDS PER ACRE OF PASTURE AND HAYLAND  
Cheyenne, Nebraska

## Use and Explanation of Pastureland and Hayland Interpretations

This subsection provides information concerning the suitability of soils for the production of pasture and hayland. This subsection may contain pasture and hayland suitability groupings, land capability and yield estimates, yield estimates for individual grasses or legumes, or other information pertaining to the production of forage.

## Pasture and Hayland Suitability Groupings

Soils are placed in pasture and hayland groups according to their suitability for the production of forage. The soils in each group are enough alike to be suited to the same grasses or legumes, to have similar limitations and hazards, to require similar management, and to have similar productivity and other responses to management. Thus, the pasture and hayland suitability group is a convenient way of grouping the soils for their management. If used, these groupings are identified and described in other reports in the subsection.

## Yield Estimates

The average yields per acre that can be expected of the principal pasture or hayland crops, under a high level of management, are presented in this subsection. In any given year, yields may be higher or lower than those indicated in the tables because of variations in rainfall or other climatic factors. The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations are also considered.

Under good management, proper grazing is essential for the production of high quality forage, stand survival, and erosion control. Proper grazing helps plants maintain sufficient and generally vigorous top growth during the growing season. Brush control is essential in many areas, and weed control generally is needed. Rotation grazing and renovation are also important management practices.

The Pasture and Hayland table show yield estimates in tons per acre and animal unit months for pasture and hayland groups. An animal unit month is the amount of forage required by one animal unit (AU) for 30 days. On animal unit (AU) is one (1000 pound) mature cow and a calf up to weaning age (usually six months of age) or their equivalent. The Natural Resources Conservation Service uses 900 pounds of air dry forage as the amount needed to meet this requirement. To maintain a healthy and vigorous plant community, the degree of use should never be greater than 50 percent. Therefore only 25 percent of the total biomass grown is considered consumed by the grazing animal. Animal Unit Months can be converted to air dry pounds per acre production by multiplying the AUM by 30 days, then by 30 pounds per day, and then by four. This figure is the amount of total forage production.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil in the Nontechnical Description section. Specific information on plants and yields can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are those that can be expected under a high level of nonirrigated and irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)  
Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

Map symbol and soil name	Land capability		Alfalfa hay	
	N	I	N	I
			Tons	Tons
Ao: Alliance-----	2c	1	---	5.60
AoB: Alliance-----	2e	2e	---	5.30
AoC: Alliance-----	3e	3e	---	4.70
AtB: Altvan-----	3e	3e	---	4.20
AtC: Altvan-----	4e	4e	---	3.60
AvD: Altvan-----	4e	4e	---	3.10
Dix-----	6s	---	---	---
Eb: Bankard-----	4e	4e	---	3.30
Ec: Bankard-----	6w	---	---	---
Be: Bayard-----	2e	2e	---	5.40
BeB: Bayard-----	3e	2e	---	5.00
BeC: Bayard-----	4e	3e	---	4.40
BeD: Bayard-----	4e	4e	---	3.70
BeE: Bayard-----	6e	---	---	---
Eg: Bridget-----	2c	2e	---	5.80
EgB: Bridget-----	2e	2e	---	5.40
EgC: Bridget-----	3e	3e	---	4.70
EgD: Bridget-----	4e	4e	---	4.00
BuC: Busher-----	3e	3e	---	3.50
BxD: Busher-----	4e	4e	---	---
Tassel-----	6s	---	---	---
ByE: Busher-----	6e	---	---	---
Tassel-----	6s	---	---	---
CcF: Canyon-----	6s	---	---	---
CdG: Canyon-----	7s	---	---	---
Rock Outcrop-----	8s	---	---	---
CeE: Canyon-----	6s	---	---	---
Bayard-----	6e	---	---	---

(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are those that can be expected under a high level of nonirrigated and irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)  
Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

Map symbol and soil name	Land capability		Alfalfa hay	
	N	I	N	I
			Tons	Tons
CtB: Creighton-----	2e	2e	---	5.40
CtC: Creighton-----	3e	3e	---	4.70
DhD: Dix-----	6s	---	---	---
DhG: Dix-----	7s	---	---	---
Du: Duroc-----	2c	1	---	6.00
DuB: Duroc-----	2e	2e	---	5.50
Dv: Duroc-----	3c	1	---	5.80
Dx: Duroc-----	3c	1	---	5.80
DyE: Dwyer-----	6e	---	---	---
ErE: Epping-----	6s	---	---	---
Mitchell-----	6e	---	---	---
Gd: Glenberg-----	3e	2e	---	5.00
Go: Goshen-----	2c	1	---	6.00
GP: Pits-----	8s	---	---	---
JmB: Jayem-----	3e	2e	---	5.00
JmC: Jayem-----	4e	3e	---	4.30
Jo: Johnstown-----	2c	1	---	5.60
Ke: Keith-----	2c	1	---	6.00
KeB: Keith-----	2e	2e	---	5.30
KeC: Keith-----	3e	3e	---	4.70
Ku: Kuma-----	2c	1	---	5.80
LD:	---	---	---	---
Lm: Las-----	4w	2w	---	6.00
Lw: Las Animas-----	5w	---	---	---
Ly: Lodgepole-----	3w	4w	---	3.80
M-W: Miscellaneous Water-----	---	---	---	---
Mc: Mccook-----	2c	2e	---	5.80

(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are those that can be expected under a high level of nonirrigated and irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)  
Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

Map symbol and soil name	Land capability		Alfalfa hay	
	N	I	N	I
			Tons	Tons
MkC: Mitchell-----	3e	3e	---	4.60
MkD: Mitchell-----	4e	4e	---	3.90
MkE: Mitchell-----	6e	---	---	---
ReG: Rock Outcrop-----	8s	---	---	---
Epping-----	7s	---	---	---
RhG: Rock Outcrop-----	8s	---	---	---
Tassel-----	7s	---	---	---
Ro: Rosebud-----	3c	1	---	5.20
RoB: Rosebud-----	3e	3e	---	4.70
RoC: Rosebud-----	4e	3e	---	4.00
RsD: Rosebud-----	4e	---	---	---
Canyon-----	6s	---	---	---
Sb: Satanta-----	2c	1	---	5.60
SbB: Satanta-----	2e	2e	---	5.30
SbC: Satanta-----	3e	3e	---	4.50
SnC: Sidney-----	3e	3e	---	4.20
SoD: Sidney-----	4e	---	---	---
Canyon-----	6s	---	---	---
TbF: Tassel-----	6s	---	---	---
Busher-----	6e	---	---	---
TcG: Tassel-----	6s	---	---	---
Busher-----	6e	---	---	---
UyB: Ulysses-----	2e	2e	---	5.00
UyC: Ulysses-----	3e	3e	---	4.40
VdD: Valent-----	6e	4e	---	3.30
W: Water-----	---	---	---	---



CONSERVATION TREE AND SHRUB MANAGEMENT  
Cheyenne, Nebraska

A Conservation Tree/Shrub Suitability Group (CTSG), formerly Windbreak Suitability Group, is a physiographic unit or area having similar climatic and edaphic characteristics that control the selection and height growth of trees and shrubs.

In this table, the Conservation Tree and Shrub Grouping is expressed as a group index number. The group index for Conservation Tree and Shrub groups (CTSG) are a guide for species best suited for different kinds of soil and for prediction height, growth, and effectiveness. The groupings can be used when selection woody plants for windbreaks, wildlife plantings riparian buffers, reforestation, other environmental plantings, recreation, landscaping, wetland restoration or enhancement and critical area plantings. CTSG's are developed to assure satisfactory species selection and adaptation to specific conditions of soil, climate and physiography. CTSG's are a guide for selection species best suited for different kinds of soil and prediction height growth and effectiveness.

All soil series mapped in the state have been placed in 10 groups of similar soil characteristics. Groups 1, 2, 3, 4, 6, and 9 are further divided into subgroups. In addition, all groups provide information by Major Land Resource Areas.

Each tree or shrub species has certain climatic and physiographic limits. Within these parameters a tree or shrub may be well or poorly suited because of soil characteristics. Each tree or shrub also has definable potentials of height growth depending on the factors just mentioned. Accurate definitions of potential heights are necessary for proper windbreak planning and design.

Windbreaks protect livestock, buildings, roads and yards from wind and snow. They also protect fruit trees and gardens, and they furnish habitat for wildlife. Several rows of low-growing and high-growing broadleaf and coniferous trees and shrubs provide the most protection.

Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil. Field windbreaks protect cropland and crops from wind, help to keep snow on the fields, and provide food and cover for wildlife.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Windbreaks are often planted on land that did not grow trees originally. Knowledge of how trees perform on such land can be gained only by observing and recording their performance where trees have been planted and survived. The problem is compounded by the fact that many favorite windbreak species are not indigenous to the areas in which they are planted.

The Kansas Field Office Technical Guide Notice KS-230, Conservation Tree and Shrub Plantings Suitability Groups shows the adapted species listing for each group index number. Showing the height that locally grown trees and shrubs are expected to reach in 20 years on various soils. The estimates are based on measurements and observation of established plantings that have been given adequate care. This information should be used to determine the placement of a windbreak, the area protected and the arrangement of species.

A number of attributes are included in the CTSG species tables for each group number found in this section of the Field Office Technical Guide. These attributes were rated subjectively and assigned a relative value to further assist those unfamiliar with individual species characteristics or desirability for the intended use. Definitions and explanations can be found. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or of the Cooperative Extension Service or from a commercial nursery. See part 537 of the National Forestry Manual for additional information.

In the Tree and Shrub Management table interpretive ratings are given for various aspects of forest and conservation tree and shrub management. Some rating class terms indicate the degree to which the soils are suited to a specified forest management practice. Well suited indicates that the soil has features that are favorable for the specified practice and has no limitations. Good performance can be expected, and little or no maintenance is needed. Moderately well suited indicates that the soil has features that are moderately favorable for the specified practice. One or more soil properties are less than desirable and fair performance can be expected. Some maintenance is needed. Poorly suited indicates that the soil has one or more properties that are unfavorable for the specified practice. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. Unsited indicates that the expected performance of the soil is unacceptable for the specified practice or that extreme measures are needed to overcome the undesirable soil properties.

The paragraphs that follow indicate the soil properties considered in rating the soils for forest and conservation tree and shrub management practices. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet. Also, in the Kansas Field Office Technical Guide Notice KS-230, Conservation Tree and Shrub Plantings Suitability Groups.

Ratings in the columns suitability for hand planting and suitability for mechanical planting are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately well suited, poorly suited, or unsited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column suitability for mechanical site preparation (surface) are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsited to this management activity. The part of the soil from the surface to a depth of about 1-foot is considered in the ratings.

Ratings in the column suitability for mechanical site preparation (deep) are based on slope, depth to a restrictive layer, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsited to this management activity. The part of the soil from the surface to a depth of about 3 feet is considered in the ratings.

Ratings in the column potential for seedling mortality are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality. See the National Forestry Manual, Subpart B for criteria used in rating management concerns. Specific information on plants and yields can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

CONSERVATION TREE AND SHRUB MANAGEMENT  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. Pines and spruces are prone to disease problems. See text for further explanation of ratings in this table.)

Map symbol and soil name	Wind break Group	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
		Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
Ao: Alliance-----		Well suited	Well suited	Well suited	Well suited	Low
AoB: Alliance-----		Well suited	Well suited	Well suited	Well suited	Low
AoC: Alliance-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
AtB: Altvan-----		Well suited	Well suited	Well suited	Well suited	Low
AtC: Altvan-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
AvD: Altvan-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
Dix-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
Bb: Bankard-----		Moderately suited Sandiness	Moderately suited Sandiness	Well suited	Well suited	Moderate Soil reaction
Bc: Bankard-----		Well suited	Well suited	Well suited	Well suited	Moderate Soil reaction
Be: Bayard-----		Well suited	Well suited	Well suited	Well suited	Low
BeB: Bayard-----		Well suited	Well suited	Well suited	Well suited	Low
BeC: Bayard-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
BeD: Bayard-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
BeE: Bayard-----		Well suited	Moderately suited Slope	Poorly suited Slope	Poorly suited Slope	Low
Bg: Bridget-----		Well suited	Well suited	Well suited	Well suited	Low
BgB: Bridget-----		Well suited	Well suited	Well suited	Well suited	Low
BgC: Bridget-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
BgD: Bridget-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
BuC: Busher-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
BxD: Busher-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
Tassel-----		Well suited	Moderately suited Slope	Well suited	Well suited	Moderate Soil reaction
ByE: Busher-----		Well suited	Moderately suited Slope	Poorly suited Slope	Poorly suited Slope	Low
Tassel-----		Well suited	Moderately suited Slope	Poorly suited Slope	Poorly suited Slope	Moderate Soil reaction
CcF: Canyon-----		Moderately suited Rock fragments	Poorly suited Slope Rock fragments	Poorly suited Rock fragments Slope	Poorly suited Slope	Moderate Soil reaction

CONSERVATION TREE AND SHRUB MANAGEMENT  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. Pines and spruces are prone to disease problems. See text for further explanation of ratings in this table.)

Map symbol and soil name	Wind break Group	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
		Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
CdG: Canyon----- Rock Outcrop-----		Well suited Not rated	Unsuited Slope Not rated	Poorly suited Slope Not rated	Poorly suited Slope Not rated	Moderate Soil reaction Not rated
CeE: Canyon----- Bayard-----		Moderately suited Rock fragments Well suited	Poorly suited Rock fragments Slope Moderately suited Slope	Poorly suited Rock fragments Well suited	Well suited Well suited	Moderate Soil reaction Low
CtB: Creighton----- CtC: Creighton-----		Well suited Well suited	Well suited Moderately suited Slope	Well suited Well suited	Well suited Well suited	Low Low
DhD: Dix----- DhG: Dix-----		Well suited Well suited	Moderately suited Slope Rock fragments Unsuited Slope Rock fragments	Well suited Poorly suited Slope	Well suited Poorly suited Slope	Low Low
Du: Duroc----- DuB: Duroc----- Dv: Duroc----- Dx: Duroc----- DyE: Dwyer-----		Well suited Well suited Well suited Well suited Well suited	Well suited Well suited Well suited Well suited Moderately suited Slope	Well suited Well suited Well suited Well suited Well suited	Well suited Well suited Well suited Well suited Well suited	Low Low Low Low Low
ErE: Epping----- Mitchell-----		Well suited Well suited	Moderately suited Slope Moderately suited Slope	Well suited Well suited	Well suited Well suited	Low Moderate Soil reaction
Gd: Glenberg----- Go: Goshen----- GP: Pits-----		Well suited Well suited Not rated	Well suited Well suited Not rated	Well suited Well suited Not rated	Well suited Well suited Not rated	Moderate Soil reaction Low Not rated
JmB: Jayem----- JmC: Jayem----- Jo: Johnstown-----		Well suited Well suited Well suited	Well suited Moderately suited Slope Moderately suited Stickiness	Well suited Well suited Well suited	Well suited Well suited Well suited	Low Low Low
Ke: Keith----- KeB: Keith----- KeC: Keith----- Ku: Kuma-----		Well suited Well suited Well suited Well suited	Well suited Well suited Moderately suited Slope Well suited	Well suited Well suited Well suited Well suited	Well suited Well suited Well suited Well suited	Low Low Low Low

CONSERVATION TREE AND SHRUB MANAGEMENT  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. Pines and spruces are prone to disease problems. See text for further explanation of ratings in this table.)

Map symbol and soil name	Wind break Group	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
		Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
Lm: Las-----		Well suited	Well suited	Well suited	Well suited	Moderate Soil reaction
Lw: Las Animas-----		Well suited	Well suited	Well suited	Well suited	High Wetness Soil reaction
Ly: Lodgepole-----		Poorly suited Stickiness	Poorly suited Stickiness	Poorly suited Stickiness	Well suited	High Wetness
M-W: Miscellaneous Water-		Not rated	Not rated	Not rated	Not rated	Not rated
Mc: Mccook-----		Well suited	Well suited	Well suited	Well suited	Low
MkC: Mitchell-----		Well suited	Moderately suited Slope	Well suited	Well suited	Moderate Soil reaction
MkD: Mitchell-----		Well suited	Moderately suited Slope	Well suited	Well suited	Moderate Soil reaction
MkE: Mitchell-----		Well suited	Moderately suited Slope	Poorly suited Slope	Poorly suited Slope	Moderate Soil reaction
ReG: Rock Outcrop-----		Not rated	Not rated	Not rated	Not rated	Not rated
Epping-----		Moderately suited Rock fragments	Unsuited Slope Rock fragments	Poorly suited Slope Rock fragments	Poorly suited Slope	Moderate Soil reaction
RhG: Rock Outcrop-----		Not rated	Not rated	Not rated	Not rated	Not rated
Tassel-----		Moderately suited Rock fragments Slope	Unsuited Slope Rock fragments	Unsuited Slope Rock fragments	Unsuited Slope	Moderate Soil reaction
Ro: Rosebud-----		Well suited	Well suited	Well suited	Well suited	Low
ROB: Rosebud-----		Well suited	Well suited	Well suited	Well suited	Low
RoC: Rosebud-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
RsD: Rosebud-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
Canyon-----		Well suited	Moderately suited Slope	Well suited	Well suited	Moderate Soil reaction
Sb: Satanta-----		Well suited	Well suited	Well suited	Well suited	Low
SBb: Satanta-----		Well suited	Well suited	Well suited	Well suited	Low
SbC: Satanta-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
SnC: Sidney-----		Well suited	Moderately suited Slope	Well suited	Well suited	Moderate Soil reaction
SoD: Sidney-----		Well suited	Moderately suited Slope	Well suited	Well suited	Moderate Soil reaction

CONSERVATION TREE AND SHRUB MANAGEMENT  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. Pines and spruces are prone to disease problems. See text for further explanation of ratings in this table.)

Map symbol and soil name	Wind break Group	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
		Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
Canyon-----		Moderately suited Rock fragments	Poorly suited Rock fragments Slope	Poorly suited Rock fragments	Well suited	Moderate Soil reaction
TbF: Tassel-----		Well suited	Poorly suited Slope	Poorly suited Slope	Poorly suited Slope	Moderate Soil reaction
Busher-----		Well suited	Poorly suited Slope	Poorly suited Slope	Poorly suited Slope	Low
TcG: Tassel-----		Moderately suited Slope	Unsuited Slope	Unsuited Slope	Unsuited Slope	Moderate Soil reaction
Busher-----		Well suited	Poorly suited Slope	Poorly suited Slope	Poorly suited Slope	Low
UyB: Ulysses-----		Well suited	Well suited	Well suited	Well suited	Low
UyC: Ulysses-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
VdD: Valent-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
W: Water-----		Not rated	Not rated	Not rated	Not rated	Not rated



ENGINEERING INDEX PROPERTIES  
Cheyenne, Nebraska

Engineering Index Properties table gives the engineering classifications and the range of index properties for the layers of each soil in the survey area. Depth to the upper and lower boundaries of each layer is indicated. Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. Loam, for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, gravelly. Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 1998) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 1998). The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection. If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest. The AASHTO classification for soils tested, with group index numbers in parentheses, is given in Engineering Index Properties table.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage. Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and plasticity index (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

ENGINEERING INDEX PROPERTIES--Continued  
Cheyenne, Nebraska

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
					Pct	Pct					Pct	
Ao: Alliance-----	0-7	Loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	85-100	60-90	20-40	2-15
	7-33	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	90-100	70-100	30-50	10-25
	33-45 52-60	Silt loam Weathered bedrock	CL, CL-ML, ML	A-4, A-6	0 ---	0 ---	100 ---	100 ---	95-100 ---	60-90 ---	20-40 ---	2-15 ---
AoB: Alliance-----	0-9	Loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	85-100	60-90	20-40	2-15
	9-21	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	90-100	70-100	30-50	10-25
	21-52 52-60	Silt loam Weathered bedrock	CL, CL-ML, ML	A-4, A-6	0 ---	0 ---	100 ---	100 ---	95-100 ---	60-90 ---	20-40 ---	2-15 ---
AoC: Alliance-----	0-7	Loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	85-100	60-90	20-40	2-15
	7-26	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	90-100	70-100	30-50	10-25
	26-43 43-60	Very fine sandy loam Weathered bedrock	ML, CL, CL-ML	A-4, A-6	0 ---	0 ---	100 ---	100 ---	95-100 ---	60-90 ---	20-40 ---	2-15 ---
AtB: Altvan-----	0-11	Loam	CL, CL-ML, ML	A-4	0	0	100	100	85-95	60-75	20-30	2-10
	11-21	Clay loam	CL, CL-ML	A-4, A-6	0	0	90-100	85-100	75-100	60-80	25-40	5-15
	21-30	Loam	ML	A-4	0	0	85-100	80-100	70-95	55-75	25-35	2-10
	30-34	Fine sandy loam	SC-SM, SM	A-4	0	0	85-100	80-100	60-85	35-50	20-25	NP-5
	34-60	Gravelly sand	SP-SM	A-1, A-2-4, A-3	0	0	60-95	50-90	25-60	5-10	---	NP
AtC: Altvan-----	0-5	Loam	CL, CL-ML, ML	A-4	0	0	100	100	85-95	60-75	20-30	2-10
	5-21	Clay loam	CL, CL-ML	A-4, A-6	0	0	90-100	85-100	75-100	60-80	25-40	5-15
	21-30	Loam	ML	A-4	0	0	85-100	80-100	70-95	55-75	25-35	2-10
	30-34	Fine sandy loam	SC-SM, SM	A-4	0	0	85-100	80-100	60-85	35-50	20-25	NP-5
	34-60	Gravelly sand	SP-SM	A-1, A-2-4, A-3	0	0	60-95	50-90	25-60	5-10	---	NP
AvD: Altvan-----	0-7	Loam	CL, CL-ML, ML	A-4	0	0	100	100	85-95	60-75	20-30	2-10
	7-26	Clay loam	CL, CL-ML	A-4, A-6	0	0	90-100	85-100	75-100	60-80	25-40	5-15
	26-33	Loam	ML	A-4	0	0	85-100	80-100	70-95	55-75	25-35	2-10
	33-37	Fine sandy loam	SC-SM, SM	A-4	0	0	85-100	80-100	60-85	35-50	20-25	NP-5
	37-60	Gravelly coarse sand	SP-SM	A-1, A-2-4, A-3	0	0	60-95	50-90	25-60	5-10	---	NP
Dix-----	0-18	Sandy loam	ML, SC, SC-SM, SM	A-1, A-2, A-4	0	0	95-100	75-100	40-80	20-55	15-30	NP-10
	18-60	Gravelly loamy coarse sand	GP, SM, SP, SP-SM	A-1, A-2, A-3	0	0	40-90	30-85	15-60	4-25	10-20	NP-5
Bb: Bankard-----	0-6	Loamy sand	SC-SM, SM, SP-SM	A-1, A-2, A-4	0	0	95-100	90-100	45-85	10-50	20-25	NP-5
	6-60	Stratified gravelly coarse sand to loamy fine sand	SM, SP, SP-SM	A-1, A-2, A-3	0	0	90-100	50-100	20-75	0-20	20-25	NP-5
Bc: Bankard-----	0-11	Loamy fine sand	SM	A-2	0	0	95-100	90-100	50-90	15-35	0-20	NP-5
	11-20	Stratified sand to loamy fine sand	SM, SP-SM	A-2	0	0	95-100	75-100	60-80	10-25	0-20	NP-5
	20-60	Stratified gravelly coarse sand to loamy fine sand	SM, SP, SP-SM	A-1, A-2, A-3	0	0	90-100	50-100	20-75	0-20	0-20	NP-5
Be: Bayard-----	0-8	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	95-100	90-100	45-85	25-55	15-25	3-10
	8-60	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	95-100	90-100	55-95	30-65	15-25	3-10
BeB: Bayard-----	0-10	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	95-100	90-100	45-85	25-55	15-25	3-10
	10-60	Fine sandy loam, loamy very fine sand	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	95-100	90-100	55-95	30-65	15-25	3-10
BeC: Bayard-----	0-8	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	95-100	90-100	45-85	25-55	15-25	3-10
	8-60	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	95-100	90-100	55-95	30-65	15-25	3-10

ENGINEERING INDEX PROPERTIES--Continued  
Cheyenne, Nebraska

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
BeD: Bayard-----	In											
	0-8	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	95-100	90-100	45-85	25-55	15-25	3-10
	8-60	Fine sandy loam, loamy very fine sand	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	95-100	90-100	55-95	30-65	15-25	3-10
BeE: Bayard-----	0-10	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	95-100	90-100	45-85	25-55	15-25	3-10
	10-60	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	95-100	90-100	55-95	30-65	15-25	3-10
Bg: Bridget-----	0-10	Very fine sandy loam	SM, CL, CL-ML, ML	A-4	0	0	95-100	95-100	75-100	45-65	20-35	2-15
	10-15	Very fine sandy loam	CL, CL-ML, ML	A-4	0	0	95-100	95-100	85-100	80-100	20-35	2-15
	15-60	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	95-100	85-100	80-100	20-35	2-15
BgB: Bridget-----	0-8	Very fine sandy loam	ML, SM, CL-ML, CL	A-4	0	0	95-100	95-100	75-100	45-65	20-35	2-15
	8-19	Very fine sandy loam	CL, CL-ML, ML	A-4	0	0	95-100	95-100	85-100	80-100	20-35	2-15
	19-60	Very fine sandy loam	CL, CL-ML, ML	A-4	0	0	95-100	95-100	85-100	80-100	20-35	2-15
BgC: Bridget-----	0-11	Very fine sandy loam	CL, CL-ML, ML, SM	A-4	0	0	95-100	95-100	75-100	45-65	20-35	2-15
	11-19	Very fine sandy loam	CL, CL-ML, ML	A-4	0	0	95-100	95-100	85-100	80-100	20-35	2-15
	19-60	Very fine sandy loam	CL, CL-ML, ML	A-4	0	0	95-100	95-100	85-100	80-100	20-35	2-15
BgD: Bridget-----	0-11	Very fine sandy loam	CL, CL-ML, ML, SM	A-4	0	0	95-100	95-100	75-100	45-65	20-35	2-15
	11-19	Very fine sandy loam	CL, CL-ML, ML	A-4	0	0	95-100	95-100	85-100	80-100	20-35	2-15
	19-60	Very fine sandy loam	CL, CL-ML, ML	A-4	0	0	95-100	95-100	85-100	80-100	20-35	2-15
BuC: Busher-----	0-11	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	90-100	80-100	30-60	15-25	NP-5
	11-56	Loamy very fine sand, fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	90-100	75-100	30-65	15-25	NP-5
	56-60	Weathered bedrock			---	---	---	---	---	---	---	---
BxD: Busher-----	0-19	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	90-100	80-100	30-60	15-25	NP-5
	19-45	Loamy very fine sand, fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	90-100	75-100	30-65	15-25	NP-5
	45-60	Weathered bedrock			---	---	---	---	---	---	---	---
Tassel-----	0-5	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	95-100	90-100	55-100	25-55	15-25	NP-8
	5-17	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	95-100	80-100	65-95	25-60	15-25	NP-8
	17-60	Weathered bedrock			---	---	---	---	---	---	---	---
ByE: Busher-----	0-16	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	90-100	80-100	30-60	15-25	NP-5
	16-42	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	90-100	75-100	30-65	15-25	NP-5
	42-60	Weathered bedrock			---	---	---	---	---	---	---	---
Tassel-----	0-6	Loamy very fine sand	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	95-100	90-100	75-95	30-65	15-25	NP-8
	6-18	Loamy very fine sand	CL-ML, ML, SC, SM	A-2, A-4	0	0	95-100	80-100	60-95	25-60	15-25	NP-8
	18-60	Weathered bedrock			---	---	---	---	---	---	---	---
CcF: Canyon-----	0-6	Fine sandy loam	ML, SC, SC-SM, SM	A-2, A-4	0	0-5	90-100	75-100	45-95	20-95	15-30	NP-10
	6-11	Gravelly loam	GM, ML, SC, SM	A-2, A-4, A-6	0	0-5	60-100	50-100	40-95	30-75	20-40	NP-15
	11-60	Weathered bedrock			---	---	---	---	---	---	---	---

ENGINEERING INDEX PROPERTIES--Continued  
Cheyenne, Nebraska

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
CdG: Canyon-----	In											
	0-10	Fine sandy loam	ML, SC, SC-SM, SM	A-2, A-4	0	0-5	90-100	75-100	45-95	20-95	15-30	NP-10
	10-14	Loam	SC, SM, GM, ML	A-2, A-4, A-6	0	0-5	60-100	50-100	40-95	30-75	20-40	NP-15
Rock Outcrop---	14-60	Weathered bedrock			---	---	---	---	---	---	---	---
	0-60	Unweathered bedrock			---	---	---	---	---	---	0-14	---
CeE: Canyon-----	0-6	Fine sandy loam	ML, SC, SC-SM, SM	A-2, A-4	0	0-5	90-100	75-100	45-95	20-95	15-30	NP-10
	6-11	Gravelly loam	GM, ML, SC, SM	A-2, A-4, A-6	0	0-5	60-100	50-100	40-95	30-75	20-40	NP-15
	11-60	Weathered bedrock			---	---	---	---	---	---	---	---
Bayard-----	0-12	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	95-100	90-100	45-85	25-55	15-25	3-10
	12-60	Fine sandy loam, very fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	95-100	90-100	55-95	30-65	15-25	3-10
CtB: Creighton-----	0-11	Very fine sandy loam	CL-ML, ML	A-4	0	0	100	90-100	85-100	50-65	15-25	NP-5
	11-40	Very fine sandy loam	CL, CL-ML, ML	A-4	0	0	100	90-100	85-100	60-80	15-30	NP-10
	40-60	Very fine sandy loam	CL, CL-ML, ML	A-4	0	0	100	90-100	85-100	60-80	15-30	NP-10
CtC: Creighton-----	0-10	Very fine sandy loam	CL-ML, ML	A-4	0	0	100	90-100	85-100	50-65	15-25	NP-5
	10-30	Very fine sandy loam	CL, CL-ML, ML	A-4	0	0	100	90-100	85-100	60-80	15-30	NP-10
	30-60	Very fine sandy loam	ML, CL-ML, CL	A-4	0	0	100	90-100	85-100	60-80	15-30	NP-10
DhD: Dix-----	0-11	Gravelly loam	GM, SM	A-2, A-4	0	0	50-80	50-75	40-70	30-50	0-35	NP-10
	11-19	Gravelly loamy coarse sand	SP-SM, GP, SM, SP	A-1, A-2, A-3	0	0	40-90	30-85	15-60	4-20	0-14	NP
	19-60	Very gravelly coarse sand, very gravelly sand	SP, GP, GP-GM, SP-SM	A-1	0	0-5	30-60	25-50	10-35	0-10	0-14	NP
DhG: Dix-----	0-10	Gravelly loam	GM, SM	A-2, A-4	0	0	50-80	50-75	40-70	30-50	0-35	NP-10
	10-60	Very gravelly coarse sand	GP, GP-GM, SP, SP-SM	A-1	0	0-5	30-60	25-50	10-35	0-10	0-14	NP
Du: Duroc-----	0-19	Loam	CL, CL-ML	A-4, A-6	0	0	100	95-100	85-100	60-100	25-35	5-15
	19-55	Loam, silt loam	CL-ML, CL	A-4, A-6	0	0	100	95-100	85-100	70-100	25-35	5-15
	55-60	Loam	CL, CL-ML	A-4, A-6	0	0	100	95-100	85-100	70-100	25-35	5-15
DuB: Duroc-----	0-19	Loam	CL, CL-ML	A-4, A-6	0	0	100	95-100	85-100	60-100	25-35	5-15
	19-35	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	95-100	85-100	70-100	25-35	5-15
	35-60	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	95-100	85-100	70-100	25-35	5-15
Dv: Duroc-----	0-10	Loam	ML	A-4	0	0	100	100	85-100	60-90	25-35	2-10
	10-29	Clay loam	CL	A-6	0	0	100	95-100	80-100	60-80	25-40	11-25
	29-49	Loam	CL-ML, ML	A-4	0	0	100	95-100	75-100	55-75	20-30	2-10
	49-60	Gravelly sand	SP, SP-SM	A-1	0	0	55-80	50-75	25-45	0-10	0-14	NP
Dx: Duroc-----	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	70-100	25-35	5-15
	8-41	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	95-100	85-100	70-100	25-35	5-15
	41-60	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	95-100	85-100	70-100	25-35	5-15
DyE: Dwyer-----	0-4	Loamy fine sand	SM	A-2	0	0	100	100	65-80	20-35	0-25	NP
	4-60	Fine sand, loamy fine sand	SM, SP-SM	A-2, A-3	0	0	85-100	75-100	50-80	5-35	0-14	NP
ErE: Epping-----	0-5	Loam	ML, CL, CL-ML	A-4, A-6	0	0	100	95-100	75-100	55-80	15-35	2-15
	5-13	Loam	ML, CL, CL-ML	A-4, A-6	0	0	100	90-100	75-100	60-95	15-35	2-15
	13-60	Weathered bedrock			---	---	---	---	---	---	---	---
Mitchell-----	0-4	Very fine sandy loam	ML	A-4	0	0	100	100	85-100	65-95	20-35	NP-10
	4-60	Very fine sandy loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	85-100	60-100	20-35	NP-15
Gd: Glenberg-----	0-6	Fine sandy loam	SC-SM, SM	A-2, A-4	0	0	95-100	85-100	60-80	30-45	15-25	NP-7
	6-60	Stratified fine sand to loam	SM, SC-SM	A-2, A-4	0	0	90-100	75-100	50-70	25-40	15-20	NP-5

ENGINEERING INDEX PROPERTIES--Continued  
Cheyenne, Nebraska

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
Go: Goshen-----	0-12	Silt loam	CL-ML, CL, ML	A-4, A-6	0	0	100	95-100	90-100	70-95	20-40	3-20
	12-44	Silty clay loam, silt loam	CL	A-4, A-6	0	0	100	100	90-100	85-95	25-40	8-22
GP: Pits-----	44-60	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	90-100	70-95	20-35	4-15
JmB: Jayem-----	0-60	Gravelly sand	GP-GM, SM, SP, SP-SM	A-1, A-2, A-3	---	0-5	45-100	40-100	0-80	0-40	0-14	NP
JmC: Jayem-----	0-14	Fine sandy loam	SM	A-2, A-4	0	0	100	85-100	55-95	25-50	15-25	NP-5
	14-46	Fine sandy loam	SM, ML	A-2, A-4	0	0	100	85-100	70-95	25-60	15-25	NP-5
	30-60	Fine sandy loam	ML, SM	A-2, A-4	0	0	100	85-100	70-95	25-60	15-25	NP-5
Jo: Johnstown-----	0-19	Fine sandy loam	SM	A-2, A-4	0	0	100	85-100	55-95	25-50	15-25	NP-5
	19-30	Fine sandy loam	ML, SM	A-2, A-4	0	0	100	85-100	70-95	25-60	15-25	NP-5
	30-60	Fine sandy loam	ML, SM	A-2, A-4	0	0	100	85-100	70-95	25-60	15-25	NP-5
Ke: Keith-----	0-9	Loam	CL-ML, ML, CL	A-4, A-6	0	0	100	100	85-100	70-100	20-40	3-18
	9-22	Clay loam	CL	A-6, A-7	0	0	100	100	90-100	80-95	30-50	15-30
	22-46	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	50-95	20-40	5-20
	46-60	Gravelly coarse sand	SM, SP-SM	A-1, A-2, A-3	0	0	60-100	50-95	25-70	5-15	5-15	NP-5
KeB: Keith-----	0-9	Loam	ML, CL, CL-ML	A-4	0	0	100	100	85-100	80-100	20-35	2-10
	9-25	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	80-100	30-45	10-25
	23-60	Silt loam, very fine sandy loam	ML, CL, CL-ML	A-4, A-6	0	0	100	100	90-100	80-100	20-35	2-12
KeC: Keith-----	0-9	Loam	ML, CL-ML, CL	A-4	0	0	100	100	85-100	80-100	20-35	2-10
	9-25	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	80-100	30-45	10-25
	25-60	Silt loam, very fine sandy loam	ML, CL-ML, CL	A-4, A-6	0	0	100	100	90-100	80-100	20-35	2-12
KeC: Keith-----	0-11	Loam	CL, ML, CL-ML	A-4	0	0	100	100	85-100	80-100	20-35	2-10
	11-36	Silt loam	CL	A-6, A-7	0	0	100	100	95-100	80-100	30-45	10-25
	36-60	Silt loam, very fine sandy loam	CL-ML, CL, ML	A-4, A-6	0	0	100	100	90-100	80-100	20-35	2-12
Ku: Kuma-----	0-7	Loam	ML	A-4	0	0	100	95-100	90-100	75-95	25-35	NP-10
	7-42	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	95-100	90-100	85-95	30-45	10-25
	42-60	Loam, very fine sandy loam	CL-ML, ML, CL	A-4, A-6	0	0	95-100	95-100	90-100	70-95	20-40	NP-20
LD: Las-----	---	---	---	---	---	---	---	---	---	---	---	---
Lm: Las-----	0-4	Loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	50-85	20-40	5-20
	4-60	Clay loam, loam, sandy loam	CL, CL-ML	A-4, A-6, A-7	0	0	100	95-100	95-100	50-85	22-45	5-25
Lw: Las Animas-----	0-5	Loam	CL-ML	A-4	0	0	100	95-100	80-95	60-90	25-30	5-10
	5-60	Stratified loamy fine sand to very fine sandy loam	ML, SM	A-2, A-4	0	0	95-100	90-100	55-90	25-55	20-25	NP-5
Ly: Lodgepole-----	0-9	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	90-100	70-95	20-40	3-20
	9-47	Silty clay loam, silty clay, clay	CH	A-7	0	0	100	100	90-100	85-95	50-65	25-40
	47-58	Silt loam, very fine sandy loam, loam	CL, CL-ML, ML	A-4	0	0	100	100	90-100	60-90	20-35	3-10
	58-60	Sandy loam, fine sandy loam, loamy sand	ML, SM	A-2, A-4	0	0	100	100	70-90	15-60	15-20	NP-5
M-W: Miscellaneous Water-----	---	---	---	---	---	---	---	---	---	---	---	---
Mc: Mccook-----	0-12	Very fine sandy loam	CL, CL-ML, ML	A-4	0	0	100	100	85-100	50-80	15-25	NP-10
	12-60	Very fine sandy loam, silt loam, loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0	100	100	80-100	50-100	15-45	NP-15

ENGINEERING INDEX PROPERTIES--Continued  
Cheyenne, Nebraska

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
MkC: Mitchell-----	0-11	Very fine sandy loam	ML	A-4	0	0	100	100	85-100	65-95	20-35	NP-10
	11-60	Very fine sandy loam, silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	85-100	60-100	20-35	NP-15
MkD: Mitchell-----	0-5	Very fine sandy loam	ML	A-4	0	0	100	100	85-100	65-95	20-35	NP-10
	5-60	Silt loam	CL-ML, ML, CL	A-4, A-6	0	0	100	95-100	85-100	60-100	20-35	NP-15
MkE: Mitchell-----	0-5	Very fine sandy loam	ML	A-4	0	0	100	100	85-100	65-95	20-35	NP-10
	5-60	Very fine sandy loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	85-100	60-100	20-35	NP-15
ReG: Rock Outcrop---	0-60	Unweathered bedrock			---	---	---	---	---	---	0-14	---
Epping-----	0-4	Loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	75-100	55-80	15-35	2-15
	4-10	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	90-100	75-100	60-95	15-35	2-15
	10-60	Weathered bedrock			---	---	---	---	---	---	---	---
RhG: Rock Outcrop---	0-60	Unweathered bedrock			---	---	---	---	---	---	0-14	---
Tassel-----	0-3	Loamy very fine sand	ML, CL-ML, SM, SC-SM	A-2, A-4	0	0	95-100	90-100	75-95	30-65	15-25	NP-8
	3-12	Loamy very fine sand	CL-ML, ML, SC, SM	A-2, A-4	0	0	95-100	80-100	60-95	25-60	15-25	NP-8
	12-60	Weathered bedrock			---	---	---	---	---	---	---	---
Ro: Rosebud-----	0-6	Loam	CL-ML, ML, CL	A-4, A-6	0	0	95-100	90-100	80-100	55-90	24-34	3-12
	6-18	Clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	80-100	60-95	30-50	12-26
	18-23	Sandy loam	SM, SC-SM, ML, CL-ML	A-2, A-4, A-6	0	0-5	95-100	80-100	60-100	30-90	20-40	2-12
	23-60	Weathered bedrock			---	---	---	---	---	---	---	---
RoB: Rosebud-----	0-4	Loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	90-100	80-100	55-90	24-34	3-12
	4-15	Clay loam	CL	A-6, A-7	0	0	95-100	90-100	80-100	60-95	30-50	12-26
	15-30	Loam	CL-ML, ML, SC-SM, SM	A-4, A-6, A-2	0	0-5	95-100	80-100	60-100	30-90	20-40	2-12
	30-60	Weathered bedrock			---	---	---	---	---	---	---	---
RoC: Rosebud-----	0-6	Loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	90-100	80-100	55-90	24-34	3-12
	6-22	Clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	80-100	60-95	30-50	12-26
	22-30	Very fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4, A-6	0	0-5	95-100	80-100	60-100	30-90	20-40	2-12
	30-60	Weathered bedrock			---	---	---	---	---	---	---	---
RsD: Rosebud-----	0-4	Loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	90-100	80-100	55-90	24-34	3-12
	4-17	Clay loam	CL	A-6, A-7	0	0	95-100	90-100	80-100	60-95	30-50	12-26
	17-33	Sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4, A-6	0	0-5	95-100	80-100	60-100	30-90	20-40	2-12
	33-60	Weathered bedrock			---	---	---	---	---	---	---	---
Canyon-----	0-4	Loam	CL, CL-ML, ML, SM	A-4	0	0-5	90-100	75-100	50-95	40-75	15-30	2-10
	4-15	Loam	GM, ML, SC, SM	A-2, A-4, A-6	0	0-5	60-100	50-100	40-95	30-75	20-40	NP-15
	15-60	Weathered bedrock			---	---	---	---	---	---	---	---
Sb: Satanta-----	0-7	Loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	80-95	55-75	20-35	2-15
	7-29	Clay loam, loam	CL	A-6, A-7-6	0	0	100	95-100	85-100	60-75	30-45	10-25
	29-56	Loam	CL-ML, ML, SC-SM, SM	A-2, A-4, A-6	0	0	90-100	85-100	60-95	30-75	20-35	2-15
	56-60	Gravelly sandy loam	GM, GP-GM, SM, SP-SM	A-1, A-2-4	0	0	55-80	50-75	25-50	10-30	0-14	NP
SbB: Satanta-----	0-10	Loam	CL-ML, ML, CL	A-4, A-6	0	0	100	95-100	80-95	55-75	20-35	2-15
	10- 2744	Clay loam, loam	CL	A-6, A-7-6	0	0	100	95-100	85-100	60-75	30-45	10-25
	27-56	Fine sandy loam	ML, SC-SM, SM, CL-ML	A-2, A-4, A-6	0	0	90-100	85-100	60-95	30-75	20-35	2-15
	56-60	Gravelly loamy sand	GM, GP-GM, SM, SP-SM	A-1, A-2-4	0	0	55-80	50-75	25-50	10-30	0-14	NP
SbC: Satanta-----	0-10	Loam	CL-ML, ML, CL	A-4, A-6	0	0	100	95-100	80-95	55-75	20-35	2-15
	10-27	Clay loam, loam	CL	A-6, A-7-6	0	0	100	95-100	85-100	60-75	30-45	10-25
	27-56	Loam	CL-ML, ML, SC-SM, SM	A-2, A-4, A-6	0	0	90-100	85-100	60-95	30-75	20-35	2-15
	56-60	Gravelly sandy loam	GM, GP-GM, SM, SP-SM	A-1, A-2-4	0	0	55-80	50-75	25-50	10-30	0-14	NP

ENGINEERING INDEX PROPERTIES--Continued  
Cheyenne, Nebraska

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
SnC: Sidney-----	In											
	0-7	Loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	90-100	80-100	55-90	20-36	2-15
	7-19	Loam	SC-SM, CL, CL-ML, ML	A-4, A-6	0	0	95-100	85-100	65-100	35-85	20-40	2-15
	19-50	Loam	CL, ML, SC, SM	A-4, A-6	0	0	95-100	80-100	60-100	35-85	20-40	2-15
	50-60	Weathered bedrock			---	---	---	---	---	---	---	---
SoD: Sidney-----												
	0-7	Loam	ML, CL, CL-ML	A-4, A-6	0	0	95-100	90-100	80-100	55-90	20-36	2-15
	7-18	Loam	ML, CL, CL-ML, SC-SM	A-4, A-6	0	0	95-100	85-100	65-100	35-85	20-40	2-15
	18-50	Loam	ML, CL, SC, SM	A-4, A-6	0	0	95-100	80-100	60-100	35-85	20-40	2-15
	50-60	Weathered bedrock			---	---	---	---	---	---	---	---
Canyon-----												
	0-6	Loam	SM, CL, CL-ML, ML	A-4	0	0-5	90-100	75-100	50-95	40-75	15-30	2-10
	6-11	Gravelly loam	ML, GM, SC, SM	A-2, A-4, A-6	0	0-5	60-100	50-100	40-95	30-75	20-40	NP-15
	11-60	Weathered bedrock			---	---	---	---	---	---	---	---
TbF: Tassel-----												
	0-6	Loamy very fine sand	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	95-100	90-100	75-95	30-65	15-25	NP-8
	6-13	Loamy very fine sand	SM, CL-ML, ML, SC	A-2, A-4	0	0	95-100	80-100	60-95	25-60	15-25	NP-8
	13-60	Weathered bedrock			---	---	---	---	---	---	---	---
Busher-----												
	0-18	Fine sandy loam	SM, CL-ML, ML, SC-SM	A-2, A-4	0	0	100	90-100	80-100	30-60	15-25	NP-5
	18-55	Loamy very fine sand, fine sandy loam	SM, SC-SM, CL-ML, ML	A-2, A-4	0	0	100	90-100	75-100	30-65	15-25	NP-5
	55-60	Weathered bedrock			---	---	---	---	---	---	---	---
TcG: Tassel-----												
	0-8	Loamy very fine sand	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	95-100	90-100	75-95	30-65	15-25	NP-8
	8-14	Loamy very fine sand	CL-ML, ML, SC, SM	A-2, A-4	0	0	95-100	80-100	60-95	25-60	15-25	NP-8
	14-60	Weathered bedrock			---	---	---	---	---	---	---	---
Busher-----												
	0-10	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	90-100	80-100	30-60	15-25	NP-5
	10-42	Loamy very fine sand, very fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	90-100	75-100	30-65	15-25	NP-5
	42-60	Weathered bedrock			---	---	---	---	---	---	---	---
UyB: Ulysses-----												
	0-6	Loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	90-100	70-90	20-35	3-15
	6-18	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	50-85	25-40	4-15
	18-60	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	50-85	25-40	4-15
UyC: Ulysses-----												
	0-9	Loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	90-100	70-90	20-35	3-15
	9-19	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	50-85	25-40	4-15
	19-60	Very fine sandy loam, silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	50-85	25-40	4-15
VdD: Valent-----												
	0-6	Loamy fine sand	SM, SP-SM	A-2	0	0	100	100	70-95	10-30	15-25	NP-5
	6-60	Loamy fine sand	SM, SP-SM	A-2	0	0	100	95-100	75-90	10-30	---	NP
W: Water-----												
	---	---	---	---	---	---	---	---	---	---	---	---



## Physical Properties

This table shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In this table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In this table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (oven-dry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3- or 1/10-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (K<sub>sat</sub>). The estimates in the table indicate the rate of water movement, in micrometers per second (um/sec), when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In this table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in this table as the K factor (K<sub>w</sub> and K<sub>f</sub>) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor K<sub>w</sub> indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor K<sub>f</sub> indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are as follows:

1. Coarse sands, sands, fine sands, and very fine sands.

(Single entries under "Sand and Silt" are a representative percentage are calculated using an algorithm. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer)

Map symbol and soil name	Depth In	Sand Pct	Silt Pct	Clay Pct	Moist bulk density g/cc	Permea- bility (Ksat) in/hr	Available water capacity In/in	Linear extensi- bility Pct	Organic matter Pct	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										K	KF	T		

2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, ash material, and sapric soil material.
3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams.
- 4L. Calcareous loams, silt loams, clay loams, and silty clay loams.
4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay.
5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material.
6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.
7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material.
8. Soils that are not subject to wind erosion because of coarse fragments on the surface or because of surface wetness.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

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Map symbol and soil name	Depth In	Sand Pct	Silt Pct	Clay Pct	Moist bulk density g/cc	Permeability (Ksat) in/hr	Available water capacity In/in	Linear extensibility Pct	Organic matter Pct	Erosion factors			Wind erodibility group	Wind erodibility index	
										K	Kf	T			
Ao:															
Alliance-----	0-7	41	42	15-27	1.25-1.45	0.60-2.00	0.20-0.22	0.0-2.9	2.0-4.0	.28	.28	4	5	56	
	7-33	7	63	25-35	1.15-1.30	0.20-2.00	0.18-0.20	3.0-5.9	0.5-1.0	.43	.43				
	33-45	11	69	15-25	1.20-1.40	0.60-2.00	0.16-0.20	0.0-2.9	0.5-1.0	.43	.43				
	52-60			---	---	0.20-0.60	---	---	---	---	---				
AoB:															
Alliance-----	0-9	41	42	15-27	1.25-1.45	0.60-2.00	0.20-0.22	0.0-2.9	2.0-4.0	.28	.28	4	5	56	
	9-21	7	63	25-35	1.15-1.30	0.20-2.00	0.18-0.20	3.0-5.9	0.5-1.0	.43	.43				
	21-52	11	69	15-25	1.20-1.40	0.60-2.00	0.16-0.20	0.0-2.9	0.5-1.0	.43	.43				
	52-60			---	---	0.20-0.60	---	---	---	---	---				
AoC:															
Alliance-----	0-7	41	42	15-27	1.25-1.45	0.60-2.00	0.20-0.22	0.0-2.9	2.0-4.0	.28	.28	4	5	56	
	7-26	7	63	25-35	1.15-1.30	0.20-2.00	0.18-0.20	3.0-5.9	0.5-1.0	.43	.43				
	26-43	11	69	15-25	1.20-1.40	0.60-2.00	0.16-0.20	0.0-2.9	0.5-1.0	.43	.43				
	43-60			---	---	0.20-0.60	---	---	---	---	---				
AtB:															
Altvan-----	0-11	42	38	16-27	1.20-1.40	0.60-2.00	0.20-0.22	0.0-2.9	1.0-2.0	.28	.28	4	5	56	
	11-21	35	38	20-35	1.30-1.50	0.60-2.00	0.17-0.19	3.0-5.9	0.5-1.0	.37	.37				
	21-30	41	37	18-25	1.25-1.50	0.60-2.00	0.15-0.19	0.0-2.9	0.5-1.0	.37	.37				
	30-34	62	26	8-15	1.30-1.50	2.00-6.00	0.12-0.16	0.0-2.9	0.5-1.0	.28	.28				
	34-60	96	2	0-5	1.50-1.70	19.98-19.98	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15				
AtC:															
Altvan-----	0-5	42	38	16-27	1.20-1.40	0.60-2.00	0.20-0.22	0.0-2.9	1.0-2.0	.28	.28	4	5	56	
	5-21	35	38	20-35	1.30-1.50	0.60-2.00	0.17-0.19	3.0-5.9	0.5-1.0	.37	.37				
	21-30	41	37	18-25	1.25-1.50	0.60-2.00	0.15-0.19	0.0-2.9	0.5-1.0	.37	.37				
	30-34	62	26	8-15	1.30-1.50	2.00-6.00	0.12-0.16	0.0-2.9	0.5-1.0	.28	.28				
	34-60	96	2	0-5	1.50-1.70	19.98-19.98	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15				
AvD:															
Altvan-----	0-7	42	38	16-27	1.20-1.40	0.60-2.00	0.20-0.22	0.0-2.9	1.0-2.0	.28	.28	4	5	56	
	7-26	35	38	20-35	1.30-1.50	0.60-2.00	0.17-0.19	3.0-5.9	0.5-1.0	.37	.37				
	26-33	41	37	18-25	1.25-1.50	0.60-2.00	0.15-0.19	0.0-2.9	0.5-1.0	.37	.37				
	33-37	62	26	8-15	1.30-1.50	2.00-6.00	0.12-0.16	0.0-2.9	0.5-1.0	.28	.28				
	37-60	96	2	0-5	1.50-1.70	19.98-19.98	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15				
Dix-----	0-18	68	20	7-18	1.30-1.50	2.00-6.00	0.13-0.18	0.0-2.9	1.0-2.0	.20	.20	3	3	86	
	18-60	83	11	2-10	1.70-1.90	5.95-19.98	0.04-0.07	0.0-2.9	0.5-1.0	.05	.10				
Bb:															
Bankard-----	0-6	85	9	2-15	1.45-1.60	5.95-19.98	0.06-0.08	0.0-2.9	0.0-1.0	.20	.20	5	2	134	
	6-60			0-10	1.45-1.60	5.95-19.98	0.07-0.14	0.0-2.9	0.5-1.0	.17	.17				
Bc:															
Bankard-----	0-11	87	7	3-15	1.80-1.95	5.95-19.98	0.10-0.15	0.0-2.9	0.5-2.0	.17	.17	5	2	134	
	11-20			0-10	1.85-2.00	5.95-19.98	0.07-0.15	0.0-2.9	0.5-1.0	.17	.17				
	20-60			0-10	1.85-2.00	5.95-19.98	0.07-0.14	0.0-2.9	0.5-1.0	.17	.17				
Be:															
Bayard-----	0-8	62	26	5-18	1.30-1.50	2.00-6.00	0.13-0.18	0.0-2.9	1.0-3.0	.20	.20	5	3	86	
	8-60	62	26	5-18	1.20-1.50	2.00-6.00	0.12-0.18	0.0-2.9	0.5-1.0	.28	.28				
BeB:															
Bayard-----	0-10	62	26	5-18	1.30-1.50	2.00-6.00	0.13-0.18	0.0-2.9	1.0-3.0	.20	.20	5	3	86	
	10-60	62	26	5-18	1.20-1.50	2.00-6.00	0.12-0.18	0.0-2.9	0.5-1.0	.28	.28				
BeC:															
Bayard-----	0-8	62	26	5-18	1.30-1.50	2.00-6.00	0.13-0.18	0.0-2.9	1.0-3.0	.20	.20	5	3	86	
	8-60	62	26	5-18	1.20-1.50	2.00-6.00	0.12-0.18	0.0-2.9	0.5-1.0	.28	.28				
BeD:															
Bayard-----	0-8	62	26	5-18	1.30-1.50	2.00-6.00	0.13-0.18	0.0-2.9	1.0-3.0	.20	.20	5	3	86	
	8-60	62	26	5-18	1.20-1.50	2.00-6.00	0.12-0.18	0.0-2.9	0.5-1.0	.28	.28				
BeE:															
Bayard-----	0-10	62	26	5-18	1.30-1.50	2.00-6.00	0.13-0.18	0.0-2.9	1.0-3.0	.20	.20	5	3	86	
	10-60	62	26	5-18	1.20-1.50	2.00-6.00	0.12-0.18	0.0-2.9	0.5-1.0	.28	.28				
Bg:															
Bridget-----	0-10	61	28	5-18	1.30-1.50	2.00-6.00	0.16-0.20	0.0-2.9	1.0-3.0	.32	.32	5	3	86	
	10-15	61	28	5-18	1.40-1.60	0.60-2.00	0.16-0.24	0.0-2.9	0.5-1.0	.43	.43				
	15-60	61	28	5-18	1.40-1.60	0.60-2.00	0.16-0.24	0.0-2.9	0.5-1.0	.43	.43				
BgB:															
Bridget-----	0-8	61	28	5-18	1.30-1.50	2.00-6.00	0.16-0.20	0.0-2.9	1.0-3.0	.32	.32	5	3	86	
	8-19	61	28	5-18	1.40-1.60	0.60-2.00	0.16-0.24	0.0-2.9	0.5-1.0	.43	.43				
	19-60	61	28	5-18	1.40-1.60	0.60-2.00	0.16-0.24	0.0-2.9	0.5-1.0	.43	.43				
BgC:															
Bridget-----	0-11	61	28	5-18	1.30-1.50	2.00-6.00	0.16-0.20	0.0-2.9	1.0-3.0	.32	.32	5	3	86	
	11-19	61	28	5-18	1.40-1.60	0.60-2.00	0.16-0.24	0.0-2.9	0.5-1.0	.43	.43				
	19-60	61	28	5-18	1.40-1.60	0.60-2.00	0.16-0.24	0.0-2.9	0.5-1.0	.43	.43				
BgD:															
Bridget-----	0-11	61	28	5-18	1.30-1.50	2.00-6.00	0.16-0.20	0.0-2.9	1.0-3.0	.32	.32	5	3	86	
	11-19	61	28	5-18	1.40-1.60	0.60-2.00	0.16-0.24	0.0-2.9	0.5-1.0	.43	.43				
	19-60	61	28	5-18	1.40-1.60	0.60-2.00	0.16-0.24	0.0-2.9	0.5-1.0	.43	.43				
BuC:															
Busher-----	0-11	64	26	5-18	1.30-1.50	2.00-6.00	0.15-0.18	0.0-2.9	1.0-3.0	.20	.20	4	3	86	
	11-56	80	12	5-12	1.40-1.60	2.00-6.00	0.13-0.19	0.0-2.9	0.5-1.0	.28	.28				
	56-60			---	---	0.20-0.60	---	---	---	---	---				
BxD:															
Busher-----	0-19	64	26	5-18	1.30-1.50	2.00-6.00	0.15-0.18	0.0-2.9	1.0-3.0	.20	.20	4	3	86	
	19-45	80	12	5-12	1.40-1.60	2.00-6.00	0.13-0.19	0.0-2.9	0.5-1.0	.28	.28				
	45-60			---	---	0.20-0.60	---	---	---	---	---				
Tassel-----	0-5	65	27	5-12	1.30-1.50	2.00-6.00	0.12-0.16	0.0-2.9	1.0-3.0	.24	.24	2	3	86	
	5-17	65	27	5-12	1.40-1.70	2.00-6.00	0.12-0.18	0.0-2.9	0.5-2.0	.28	.28				
	17-60			---	---	0.20-0.60	---	---	---	---	---				

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(Single entries under "Sand and Silt" are a representative percentage are calculated using an algorithm. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										K	Kf	T		
	In	Pct	Pct	Pct	g/cc	in/hr	In/in	Pct	Pct					
ByE:														
Busher-----	0-16	64	26	5-18	1.30-1.50	2.00-6.00	0.15-0.18	0.0-2.9	1.0-3.0	.20	.20	4	3	86
	16-42	80	12	5-12	1.40-1.60	2.00-6.00	0.13-0.19	0.0-2.9	0.5-1.0	.28	.28			
	42-60			---	---	0.20-0.60	---	---	---	---	---			
Tassel-----	0-6	82	12	3-12	1.60-1.70	2.00-6.00	0.12-0.18	0.0-2.9	1.0-3.0	.24	.24	2	2	134
	6-18	65	27	5-12	1.40-1.70	2.00-6.00	0.12-0.18	0.0-2.9	0.5-2.0	.28	.28			
	18-60			---	---	0.20-0.60	---	---	---	---	---			
CcF:														
Canyon-----	0-6	64	26	5-18	1.30-1.50	2.00-6.00	0.13-0.18	0.0-2.9	1.0-3.0	.24	.24	2	3	86
	6-11	61	21	12-25	1.45-1.70	0.60-2.00	0.13-0.18	0.0-2.9	0.5-2.0	.20	.37			
	11-60			---	---	0.20-0.60	---	---	---	---	---			
CdG:														
Canyon-----	0-10	64	26	5-15	1.30-1.50	2.00-6.00	0.13-0.18	0.0-2.9	1.0-3.0	.24	.24	2	3	86
	10-14	61	21	12-25	1.45-1.70	0.60-2.00	0.13-0.18	0.0-2.9	0.5-2.0	.20	.37			
	14-60			---	---	0.20-0.60	---	---	---	---	---			
Rock Outcrop-	0-6			0-0	---	---	0.00-0.00	---	---	---	---	-	8	0
CeE:														
Canyon-----	0-6	64	26	5-15	1.30-1.50	2.00-6.00	0.13-0.18	0.0-2.9	1.0-3.0	.24	.24	2	3	86
	6-11	61	21	12-25	1.45-1.70	0.60-2.00	0.13-0.18	0.0-2.9	0.5-2.0	.20	.37			
	11-60			---	---	0.20-0.60	---	---	---	---	---			
Bayard-----	0-12	62	26	5-18	1.30-1.50	2.00-6.00	0.13-0.18	0.0-2.9	1.0-3.0	.20	.20	5	3	86
	12-60	62	26	5-18	1.20-1.50	2.00-6.00	0.12-0.18	0.0-2.9	0.5-1.0	.28	.28			
CtB:														
Creighton---	0-11	64	26	5-18	1.25-1.35	2.00-6.00	0.15-0.17	0.0-2.9	1.0-3.0	.32	.32	5	3	86
	11-40	63	25	5-18	1.30-1.40	0.60-2.00	0.14-0.16	0.0-2.9	0.5-1.0	.43	.43			
	40-60	63	25	5-18	1.30-1.40	0.60-2.00	0.15-0.17	0.0-2.9	0.1-0.5	.43	.43			
CtC:														
Creighton---	0-10	64	26	5-18	1.25-1.35	2.00-6.00	0.15-0.17	0.0-2.9	1.0-3.0	.32	.32	5	3	86
	10-30	63	25	5-18	1.30-1.40	0.60-2.00	0.14-0.16	0.0-2.9	0.5-1.0	.43	.43			
	30-60	63	25	5-18	1.30-1.40	0.60-2.00	0.15-0.17	0.0-2.9	0.1-0.5	.43	.43			
DhD:														
Dix-----	0-11	46	42	5-27	1.60-1.80	0.60-2.00	0.12-0.18	0.0-2.9	1.0-2.0	.15	.28	3	8	0
	11-19	83	11	2-10	1.70-1.90	5.95-19.98	0.04-0.06	0.0-2.9	0.5-1.0	.05	---			
	19-60	92	7	0-3	1.70-2.00	19.98-19.98	0.02-0.04	0.0-2.9	0.5-1.0	.05	---			
DhG:														
Dix-----	0-10	46	42	5-27	1.60-1.80	0.60-2.00	0.12-0.18	0.0-2.9	1.0-2.0	.15	.28	3	8	0
	10-60	92	7	0-3	1.70-2.00	19.98-19.98	0.02-0.04	0.0-2.9	0.5-1.0	.05	---			
Du:														
Duroc-----	0-19	41	42	15-27	1.20-1.45	0.60-2.00	0.12-0.22	3.0-5.9	1.0-3.0	.28	.28	5	5	56
	19-55	33	44	18-27	1.40-1.65	0.60-2.00	0.12-0.20	3.0-5.9	1.0-3.0	.43	.43			
	55-60	33	44	18-27	1.40-1.65	0.60-2.00	0.12-0.20	3.0-5.9	0.5-1.0	.43	.43			
DuB:														
Duroc-----	0-19	41	42	15-27	1.20-1.45	0.60-2.00	0.12-0.22	3.0-5.9	1.0-3.0	.28	.28	5	5	56
	19-35	33	44	18-27	1.40-1.65	0.60-2.00	0.12-0.20	3.0-5.9	1.0-3.0	.43	.43			
	35-60	33	44	18-27	1.40-1.65	0.60-2.00	0.12-0.20	3.0-5.9	0.5-1.0	.43	.43			
Dv:														
Duroc-----	0-10	37	43	15-27	1.20-1.40	0.60-2.00	0.20-0.24	0.0-2.9	2.0-4.0	.28	.28	4	5	56
	10-29	27	45	20-35	1.20-1.50	0.60-2.00	0.17-0.19	3.0-5.9	1.0-2.0	.28	.28			
	29-49	41	42	10-25	1.30-1.50	0.60-2.00	0.17-0.19	0.0-2.9	1.0-2.0	.32	.32			
	49-60	96	2	0-5	1.50-1.70	19.98-19.98	0.03-0.06	0.0-2.9	0.0-0.5	.10	.20			
Dx:														
Duroc-----	0-8	14	69	15-27	1.20-1.45	0.60-2.00	0.14-0.23	3.0-5.9	1.0-3.0	.32	.32	5	5	56
	8-41	33	44	18-27	1.40-1.65	0.60-2.00	0.12-0.20	3.0-5.9	1.0-3.0	.43	.43			
	41-60	33	44	18-27	1.40-1.65	0.60-2.00	0.12-0.20	3.0-5.9	0.5-1.0	.43	.43			
DyE:														
Dwyer-----	0-4	78	16	3-15	1.35-1.45	5.95-19.98	0.10-0.12	0.0-2.9	1.0-2.0	.17	.17	5	2	134
	4-60	80	16	1-8	1.45-1.55	5.95-19.98	0.06-0.11	0.0-2.9	0.5-1.0	.17	.17			
ErE:														
Epping-----	0-5	44	41	10-25	1.20-1.45	0.60-2.00	0.16-0.20	0.0-2.9	0.5-2.0	.37	---	2	4L	86
	5-13	44	41	10-20	1.20-1.45	0.60-2.00	0.12-0.20	0.0-2.9	0.5-1.0	.43	---			
	13-60			---	---	0.06-0.20	---	---	---	---	---			
Mitchell----	0-4	59	26	10-25	1.30-1.60	2.00-6.00	0.16-0.20	0.0-2.9	0.5-2.0	.43	.43	5	3	86
	4-60	43	44	8-18	1.20-1.60	0.60-2.00	0.16-0.22	0.0-2.9	0.5-1.0	.43	.43			
Gd:														
Glenberg----	0-6	66	20	8-18	1.30-1.50	2.00-6.00	0.16-0.18	0.0-2.9	0.5-2.0	.24	.24	5	3	86
	6-60			8-15	1.50-1.60	2.00-6.00	0.07-0.16	0.0-2.9	0.5-1.0	.28	.28			
Go:														
Goshen-----	0-12	11	68	16-27	1.20-1.40	0.60-2.00	0.20-0.24	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	12-44	7	63	25-35	1.30-1.50	0.60-2.00	0.17-0.22	3.0-5.9	0.5-1.0	.43	.43			
	44-60	11	68	15-27	1.20-1.40	0.60-2.00	0.17-0.22	0.0-2.9	0.0-0.5	.43	.43			
GP:														
Pits-----	0-60	95	1	0-8	1.70-2.00	6.00-20.00	0.02-0.09	0.0-2.9	0.0-0.5	.10	.17	2	8	0
JmB:														
Jayem-----	0-14	64	26	5-18	1.20-1.35	2.00-6.00	0.13-0.15	0.0-2.9	1.0-3.0	.20	.20	5	3	86
	14-46	62	26	5-18	1.30-1.45	2.00-6.00	0.13-0.15	0.0-2.9	0.5-1.0	.32	.32			
	30-60	62	26	5-18	1.30-1.50	2.00-6.00	0.13-0.15	0.0-2.9	0.1-0.5	.32	.32			
JmC:														
Jayem-----	0-19	64	26	5-18	1.20-1.35	2.00-6.00	0.13-0.15	0.0-2.9	1.0-3.0	.20	.20	5	3	86
	19-30	62	26	5-18	1.30-1.45	2.00-6.00	0.13-0.15	0.0-2.9	0.5-1.0	.32	.32			
	30-60	62	26	5-18	1.30-1.50	2.00-6.00	0.13-0.15	0.0-2.9	0.1-0.5	.32	.32			
Jo:														
Johnstown----	0-9	41	42	12-27	1.30-1.50	0.60-2.00	0.20-0.24	3.0-5.9	1.0-3.0	.28	.28	4	5	56
	9-22	27	42	27-35	1.40-1.50	0.60-2.00	0.15-0.20	3.0-5.9	0.5-2.0	.37	.37			
	22-46	8	69	15-32	1.30-1.50	0.60-2.00	0.17-0.22	3.0-5.9	0.0-0.5	.43	.43			
	46-60	91	6	0-5	1.50-1.70	5.95-19.98	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			

PHYSICAL PROPERTIES OF THE SOILS  
Cheyenne, Nebraska: Published

(Single entries under "Sand and Silt" are a representative percentage are calculated using an algorithm. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer)

Map symbol and soil name	Depth		Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
	In	Pct									Pct	Pct	g/cc		
Ke:															
Keith-----	0-9	41	42	14-27	1.25-1.45	0.60-2.00	0.20-0.23	0.0-2.9	1.0-3.0	.28	.28	5	5	56	
	9-25	9	64	20-35	1.10-1.20	0.60-2.00	0.18-0.22	3.0-5.9	0.5-1.0	.43	.43				
	23-60	14	72	8-20	1.30-1.40	0.60-2.00	0.20-0.22	0.0-2.9	0.0-0.5	.43	.43				
KeB:															
Keith-----	0-9	41	42	14-27	1.25-1.45	0.60-2.00	0.20-0.23	0.0-2.9	1.0-3.0	.28	.28	5	5	56	
	9-25	9	64	20-35	1.10-1.20	0.60-2.00	0.18-0.22	3.0-5.9	0.5-1.0	.43	.43				
	25-60	14	72	8-20	1.30-1.40	0.60-2.00	0.20-0.22	0.0-2.9	0.0-0.5	.43	.43				
KeC:															
Keith-----	0-11	41	42	14-27	1.25-1.45	0.60-2.00	0.20-0.23	0.0-2.9	1.0-3.0	.28	.28	5	5	56	
	11-36	9	64	20-35	1.10-1.20	0.60-2.00	0.18-0.22	3.0-5.9	0.5-1.0	.43	.43				
	36-60	14	72	8-20	1.30-1.40	0.60-2.00	0.20-0.22	0.0-2.9	0.0-0.5	.43	.43				
Ku:															
Kuma-----	0-7	37	42	15-27	1.20-1.30	0.60-2.00	0.18-0.21	0.0-2.9	2.0-4.0	.32	.32	5	5	56	
	7-42	7	66	18-35	1.25-1.35	0.60-2.00	0.18-0.21	3.0-5.9	1.0-3.0	.37	.37				
	42-60	8	72	10-30	1.40-1.50	0.60-2.00	0.16-0.18	0.0-2.9	0.5-1.0	.32	.32				
LD:															
---															
Lm:															
Las-----	0-4	42	37	15-27	1.30-1.45	0.60-2.00	0.17-0.22	0.0-2.9	0.5-1.0	.32	.32	4	4L	86	
	4-60	35	38	18-35	1.30-1.50	0.20-0.60	0.15-0.19	3.0-5.9	0.0-0.5	.32	.32				
Lw:															
Las Animas---	0-5	42	38	15-27	1.35-1.55	0.60-2.00	0.15-0.20	0.0-2.9	0.5-2.0	.32	.32	5	4L	86	
	5-60			8-18	1.55-1.75	2.00-6.00	0.06-0.12	0.0-2.9	0.5-1.0	.24	.24				
Ly:															
Lodgepole---	0-9	26	53	16-27	1.20-1.40	0.60-2.00	0.22-0.24	0.0-2.9	2.0-4.0	.37	.37	5	6	48	
	9-47	7	51	35-50	1.25-1.50	0.00-0.06	0.13-0.18	6.0-8.9	1.0-3.0	.28	.28				
	47-58	29	53	8-27	1.30-1.50	0.60-2.00	0.22-0.24	0.0-2.9	0.5-1.0	.43	.43				
	58-60	68	20	5-20	1.40-1.50	2.00-6.00	0.10-0.18	0.0-2.9	0.5-1.0	.28	.28				
M-W:															
Miscellaneous															
Water-----															
Mc:															
Mccook-----	0-12	60	26	10-18	1.20-1.50	2.00-6.00	0.17-0.19	0.0-2.9	1.0-3.0	.32	.32	5	3	86	
	12-60	60	26	10-18	1.20-1.50	0.60-2.00	0.16-0.20	0.0-2.9	0.5-1.0	.43	.43				
MkC:															
Mitchell----	0-11	59	26	10-18	1.30-1.60	2.00-6.00	0.16-0.20	0.0-2.9	0.5-2.0	.43	.43	5	3	86	
	11-60	43	44	8-18	1.20-1.60	0.60-2.00	0.16-0.22	0.0-2.9	0.5-1.0	.43	.43				
MkD:															
Mitchell----	0-5	59	26	10-18	1.30-1.60	2.00-6.00	0.16-0.20	0.0-2.9	0.5-2.0	.43	.43	5	3	86	
	5-60	43	44	8-18	1.20-1.60	0.60-2.00	0.16-0.22	0.0-2.9	0.5-1.0	.43	.43				
MkE:															
Mitchell----	0-5	59	26	10-18	1.30-1.60	2.00-6.00	0.16-0.20	0.0-2.9	0.5-2.0	.43	.43	5	3	86	
	5-60	43	44	8-18	1.20-1.60	0.60-2.00	0.16-0.22	0.0-2.9	0.5-1.0	.43	.43				
ReG:															
Rock Outcrop-	0-60			0-0	---	---	0.00-0.00	---	---	---	---		8	0	
Epping-----	0-4	44	41	10-25	1.20-1.45	0.60-2.00	0.16-0.20	0.0-2.9	0.5-2.0	.37	---	2	4L	86	
	4-10	44	41	10-20	1.20-1.45	0.60-2.00	0.12-0.20	0.0-2.9	0.5-1.0	.43	---				
	10-60			---	---	0.06-0.20	---	---	---	---	---				
RhG:															
Rock Outcrop-	0-60			0-0	---	---	0.00-0.00	---	---	---	---		8	0	
Tassel-----	0-3	82	12	3-12	1.60-1.70	6.00-19.98	0.12-0.18	0.0-2.9	1.0-3.0	.24	.24	2	2	134	
	3-12	65	27	5-12	1.40-1.70	2.00-6.00	0.12-0.18	0.0-2.9	0.5-2.0	.28	.28				
	12-60			---	---	0.20-0.60	---	---	---	---	---				
Ro:															
Rosebud-----	0-6	45	41	8-27	1.20-1.45	0.60-2.00	0.22-0.24	0.0-2.9	2.0-4.0	.28	.28	3	5	56	
	6-18	34	37	23-35	1.15-1.30	0.60-2.00	0.15-0.17	3.0-5.9	0.5-1.0	.37	.37				
	18-23	65	15	15-26	1.30-1.50	0.60-2.00	0.11-0.17	0.0-2.9	0.5-1.0	.28	.28				
	23-60			---	---	0.20-0.60	---	---	---	---	---				
ROB:															
Rosebud-----	0-4	45	41	8-27	1.20-1.45	0.60-2.00	0.22-0.24	0.0-2.9	2.0-4.0	.28	.28	3	5	56	
	4-15	34	37	23-35	1.15-1.30	0.60-2.00	0.15-0.17	3.0-5.9	0.5-1.0	.37	.37				
	15-30	65	15	15-26	1.30-1.50	0.60-2.00	0.11-0.17	0.0-2.9	0.5-1.0	.28	.28				
	30-60			---	---	0.20-0.60	---	---	---	---	---				
RoC:															
Rosebud-----	0-6	45	41	8-27	1.20-1.45	0.60-2.00	0.22-0.24	0.0-2.9	2.0-4.0	.28	.28	3	5	56	
	6-22	34	37	23-35	1.15-1.30	0.60-2.00	0.15-0.17	3.0-5.9	0.5-1.0	.37	.37				
	22-30	65	15	15-26	1.30-1.50	0.60-2.00	0.11-0.17	0.0-2.9	0.5-1.0	.28	.28				
	30-60			---	---	0.20-0.60	---	---	---	---	---				
RsD:															
Rosebud-----	0-4	45	41	8-27	1.20-1.45	0.60-2.00	0.22-0.24	0.0-2.9	2.0-4.0	.28	.28	3	5	56	
	4-17	34	37	23-35	1.15-1.30	0.60-2.00	0.15-0.17	3.0-5.9	0.5-1.0	.37	.37				
	17-33	65	15	15-26	1.30-1.50	0.60-2.00	0.11-0.17	0.0-2.9	0.5-1.0	.28	.28				
	33-60			---	---	0.20-0.60	---	---	---	---	---				
Canyon-----	0-4	44	41	10-25	1.25-1.45	0.60-2.00	0.20-0.22	0.0-2.9	1.0-3.0	.32	.32	2	4L	86	
	4-15	61	21	12-25	1.45-1.70	0.60-2.00	0.13-0.18	0.0-2.9	0.5-2.0	.20	.37				
	15-60			---	---	0.20-0.60	---	---	---	---	---				
Sb:															
Satanta-----	0-7	43	40	10-27	1.30-1.40	0.60-2.00	0.20-0.22	0.0-2.9	1.0-2.0	.28	.28	4	6	48	
	7-29	35	38	18-35	1.35-1.45	0.60-2.00	0.17-0.19	3.0-5.9	0.5-2.0	.28	.28				
	29-56	43	38	10-27	1.30-1.50	0.60-2.00	0.12-0.18	0.0-2.9	0.5-1.0	.28	.32				
	56-60	82	9	2-15	1.50-1.70	5.95-19.98	0.02-0.04	0.0-2.9	0.0-0.5	.10	.20				

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Map symbol and soil name	Depth In	Sand Pct	Silt Pct	Clay Pct	Moist bulk density g/cc	Permea- bility (Ksat) in/hr	Available water capacity In/in	Linear extensi- bility Pct	Organic matter Pct	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										K	Kf	T		
SbB: Satanta-----	0-10	43	40	10-27	1.30-1.40	0.60-2.00	0.20-0.22	0.0-2.9	1.0-2.0	.28	.28	4	6	48
	10- 2744	35	38	18-35	1.35-1.45	0.60-2.00	0.17-0.19	3.0-5.9	0.5-2.0	.28	.28			
	27-56	43	38	10-27	1.30-1.50	0.60-2.00	0.12-0.18	0.0-2.9	0.5-1.0	.28	.32			
	56-60	82	9	2-15	1.50-1.70	5.95-19.98	0.02-0.04	0.0-2.9	0.0-0.5	.10	.20			
SbC: Satanta-----	0-10	43	40	10-27	1.30-1.40	0.60-2.00	0.20-0.22	0.0-2.9	1.0-2.0	.28	.28	4	6	48
	10-27	35	38	18-35	1.35-1.45	0.60-2.00	0.17-0.19	3.0-5.9	0.5-2.0	.28	.28			
	27-56	43	38	10-27	1.30-1.50	0.60-2.00	0.12-0.18	0.0-2.9	0.5-1.0	.28	.32			
	56-60	82	9	2-15	1.50-1.70	5.95-19.98	0.02-0.04	0.0-2.9	0.0-0.5	.10	.20			
SnC: Sidney-----	0-7	44	41	10-27	1.20-1.40	0.60-2.00	0.20-0.24	0.0-2.9	1.0-3.0	.28	.28	4	4L	86
	7-19	46	42	5-20	1.15-1.30	0.60-2.00	0.15-0.19	0.0-2.9	0.5-1.0	.37	.37			
	19-50	46	42	5-20	1.20-1.50	0.60-2.00	0.12-0.19	0.0-2.9	0.5-1.0	.37	.37			
	50-60	---	---	---	---	0.20-0.60	---	---	---	---	---			
SoD: Sidney-----	0-7	44	41	10-25	1.20-1.40	0.60-2.00	0.20-0.24	0.0-2.9	1.0-3.0	.28	.28	4	4L	86
	7-18	46	42	5-20	1.15-1.30	0.60-2.00	0.15-0.19	0.0-2.9	0.5-1.0	.37	.37			
	18-50	46	42	5-20	1.20-1.50	0.60-2.00	0.12-0.19	0.0-2.9	0.5-1.0	.37	.37			
	50-60	---	---	---	---	0.20-0.60	---	---	---	---	---			
Canyon-----	0-6	44	41	10-25	1.25-1.45	0.60-2.00	0.20-0.22	0.0-2.9	1.0-3.0	.32	.32	2	4L	86
	6-11	61	21	12-25	1.45-1.70	0.60-2.00	0.13-0.18	0.0-2.9	0.5-2.0	.20	.37			
	11-60	---	---	---	---	0.20-0.60	---	---	---	---	---			
TbF: Tassel-----	0-6	82	12	3-12	1.60-1.70	5.95-19.98	0.12-0.18	0.0-2.9	1.0-3.0	.24	.24	2	2	134
	6-13	65	27	5-12	1.40-1.70	2.00-6.00	0.12-0.18	0.0-2.9	0.5-2.0	.28	.28			
	13-60	---	---	---	---	0.20-0.60	---	---	---	---	---			
Busher-----	0-18	64	26	5-18	1.30-1.50	2.00-6.00	0.15-0.18	0.0-2.9	1.0-3.0	.20	.20	4	3	86
	18-55	80	12	5-12	1.40-1.60	2.00-6.00	0.13-0.19	0.0-2.9	0.5-1.0	.28	.28			
	55-60	---	---	---	---	0.20-0.60	---	---	---	---	---			
TcG: Tassel-----	0-8	82	12	3-12	1.60-1.70	5.95-19.98	0.12-0.18	0.0-2.9	1.0-3.0	.24	.24	2	2	134
	8-14	65	27	5-12	1.40-1.70	2.00-6.00	0.12-0.18	0.0-2.9	0.5-2.0	.28	.28			
	14-60	---	---	---	---	0.20-0.60	---	---	---	---	---			
Busher-----	0-10	64	26	5-18	1.30-1.50	2.00-6.00	0.15-0.18	0.0-2.9	1.0-3.0	.20	.20	4	3	86
	10-42	80	12	5-12	1.40-1.60	2.00-6.00	0.13-0.19	0.0-2.9	0.5-1.0	.28	.28			
	42-60	---	---	---	---	0.20-0.60	---	---	---	---	---			
UyB: Ulysses-----	0-6	41	42	15-27	1.20-1.40	0.60-2.00	0.20-0.22	0.0-2.9	1.0-3.0	.28	.20	5	5	56
	6-18	33	44	18-27	1.20-1.40	0.60-2.00	0.10-0.19	0.0-2.9	1.0-2.0	.43	.43			
	18-60	33	44	18-27	1.20-1.40	0.60-2.00	0.10-0.19	0.0-2.9	0.5-1.0	.43	.43			
UyC: Ulysses-----	0-9	37	43	15-27	1.20-1.40	0.60-2.00	0.20-0.22	0.0-2.9	1.0-3.0	.28	.20	5	5	56
	9-19	33	44	18-27	1.20-1.40	0.60-2.00	0.10-0.19	0.0-2.9	1.0-2.0	.43	.43			
	19-60	33	44	18-27	1.20-1.40	0.60-2.00	0.10-0.19	0.0-2.9	0.5-1.0	.43	.43			
VdD: Valent-----	0-6	87	7	3-15	1.55-1.65	5.95-19.98	0.07-0.12	0.0-2.9	0.5-1.0	.17	.17	5	2	134
	6-60	94	1	2-8	1.60-1.70	5.95-19.98	0.05-0.10	0.0-2.9	0.0-0.5	.15	.15			
W: Water-----	---	---	---	---	---	---	---	---	---	---	---	-	---	0



CHEMICAL PROPERTIES OF THE SOILS  
Cheyenne, Nebraska

The Chemical Properties table shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils. Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. Soils having a high cation-exchange capacity can retain cations. The ability to retain cations helps to prevent the pollution of ground water.

Soil reaction is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Gypsum is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water and can be dissolved and removed by water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

Salinity is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

Sodium adsorption ratio (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

CHEMICAL PROPERTIES OF THE SOILS--Continued  
Cheyenne, Nebraska

Map symbol and soil name	Depth	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
		meq/100g	pH	Pct	Pct	mmhos/cm	
Ao:							
Alliance-----	0-7	10-20	6.6-7.8	0	0	0	0
	7-33	20-35	6.6-7.8	0	0	0	0
	33-45	15-30	6.6-8.4	0-10	0	0	0
	52-60	---	---	---	---	---	---
AoB:							
Alliance-----	0-9	10-20	6.6-7.8	0	0	0	0
	9-21	20-35	6.6-7.8	0	0	0	0
	21-52	15-30	6.6-8.4	0-10	0	0	0
	52-60	---	---	---	---	---	---
AoC:							
Alliance-----	0-7	10-20	6.6-7.8	0	0	0	0
	7-26	20-35	6.6-7.8	0	0	0	0
	26-43	15-30	6.6-8.4	0-10	0	0	0
	43-60	---	---	---	---	---	---
AtB:							
Altvan-----	0-11	10-20	6.1-7.8	0	0	0	0
	11-21	15-25	6.6-8.4	0-5	0	0	0
	21-30	10-20	7.4-8.4	5-15	0	0	0
	30-34	5.0-15	7.4-8.4	0-5	0	0	0
	34-60	0.0-5.0	7.4-8.4	0-5	0	0	0
AtC:							
Altvan-----	0-5	10-20	6.1-7.8	0	0	0	0
	5-21	15-25	6.6-8.4	0-5	0	0	0
	21-30	10-20	7.4-8.4	5-15	0	0	0
	30-34	5.0-15	7.4-8.4	0-5	0	0	0
	34-60	0.0-5.0	7.4-8.4	0-5	0	0	0
AvD:							
Altvan-----	0-7	10-20	6.1-7.8	0	0	0	0
	7-26	15-25	6.6-8.4	0-5	0	0	0
	26-33	10-20	7.4-8.4	5-15	0	0	0
	33-37	5.0-15	7.4-8.4	0-5	0	0	0
	37-60	0.0-5.0	7.4-8.4	0-5	0	0	0
Dix-----	0-18	5.0-15	6.1-7.8	0	0	0	0
	18-60	0.0-5.0	6.6-8.4	0	0	0	0
Bb:							
Bankard-----	0-6	2.0-10	7.4-8.4	0-5	0	0	0
	6-60	0.0-7.0	7.4-9.0	0-5	0	0.0-2.0	0-5
Bc:							
Bankard-----	0-11	1.0-10	7.4-8.4	0-10	0	0	0
	11-20	0.0-7.0	7.4-8.4	1-10	0	0	0
	20-60	0.0-7.0	7.4-8.4	1-10	0	0	0
Be:							
Bayard-----	0-8	5.0-20	6.6-7.8	0-1	0	0	0
	8-60	5.0-20	7.4-8.4	1-10	0	0	0
BeB:							
Bayard-----	0-10	5.0-20	6.6-7.8	0-1	0	0	0
	10-60	5.0-20	7.4-8.4	1-10	0	0	0
BeC:							
Bayard-----	0-8	5.0-20	6.6-7.8	0-1	0	0	0
	8-60	5.0-20	7.4-8.4	1-10	0	0	0
BeD:							
Bayard-----	0-8	5.0-20	6.6-7.8	0-1	0	0	0
	8-60	5.0-20	7.4-8.4	1-10	0	0	0
BeE:							
Bayard-----	0-10	5.0-20	6.6-7.8	0-1	0	0	0
	10-60	5.0-20	7.4-8.4	1-10	0	0	0
Bg:							
Bridget-----	0-10	4.0-15	6.6-7.8	0	0	0	0
	10-15	3.0-12	7.4-8.4	1-10	0	0	0
	15-60	3.0-12	7.4-8.4	1-10	0	0	0
BgB:							
Bridget-----	0-8	4.0-15	6.6-7.8	0	0	0	0
	8-19	3.0-12	7.4-8.4	1-10	0	0	0
	19-60	3.0-12	7.4-8.4	1-10	0	0	0
BgC:							
Bridget-----	0-11	4.0-15	6.6-7.8	0	0	0	0
	11-19	3.0-12	7.4-8.4	1-10	0	0	0
	19-60	3.0-12	7.4-8.4	1-10	0	0	0

CHEMICAL PROPERTIES OF THE SOILS--Continued  
 Cheyenne, Nebraska

Map symbol and soil name	Depth	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	meq/100g	pH	Pct	Pct	mmhos/cm	
BgD:							
Bridget-----	0-11	4.0-15	6.6-7.8	0	0	0	0
	11-19	3.0-12	7.4-8.4	1-10	0	0	0
	19-60	3.0-12	7.4-8.4	1-10	0	0	0
BuC:							
Busher-----	0-11	5.0-15	6.1-7.8	0	0	0	0
	11-56	4.0-9.0	6.6-8.4	1-5	0	0	0
	56-60	---	---	---	---	---	---
BxD:							
Busher-----	0-19	5.0-15	6.1-7.8	0	0	0	0
	19-45	4.0-9.0	6.6-8.4	1-5	0	0	0
	45-60	---	---	---	---	---	---
Tassel-----	0-5	1.0-10	7.4-8.4	1-15	0	0	0
	5-17	5.0-35	7.4-8.4	2-15	0	0	0
	17-60	---	---	---	---	---	---
ByE:							
Busher-----	0-16	5.0-15	6.1-7.8	0	0	0	0
	16-42	4.0-9.0	6.6-8.4	1-5	0	0	0
	42-60	---	---	---	---	---	---
Tassel-----	0-6	5.0-15	7.4-8.4	1-15	0	0	0
	6-18	5.0-35	7.4-8.4	2-15	0	0	0
	18-60	---	---	---	---	---	---
CcF:							
Canyon-----	0-6	3.0-15	7.4-8.4	1-10	0	0.0-2.0	0
	6-11	10-20	7.4-8.4	1-10	0	0.0-2.0	0
	11-60	---	---	---	---	---	---
CdG:							
Canyon-----	0-10	3.0-15	7.4-8.4	1-10	0	0.0-2.0	0
	10-14	10-20	7.4-8.4	1-10	0	0.0-2.0	0
	14-60	---	---	---	---	---	---
Rock Outcrop----	0-60	---	---	---	---	0	---
CeE:							
Canyon-----	0-6	3.0-15	7.4-8.4	1-10	0	0.0-2.0	0
	6-11	10-20	7.4-8.4	1-10	0	0.0-2.0	0
	11-60	---	---	---	---	---	---
Bayard-----	0-12	5.0-20	6.6-7.8	0-1	0	0	0
	12-60	5.0-20	7.4-8.4	1-10	0	0	0
CtB:							
Creighton-----	0-11	5.0-16	6.1-7.8	0-5	0	0	0
	11-40	4.0-11	6.6-7.8	0-5	0	0	0
	40-60	3.0-10	7.9-9.0	0-5	0	0.0-2.0	0-5
CtC:							
Creighton-----	0-10	5.0-16	6.1-7.8	0-5	0	0	0
	10-30	4.0-11	6.6-7.8	0-5	0	0	0
	30-60	3.0-10	7.9-9.0	0-5	0	0.0-2.0	0-5
DhD:							
Dix-----	0-11	4.0-10	6.1-7.8	0	0	0	0
	11-19	1.0-10	6.6-8.4	0-5	0	0	0
	19-60	0.0-5.0	6.6-8.4	0-5	0	0	0
DhG:							
Dix-----	0-10	4.0-10	6.1-7.8	0	0	0	0
	10-60	0.0-5.0	6.6-8.4	0-5	0	0	0
Du:							
Duroc-----	0-19	10-20	6.6-7.8	0	0	0	0
	19-55	10-25	6.6-7.8	0	0	0	0
	55-60	10-25	7.9-9.0	2-10	0	0.0-2.0	0-2
DuB:							
Duroc-----	0-19	10-20	6.6-7.8	0	0	0	0
	19-35	10-25	6.6-7.8	0	0	0	0
	35-60	10-25	7.9-9.0	2-10	0	0.0-2.0	0-2
Dv:							
Duroc-----	0-10	15-25	6.6-7.8	0	0	0	0
	10-29	20-30	6.6-7.8	0	0	0	0
	29-49	10-20	7.4-9.0	0	0	0	0
	49-60	0.0-5.0	7.4-9.0	0	0	0	0
Dx:							
Duroc-----	0-8	10-20	6.6-7.8	0	0	0	0
	8-41	10-25	6.6-7.8	0	0	0	0
	41-60	10-25	7.9-9.0	2-10	0	0.0-2.0	0-2

CHEMICAL PROPERTIES OF THE SOILS--Continued  
Cheyenne, Nebraska

Map symbol and soil name	Depth	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	meq/100g	pH	Pct	Pct	mmhos/cm	
DyE:							
Dwyer-----	0-4	4.0-8.0	6.6-8.4	0-5	0	0	0
	4-60	2.0-6.0	7.4-8.4	1-10	0	0.0-2.0	0
ErE:							
Epping-----	0-5	5.0-15	6.6-8.4	0-10	0	0	0
	5-13	5.0-15	7.4-8.4	1-10	0	0	0
	13-60	---	---	---	---	---	---
Mitchell-----	0-4	10-30	7.4-8.4	1-10	0	0	0
	4-60	10-30	7.4-8.4	5-15	0	0	0
Gd:							
Glenberg-----	0-6	5.0-20	7.4-8.4	0-5	0	0	0
	6-60	5.0-10	7.4-8.4	1-10	0	0	0
Go:							
Goshen-----	0-12	12-21	6.1-7.8	0	0	0	0
	12-44	17-25	6.6-8.4	0-5	0	0	0
	44-60	10-19	7.4-8.4	0-10	0	0	0
GP:							
Pits-----	0-60	0.0-5.0	6.6-8.4	0	0	0	0
JmB:							
Jayem-----	0-14	5.0-14	6.6-7.8	0	0	0	0
	14-46	4.0-11	6.6-7.8	0	0	0	0
	30-60	3.0-10	6.6-7.8	0-2	0	0	0
JmC:							
Jayem-----	0-19	5.0-14	6.6-7.8	0	0	0	0
	19-30	4.0-11	6.6-7.8	0	0	0	0
	30-60	3.0-10	6.6-7.8	0-2	0	0	0
Jo:							
Johnstown-----	0-9	15-30	5.6-7.3	0	0	0	0
	9-22	20-30	6.1-7.8	0	0	0	0
	22-46	10-25	6.6-8.4	0	0	0	0
	46-60	0.0-5.0	6.6-7.8	0-5	0	0	0
Ke:							
Keith-----	0-9	10-20	6.1-7.3	0	0	0	0
	9-25	15-30	6.6-7.3	0	0	0	0
	23-60	5.0-15	7.4-8.4	1-10	0	0	0
KeB:							
Keith-----	0-9	10-20	6.1-7.3	0	0	0	0
	9-25	15-30	6.6-7.3	0	0	0	0
	25-60	5.0-15	7.4-8.4	1-10	0	0	0
KeC:							
Keith-----	0-11	10-20	6.1-7.3	0	0	0	0
	11-36	15-30	6.6-7.3	0	0	0	0
	36-60	5.0-15	7.4-8.4	1-10	0	0	0
Ku:							
Kuma-----	0-7	10-25	6.1-8.4	0	0	0	0
	7-42	10-30	6.6-8.4	1-10	0	0	0
	42-60	5.0-20	7.9-9.0	1-10	0-2	0.0-2.0	0
LD:	---	---	---	---	---	---	---
Lm:							
Las-----	0-4	10-20	7.4-8.4	0-10	0	0.0-4.0	0
	4-60	10-25	7.4-8.4	5-15	0	0.0-4.0	0
Lw:							
Las Animas-----	0-5	10-20	7.4-8.4	0	0	0.0-4.0	0
	5-60	5.0-15	7.4-8.4	0	0	0.0-4.0	0
Ly:							
Lodgepole-----	0-9	15-25	6.1-7.8	0	0	0	0
	9-47	25-40	6.1-7.8	0	0	0	0
	47-58	5.0-20	6.6-8.4	0-5	0	0	0
	58-60	5.0-15	6.6-8.4	0-10	0	0	0
M-W:							
Miscellaneous Water-----	---	---	---	---	---	---	---
Mc:							
Mccook-----	0-12	8.0-20	6.6-8.4	1-10	0	0	0
	12-60	7.0-15	7.4-8.4	1-10	0	0	0
MkC:							
Mitchell-----	0-11	10-30	7.4-8.4	1-10	0	0	0
	11-60	10-30	7.4-8.4	5-15	0	0	0

CHEMICAL PROPERTIES OF THE SOILS--Continued  
Cheyenne, Nebraska

Map symbol and soil name	Depth	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	meq/100g	pH	Pct	Pct	mmhos/cm	
MkD:							
Mitchell-----	0-5	10-30	7.4-8.4	1-10	0	0	0
	5-60	10-30	7.4-8.4	5-15	0	0	0
MkE:							
Mitchell-----	0-5	10-30	7.4-8.4	1-10	0	0	0
	5-60	10-30	7.4-8.4	5-15	0	0	0
ReG:							
Rock Outcrop----	0-60	---	---	---	---	0	---
Epping-----	0-4	5.0-15	7.4-8.4	0-10	0	0	0
	4-10	5.0-15	7.4-8.4	1-10	0	0	0
	10-60	---	---	---	---	---	---
RhG:							
Rock Outcrop----	0-60	---	---	---	---	0	---
Tassel-----	0-3	5.0-15	7.4-8.4	1-15	0	0	0
	3-12	5.0-35	7.4-8.4	2-15	0	0	0
	12-60	---	---	---	---	---	---
Ro:							
Rosebud-----	0-6	5.0-20	6.6-7.8	0	0	0.0-2.0	0
	6-18	15-30	6.6-8.4	0-5	0	0.0-2.0	0
	18-23	10-25	7.4-9.0	1-15	0	0.0-2.0	0-5
	23-60	---	---	---	---	---	---
RoB:							
Rosebud-----	0-4	5.0-20	6.6-7.8	0	0	0.0-2.0	0
	4-15	15-30	6.6-8.4	0-5	0	0.0-2.0	0
	15-30	10-25	7.4-9.0	1-15	0	0.0-2.0	0-5
	30-60	---	---	---	---	---	---
RoC:							
Rosebud-----	0-6	5.0-20	6.6-7.8	0	0	0.0-2.0	0
	6-22	15-30	6.6-8.4	0-5	0	0.0-2.0	0
	22-30	10-25	7.4-9.0	1-15	0	0.0-2.0	0-5
	30-60	---	---	---	---	---	---
RsD:							
Rosebud-----	0-4	5.0-20	6.6-7.8	0	0	0.0-2.0	0
	4-17	15-30	6.6-8.4	0-5	0	0.0-2.0	0
	17-33	10-25	7.4-9.0	1-15	0	0.0-2.0	0-5
	33-60	---	---	---	---	---	---
Canyon-----	0-4	5.0-16	7.4-8.4	1-10	0	0.0-2.0	0
	4-15	10-20	7.4-8.4	1-10	0	0.0-2.0	0
	15-60	---	---	---	---	---	---
Sb:							
Satanta-----	0-7	5.0-15	6.1-7.8	0	0	0	0
	7-29	10-20	6.6-7.8	0	0	0	0
	29-56	5.0-18	7.4-8.4	2-15	0	0	0
	56-60	5.0-10	7.4-8.4	2-5	0	0	0
SbB:							
Satanta-----	0-10	5.0-15	6.1-7.8	0	0	0	0
	10-	10-20	6.6-7.8	0	0	0	0
	2744	---	---	---	---	---	---
	27-56	5.0-18	7.4-8.4	2-15	0	0	0
	56-60	5.0-10	7.4-8.4	2-5	0	0	0
SbC:							
Satanta-----	0-10	5.0-15	6.1-7.8	0	0	0	0
	10-27	10-20	6.6-7.8	0	0	0	0
	27-56	5.0-18	7.4-8.4	2-15	0	0	0
	56-60	5.0-10	7.4-8.4	2-5	0	0	0
SnC:							
Sidney-----	0-7	5.0-20	7.4-8.4	1-10	0	0	0
	7-19	2.0-15	7.4-8.4	1-15	0	0	0
	19-50	2.0-15	7.4-9.0	1-15	0	0.0-4.0	0-9
	50-60	---	---	---	---	---	---
SoD:							
Sidney-----	0-7	5.0-20	7.4-8.4	1-10	0	0	0
	7-18	2.0-15	7.4-8.4	1-15	0	0	0
	18-50	2.0-15	7.4-9.0	1-15	0	0.0-4.0	0-9
	50-60	---	---	---	---	---	---
Canyon-----	0-6	5.0-16	7.4-8.4	1-10	0	0.0-2.0	0
	6-11	10-20	7.4-8.4	1-10	0	0.0-2.0	0
	11-60	---	---	---	---	---	---

CHEMICAL PROPERTIES OF THE SOILS--Continued  
Cheyenne, Nebraska

Map symbol and soil name	Depth	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	meq/100g	pH	Pct	Pct	mmhos/cm	
TbF:							
Tassel-----	0-6	5.0-15	7.4-8.4	1-15	0	0	0
	6-13	5.0-35	7.4-8.4	2-15	0	0	0
	13-60	---	---	---	---	---	---
Busher-----	0-18	5.0-15	6.1-7.8	0	0	0	0
	18-55	4.0-9.0	6.6-8.4	1-5	0	0	0
	55-60	---	---	---	---	---	---
TcG:							
Tassel-----	0-8	5.0-15	7.4-8.4	1-15	0	0	0
	8-14	5.0-35	7.4-8.4	2-15	0	0	0
	14-60	---	---	---	---	---	---
Busher-----	0-10	5.0-15	6.1-7.8	0	0	0	0
	10-42	4.0-9.0	6.6-8.4	1-5	0	0	0
	42-60	---	---	---	---	---	---
UyB:							
Ulysses-----	0-6	10-25	6.6-7.8	0	0	0	0
	6-18	15-30	7.4-8.4	0-5	0	0	0
	18-60	15-25	7.9-8.4	1-15	0	0	0
UyC:							
Ulysses-----	0-9	10-25	6.6-7.8	0	0	0	0
	9-19	15-30	7.4-8.4	0-5	0	0	0
	19-60	15-25	7.9-8.4	1-15	0	0	0
VdD:							
Valent-----	0-6	3.0-10	6.6-7.8	0	0	0	0
	6-60	0.0-5.0	6.6-7.8	0	0	0	0
W:							
Water-----	---	---	---	---	---	---	---



WATER FEATURES  
Cheyenne, Nebraska

The Water Features table gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations. Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

The months in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. The Water Features table indicates, by month, depth to the top (upper limit) and base (lower limit) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table. Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The Water Features table indicates surface water depth and the duration and frequency of ponding. Duration is expressed as very brief if less than 2 days, brief if 2 to 7 days, long if 7 to 30 days, and very long if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. None means that ponding is not probable; rare that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); occasional that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and frequent that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding, the temporary inundation of an area, is caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and frequency are estimated. Duration is expressed as extremely brief if 0.1 hour to 4 hours, very brief if 4 hours to 2 days, brief if 2 to 7 days, long if 7 to 30 days, and very long if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. None means that flooding is not probable; very rare that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); rare that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); occasional that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); frequent that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and very frequent that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Month	Soil Saturation		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
Ao: Alliance-----	B		---	---	---	---	---	---	---
AoB: Alliance-----	B		---	---	---	---	---	---	---
AoC: Alliance-----	B		---	---	---	---	---	---	---
AtB: Altvan-----	B		---	---	---	---	---	---	---
AtC: Altvan-----	B		---	---	---	---	---	---	---
AvD: Altvan-----	B		---	---	---	---	---	---	---
Dix-----	A		---	---	---	---	---	---	---
Bb: Bankard-----	A	March	---	---	---	---	---	Very brief	Occasional
		April	---	---	---	---	---	Very brief	Occasional
		May	---	---	---	---	---	Very brief	Occasional
		June	---	---	---	---	---	Very brief	Occasional
		July	---	---	---	---	---	Very brief	Occasional
		August	---	---	---	---	---	Very brief	Occasional
Bc: Bankard-----	A	March	---	---	---	---	---	Very brief	Frequent
		April	---	---	---	---	---	Very brief	Frequent
		May	---	---	---	---	---	Very brief	Frequent
		June	---	---	---	---	---	Very brief	Frequent
		July	---	---	---	---	---	Very brief	Frequent
		August	---	---	---	---	---	Very brief	Frequent
Be: Bayard-----	B		---	---	---	---	---	---	---
BeB: Bayard-----	B		---	---	---	---	---	---	---
BeC: Bayard-----	B		---	---	---	---	---	---	---
BeD: Bayard-----	B		---	---	---	---	---	---	---
BeE: Bayard-----	B		---	---	---	---	---	---	---
Bg: Bridget-----	B		---	---	---	---	---	---	---
BgB: Bridget-----	B		---	---	---	---	---	---	---
BgC: Bridget-----	B		---	---	---	---	---	---	---
BgD: Bridget-----	B		---	---	---	---	---	---	---
BuC: Busher-----	B		---	---	---	---	---	---	---
BxD: Busher-----	B		---	---	---	---	---	---	---
Tassel-----	D		---	---	---	---	---	---	---
ByE: Busher-----	B		---	---	---	---	---	---	---
Tassel-----	D		---	---	---	---	---	---	---
CcF: Canyon-----	D		---	---	---	---	---	---	---
CdG: Canyon-----	D		---	---	---	---	---	---	---
Rock Outcrop-----	D		---	---	---	---	---	---	---

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro-logic group	Month	Soil Saturation		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
CeE: Canyon-----	D		---	---	---	---	---	---	---
Bayard-----	B		---	---	---	---	---	---	---
CtB: Creighton-----	B		---	---	---	---	---	---	---
CtC: Creighton-----	B		---	---	---	---	---	---	---
DhD: Dix-----	A		---	---	---	---	---	---	---
DhG: Dix-----	A		---	---	---	---	---	---	---
Du: Duroc-----	B		---	---	---	---	---	---	---
DuB: Duroc-----	B		---	---	---	---	---	---	---
Dv: Duroc-----	B		---	---	---	---	---	---	---
Dx: Duroc-----	B		---	---	---	---	---	---	---
DyE: Dwyer-----	A		---	---	---	---	---	---	---
ErE: Epping-----	D		---	---	---	---	---	---	---
Mitchell-----	B		---	---	---	---	---	---	---
Gd: Glenberg-----	B		---	---	---	---	---	---	---
Go: Goshen-----	B		---	---	---	---	---	---	---
GP: Pits-----	A		---	---	---	---	---	---	---
JmB: Jayem-----	B		---	---	---	---	---	---	---
JmC: Jayem-----	B		---	---	---	---	---	---	---
Jo: Johnstown-----	B		---	---	---	---	---	---	---
Ke: Keith-----	B		---	---	---	---	---	---	---
KeB: Keith-----	B		---	---	---	---	---	---	---
KeC: Keith-----	B		---	---	---	---	---	---	---
Ku: Kuma-----	B		---	---	---	---	---	---	---
Lm: Las-----	C		---	---	---	---	---	---	---
		March	2.0-3.0	>6.0	---	---	---	---	None
		April	2.0-3.0	>6.0	---	---	---	Very brief	Occasional
		May	2.0-3.0	>6.0	---	---	---	Very brief	Occasional
		June	2.0-3.0	>6.0	---	---	---	Very brief	Occasional
		July	---	---	---	---	---	Very brief	Occasional
		August	---	---	---	---	---	Very brief	Occasional
		September	---	---	---	---	---	Very brief	Occasional
Lw:									

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Month	Soil Saturation		Ponding			Flooding			
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency		
Las Animas-----	D	January	0.0-1.5	>6.0	---	---	---	---	None		
		February	0.0-1.5	>6.0	---	---	---	---	None		
		March	0.0-1.5	>6.0	---	---	---	Brief	Frequent		
		April	0.0-1.5	>6.0	---	---	---	Brief	Frequent		
		May	0.0-1.5	>6.0	---	---	---	Brief	Frequent		
		June	0.0-1.5	>6.0	---	---	---	Brief	Frequent		
		July	---	---	---	---	---	Brief	Frequent		
		August	---	---	---	---	---	Brief	Frequent		
		November	0.0-1.5	>6.0	---	---	---	---	None		
		December	0.0-1.5	>6.0	---	---	---	---	None		
		Ly: Lodgepole-----	D	March	0.0	>6.0	0.0-0.5	Brief	---	---	None
				April	0.0	>6.0	0.0-0.5	Brief	---	---	None
May	0.0			>6.0	0.0-0.5	Brief	---	---	None		
June	0.0			>6.0	0.0-0.5	Brief	---	---	None		
July	0.0			>6.0	0.0-0.5	Brief	---	---	None		
Mc: Mccook-----	B										
MkC: Mitchell-----	B										
MkD: Mitchell-----	B										
MkE: Mitchell-----	B										
ReG: Rock Outcrop-----	D										
Epping-----	D										
RhG: Rock Outcrop-----	D										
Tassel-----	D										
Ro: Rosebud-----	B										
RoB: Rosebud-----	B										
RoC: Rosebud-----	B										
RsD: Rosebud-----	B										
Canyon-----	D										
Sb: Satanta-----	B										
SbB: Satanta-----	B										
SbC: Satanta-----	B										
SnC: Sidney-----	B										
SoD: Sidney-----	B										
Canyon-----	D										
TbF: Tassel-----	D										
Busher-----	B										
TcG: Tassel-----	D										
Busher-----	B										
UyB: Ulysses-----	B										

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Month	Soil Saturation		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
UyC: Ulysses-----	B		---	---	---	---	---	---	---
VdD: Valent-----	A		---	---	---	---	---	---	---
W: Water-----	---		---	---	---	---	---	---	---



The following table gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A restrictive layer is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. Depth to top is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as low, moderate, or high, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as low, moderate, or high. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Map symbol and soil name	Restrictive layer				Potential for Frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated Steel	Concrete
		In					
Ao: Alliance-----	40-60	Bedrock (paralithic)	---	---	Moderate	Moderate	Low
AoB: Alliance-----	40-60	Bedrock (paralithic)	---	---	Moderate	Moderate	Low
AoC: Alliance-----	40-60	Bedrock (paralithic)	---	---	Moderate	Moderate	Low
AtB: Altvan-----	---	---	---	---	Moderate	Low	Low
AtC: Altvan-----	---	---	---	---	Moderate	Low	Low
AvD: Altvan-----	---	---	---	---	Moderate	Low	Low
Dix-----	---	---	---	---	Low	Low	Low
Bb: Bankard-----	---	---	---	---	Low	Moderate	Low
Bc: Bankard-----	---	---	---	---	Low	Low	Low
Be: Bayard-----	---	---	---	---	Moderate	Low	Low
BeB: Bayard-----	---	---	---	---	Moderate	Low	Low
BeC: Bayard-----	---	---	---	---	Moderate	Low	Low
BeD: Bayard-----	---	---	---	---	Moderate	Low	Low
BeE: Bayard-----	---	---	---	---	Moderate	Low	Low
Bg: Bridget-----	---	---	---	---	Moderate	Low	Low
BgB: Bridget-----	---	---	---	---	Moderate	Low	Low
BgC: Bridget-----	---	---	---	---	Moderate	Low	Low
BgD: Bridget-----	---	---	---	---	Moderate	Low	Low
BuC: Busher-----	40-60	Bedrock (paralithic)	---	---	Low	Low	Low
BxD: Busher-----	40-60	Bedrock (paralithic)	---	---	Low	Low	Low
Tassel-----	6-20	Bedrock (paralithic)	---	---	Low	Low	Low
ByE: Busher-----	40-60	Bedrock (paralithic)	---	---	Low	Low	Low
Tassel-----	6-20	Bedrock (paralithic)	---	---	Low	Low	Low
CcF: Canyon-----	6-20	Bedrock (paralithic)	---	---	Low	Low	Low
CdG: Canyon-----	6-20	Bedrock (paralithic)	---	---	Low	Low	Low
Rock Outcrop----	0-0	Bedrock (paralithic)	---	---	None	---	---
CeE: Canyon-----	6-20	Bedrock (paralithic)	---	---	Low	Low	Low
Bayard-----	---	---	---	---	Moderate	Low	Low
CtB: Creighton-----	---	---	---	---	Low	High	Low
CtC: Creighton-----	---	---	---	---	Low	High	Low
DhD: Dix-----	---	---	---	---	Low	Low	Low
DhG: Dix-----	---	---	---	---	Low	Low	Low
Du: Duroc-----	---	---	---	---	Low	Low	Low
DuB: Duroc-----	---	---	---	---	Low	Low	Low
Dv: Duroc-----	---	---	---	---	Moderate	Low	Low
Dx: Duroc-----	---	---	---	---	Low	Low	Low
DyE: Dwyer-----	---	---	---	---	Low	High	Low
ErE: Epping-----	10-20	Bedrock (paralithic)	---	---	Low	Low	Low
Mitchell-----	---	---	---	---	Low	Low	Low
Gd: Glenberg-----	---	---	---	---	Moderate	Low	Low

Map symbol and soil name	Restrictive layer				Potential for Frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated Steel	Concrete
		In	In				
Go: Goshen-----	---	---	---	---	Moderate	High	Low
GP: Pits-----	---	---	---	---	Low	Low	Low
JmB: Jayem-----	---	---	---	---	Low	Moderate	Low
JmC: Jayem-----	---	---	---	---	Low	Moderate	Low
Jo: Johnstown-----	---	---	---	---	Moderate	Moderate	Low
Ke: Keith-----	---	---	---	---	Moderate	Moderate	Low
KeB: Keith-----	---	---	---	---	Moderate	Moderate	Low
KeC: Keith-----	---	---	---	---	Moderate	Moderate	Low
Ku: Kuma-----	---	---	---	---	Moderate	High	Moderate
LD: -----	---	---	---	---	---	---	---
Lm: Las-----	---	---	---	---	Moderate	High	Moderate
Lw: Las Animas-----	---	---	---	---	High	High	Moderate
Ly: Lodgepole-----	---	---	---	---	High	High	Low
M-W: Miscellaneous Water-----	---	---	---	---	---	---	---
Mc: Mccook-----	---	---	---	---	Moderate	High	Low
MkC: Mitchell-----	---	---	---	---	Low	Low	Low
MkD: Mitchell-----	---	---	---	---	Low	Low	Low
MkE: Mitchell-----	---	---	---	---	Low	Low	Low
ReG: Rock Outcrop----	0-0	Bedrock (paralithic)	---	---	None	---	---
Epping-----	10-20	Bedrock (paralithic)	---	---	Low	Low	Low
RhG: Rock Outcrop----	0-0	Bedrock (paralithic)	---	---	None	---	---
Tassel-----	6-20	Bedrock (paralithic)	---	---	Low	Low	Low
Ro: Rosebud-----	20-40	Bedrock (paralithic)	---	---	Moderate	High	Low
RoB: Rosebud-----	20-40	Bedrock (paralithic)	---	---	Moderate	High	Low
RoC: Rosebud-----	20-40	Bedrock (paralithic)	---	---	Moderate	High	Low
RsD: Rosebud-----	20-40	Bedrock (paralithic)	---	---	Moderate	High	Low
Canyon-----	6-20	Bedrock (paralithic)	---	---	Low	Low	Low
Sb: Satanta-----	---	---	---	---	Moderate	Low	Low
SbB: Satanta-----	---	---	---	---	Moderate	Low	Low
SbC: Satanta-----	---	---	---	---	Moderate	Low	Low
SnC: Sidney-----	40-60	Bedrock (paralithic)	---	---	Moderate	High	Low
SoD: Sidney-----	40-60	Bedrock (paralithic)	---	---	Moderate	High	Low
Canyon-----	6-20	Bedrock (paralithic)	---	---	Low	Low	Low
TbF: Tassel-----	6-20	Bedrock (paralithic)	---	---	Low	Low	Low
Busher-----	40-60	Bedrock (paralithic)	---	---	Low	Low	Low
TcG: Tassel-----	6-20	Bedrock (paralithic)	---	---	Low	Low	Low
Busher-----	40-60	Bedrock (paralithic)	---	---	Low	Low	Low
UyB: Ulysses-----	---	---	---	---	Low	Moderate	Low

Map symbol and soil name	Restrictive layer				Potential for Frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated Steel	Concrete
		In	In				
UyC:							
Ulysses-----	---	---	---	---	Low	Moderate	Low
VdD:							
Valent-----	---	---	---	---	Low	Moderate	Low
W:							
Water-----	---	---	---	---	---	---	---



WATER MANAGEMENT  
Cheyenne, Nebraska

The soils of the survey area are rated in the Water Management table according to limitations that affect their suitability for water management. Soils are rated for pond reservoir areas, drainage, irrigation, terraces and diversions, and grassed waterways. Restrictive features that affect each soil for the specified use is also provided in the table.

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. Slightly limited indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. Moderately limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Limited indicates that the soil has one or more features that are significant limitations for the specified use. The limitations can be overcome, but generally require special design, soil reclamation, or installation procedures that may result in additional expense. Fair performance and moderate to high maintenance can be expected. Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Limitation class terms, such as very limited or limited, etc., limitation ratings, and numerical ratings are shown for each soil feature listed. As many as three soil features may be listed for each soil component if applicable. The overall limitation rating for the soil component is based on the most severe limitation.

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects traffic ability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock, to a cemented pan, or to other layers that affect the rate of water movement; permeability; depth to a high water table or depth of standing water if the soil is subject to ponding; slope; susceptibility to flooding; subsidence of organic layers; and the potential for frost action. Excavating and grading and the stability of ditch banks are affected by depth to bedrock or to a cemented pan, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity or by toxic substances in the root zone, such as salts, sodium, and sulfur. Availability of drainage outlets is not considered in the ratings.

Irrigation is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to the water table, the need for drainage, flooding, available water capacity, intake rate, permeability, erosion hazard, and slope. The construction of a system is affected by large stones and depth to bedrock or to a cemented pan. The performance of a system is affected by the depth of the root zone, the amount of salts or sodium, and soil reaction.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock or to a cemented pan affect the construction of terraces and diversions. A restricted rooting depth, a very limited hazard of wind erosion or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Grassed waterways are natural or constructed channels, generally broad and shallow, which conduct surface water to outlets at a non-erosive velocity. Large stones, wetness, slope, and depth to bedrock or to a cemented pan affect the construction of grassed waterways. A hazard of wind erosion, low available water capacity, restricted rooting depth, toxic substances such as salts and sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

WATER MANAGEMENT--Continued  
Cheyenne, Nebraska

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Features affecting--			
	Drainage	Irrigation	Terraces and diversions	Grassed waterways
Ao: Alliance-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily too arid
AoB: Alliance-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily too arid
AoC: Alliance-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily too arid
AtB: Altvan-----	Limitation: deep to water	Favorable	Limitation: erodes easily too sandy	Limitation: erodes easily too arid
AtC: Altvan-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily too sandy	Limitation: erodes easily too arid
AvD: Altvan-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily too sandy	Limitation: erodes easily too arid
Dix-----	Limitation: deep to water	Limitation: slope soil blowing droughty	Limitation: too sandy soil blowing	Limitation: too arid droughty
Bb: Bankard-----	Limitation: deep to water	Limitation: fast intake soil blowing droughty	Limitation: too sandy soil blowing	Limitation: too arid droughty
Bc: Bankard-----	Limitation: deep to water	Limitation: fast intake soil blowing droughty	Limitation: too sandy soil blowing	Limitation: rooting depth too arid droughty
Be: Bayard-----	Limitation: deep to water	Limitation: soil blowing	Limitation: soil blowing	Limitation: too arid
BeB: Bayard-----	Limitation: deep to water	Limitation: soil blowing	Limitation: soil blowing	Limitation: too arid
BeC: Bayard-----	Limitation: deep to water	Limitation: slope soil blowing	Limitation: soil blowing	Limitation: too arid
BeD: Bayard-----	Limitation: deep to water	Limitation: slope soil blowing	Limitation: soil blowing	Limitation: too arid
BeE: Bayard-----	Limitation: deep to water	Limitation: slope soil blowing	Limitation: slope soil blowing	Limitation: slope too arid
Bg: Bridget-----	Limitation: deep to water	Limitation: soil blowing	Limitation: erodes easily soil blowing	Limitation: erodes easily too arid
BgB: Bridget-----	Limitation: deep to water	Limitation: soil blowing	Limitation: erodes easily soil blowing	Limitation: erodes easily too arid
BgC: Bridget-----	Limitation: deep to water	Limitation: slope soil blowing	Limitation: erodes easily soil blowing	Limitation: erodes easily too arid
BgD: Bridget-----	Limitation: deep to water	Limitation: slope soil blowing	Limitation: erodes easily soil blowing	Limitation: erodes easily too arid
BuC: Busher-----	Limitation: deep to water	Limitation: slope soil blowing	Limitation: soil blowing	Limitation: too arid
BxD: Busher-----	Limitation: deep to water	Limitation: slope soil blowing	Limitation: soil blowing	Limitation: too arid
Tassel-----	Limitation: deep to water	Limitation: slope soil blowing depth to rock	Limitation: depth to rock	Limitation: too arid

WATER MANAGEMENT--Continued  
Cheyenne, Nebraska

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Features affecting--			
	Drainage	Irrigation	Terraces and diversions	Grassed waterways
ByE: Busher-----	Limitation: deep to water	Limitation: slope soil blowing	Limitation: slope soil blowing	Limitation: slope too arid
Tassel-----	Limitation: deep to water	Limitation: fast intake slope soil blowing	Limitation: slope soil blowing depth to rock	Limitation: slope too arid depth to rock
CcF: Canyon-----	Limitation: deep to water	Limitation: slope soil blowing depth to rock	Limitation: slope depth to rock	Limitation: slope too arid
CdG: Canyon-----	Limitation: deep to water	Limitation: slope soil blowing depth to rock	Limitation: slope depth to rock	Limitation: slope too arid
Rock Outcrop---	Limitation: deep to water	Limitation: slope depth to rock	Limitation: slope depth to rock	Limitation: slope depth to rock
CeE: Canyon-----	Limitation: deep to water	Limitation: slope soil blowing depth to rock	Limitation: slope depth to rock	Limitation: slope too arid
Bayard-----	Limitation: deep to water	Limitation: slope soil blowing	Limitation: slope soil blowing	Limitation: slope too arid
CtB: Creighton-----	Limitation: deep to water	Limitation: soil blowing	Limitation: erodes easily soil blowing	Limitation: erodes easily too arid
CtC: Creighton-----	Limitation: deep to water	Limitation: slope soil blowing	Limitation: erodes easily soil blowing	Limitation: erodes easily too arid
DhD: Dix-----	Limitation: deep to water	Limitation: slope droughty	Limitation: too sandy	Limitation: too arid droughty
DhG: Dix-----	Limitation: deep to water	Limitation: slope droughty	Limitation: slope too sandy	Limitation: slope too arid droughty
Du: Duroc-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily
DuB: Duroc-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily
Dv: Duroc-----	Limitation: deep to water	Favorable	Favorable	Favorable
Dx: Duroc-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily
DyE: Dwyer-----	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: slope too sandy soil blowing	Limitation: slope too arid droughty
ErE: Epping-----	Limitation: deep to water	Limitation: slope depth to rock	Limitation: erodes easily slope depth to rock	Limitation: erodes easily slope too arid
Mitchell-----	Limitation: deep to water	Limitation: erodes easily slope soil blowing	Limitation: erodes easily slope soil blowing	Limitation: erodes easily slope too arid
Gd: Glenberg-----	Limitation: deep to water	Limitation: soil blowing droughty	Limitation: too sandy	Limitation: too arid droughty
Go: Goshen-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily
GP: Pits-----	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: slope too sandy	Limitation: rooting depth slope droughty

WATER MANAGEMENT--Continued  
Cheyenne, Nebraska

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Features affecting--			
	Drainage	Irrigation	Terraces and diversions	Grassed waterways
JmB: Jayem-----	Limitation: deep to water	Limitation: soil blowing	Limitation: soil blowing	Limitation: too arid
JmC: Jayem-----	Limitation: deep to water	Limitation: slope soil blowing	Limitation: soil blowing	Limitation: too arid
Jo: Johnstown-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily
Ke: Keith-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily too arid
KeB: Keith-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily too arid
KeC: Keith-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily too arid
Ku: Kuma-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily
LD:	---	---	---	---
Lm: Las-----	Limitation: flooding	Limitation: flooding wetness	Limitation: wetness	Favorable
Lw: Las Animas-----	Limitation: flooding frost action cutbanks cave	Limitation: rooting depth wetness droughty	Limitation: wetness	Limitation: rooting depth wetness droughty
Ly: Lodgepole-----	Limitation: frost action percs slowly ponding	Limitation: erodes easily percs slowly ponding	Limitation: erodes easily percs slowly ponding	Limitation: erodes easily percs slowly wetness
M-W: Miscellaneous Water-----	---	---	---	---
Mc: Mccook-----	Limitation: deep to water	Limitation: soil blowing	Limitation: erodes easily soil blowing	Limitation: erodes easily
MkC: Mitchell-----	Limitation: deep to water	Limitation: erodes easily slope soil blowing	Limitation: erodes easily soil blowing	Limitation: erodes easily too arid
MkD: Mitchell-----	Limitation: deep to water	Limitation: erodes easily slope soil blowing	Limitation: erodes easily soil blowing	Limitation: erodes easily too arid
MkE: Mitchell-----	Limitation: deep to water	Limitation: erodes easily slope soil blowing	Limitation: erodes easily slope soil blowing	Limitation: erodes easily slope too arid
ReG: Rock Outcrop----	Limitation: deep to water	Limitation: slope depth to rock	Limitation: slope depth to rock	Limitation: slope depth to rock
Epping-----	Limitation: deep to water	Limitation: slope depth to rock	Limitation: erodes easily slope depth to rock	Limitation: erodes easily slope too arid
RhG: Rock Outcrop----	Limitation: deep to water	Limitation: slope depth to rock	Limitation: slope depth to rock	Limitation: slope depth to rock
Tassel-----	Limitation: deep to water	Limitation: fast intake slope soil blowing	Limitation: slope soil blowing depth to rock	Limitation: slope too arid depth to rock
Ro: Rosebud-----	Limitation: deep to water	Limitation: depth to rock	Limitation: erodes easily depth to rock	Limitation: erodes easily too arid

WATER MANAGEMENT--Continued  
Cheyenne, Nebraska

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Features affecting--			
	Drainage	Irrigation	Terraces and diversions	Grassed waterways
RoB: Rosebud-----	Limitation: deep to water	Limitation: depth to rock	Limitation: erodes easily depth to rock	Limitation: erodes easily too arid
RoC: Rosebud-----	Limitation: deep to water	Limitation: slope depth to rock	Limitation: erodes easily depth to rock	Limitation: erodes easily too arid
RsD: Rosebud-----	Limitation: deep to water	Limitation: slope depth to rock	Limitation: erodes easily depth to rock	Limitation: erodes easily too arid
Canyon-----	Limitation: deep to water	Limitation: slope depth to rock	Limitation: depth to rock	Limitation: too arid
Sb: Satanta-----	Limitation: deep to water	Favorable	Favorable	Limitation: too arid
SbB: Satanta-----	Limitation: deep to water	Favorable	Favorable	Limitation: too arid
SbC: Satanta-----	Limitation: deep to water	Limitation: slope	Favorable	Limitation: too arid
SnC: Sidney-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily too arid
SoD: Sidney-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily too arid
Canyon-----	Limitation: deep to water	Limitation: slope depth to rock	Limitation: depth to rock	Limitation: too arid
TbF: Tassel-----	Limitation: deep to water	Limitation: fast intake slope soil blowing	Limitation: slope soil blowing depth to rock	Limitation: slope too arid depth to rock
Busher-----	Limitation: deep to water	Limitation: slope soil blowing	Limitation: slope soil blowing	Limitation: slope too arid
TcG: Tassel-----	Limitation: deep to water	Limitation: fast intake slope soil blowing	Limitation: slope soil blowing depth to rock	Limitation: slope too arid depth to rock
Busher-----	Limitation: deep to water	Limitation: slope soil blowing	Limitation: slope soil blowing	Limitation: slope too arid
UyB: Ulysses-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily too arid
UyC: Ulysses-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily too arid
VdD: Valent-----	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: slope too sandy soil blowing	Limitation: slope too arid droughty
W: Water-----	---	---	---	---

WATER MANAGEMENT--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Pond Reservoir Area		Embankments, Dikes, and Levees		Excavated Ponds (Aquifer-fed)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ao: Alliance-----	100	Somewhat limited Seepage Depth to bedrock	0.70 0.00	Somewhat limited Piping Thin layer	0.60 0.11	Very limited Deep to water	1.00
AoB: Alliance-----	100	Somewhat limited Seepage Depth to bedrock	0.70 0.00	Somewhat limited Piping Thin layer	0.98 0.11	Very limited Deep to water	1.00
AoC: Alliance-----	100	Somewhat limited Seepage Depth to bedrock	0.70 0.00	Somewhat limited Piping Thin layer	0.99 0.11	Very limited Deep to water	1.00
AtB: Altvan-----	100	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Deep to water	1.00
AtC: Altvan-----	100	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Deep to water	1.00
AvD: Altvan-----	65	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Deep to water	1.00
Dix-----	35	Very limited Seepage	1.00	Somewhat limited Seepage	0.37	Very limited Deep to water	1.00
Bb: Bankard-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.50	Very limited Deep to water	1.00
Bc: Bankard-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.70	Very limited Deep to water	1.00
Be: Bayard-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.07	Very limited Deep to water	1.00
BeB: Bayard-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.07	Very limited Deep to water	1.00
BeC: Bayard-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.07	Very limited Deep to water	1.00
BeD: Bayard-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.07	Very limited Deep to water	1.00
BeE: Bayard-----	100	Very limited Seepage Slope	1.00 0.03	Somewhat limited Seepage	0.07	Very limited Deep to water	1.00
Bg: Bridget-----	100	Somewhat limited Seepage	0.70	Very limited Piping Seepage	1.00 0.06	Very limited Deep to water	1.00
BgB: Bridget-----	100	Somewhat limited Seepage	0.70	Very limited Piping Seepage	1.00 0.06	Very limited Deep to water	1.00
BgC: Bridget-----	100	Somewhat limited Seepage	0.70	Very limited Piping Seepage	1.00 0.06	Very limited Deep to water	1.00
BgD: Bridget-----	100	Somewhat limited Seepage	0.70	Very limited Piping Seepage	1.00 0.06	Very limited Deep to water	1.00

WATER MANAGEMENT--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Pond Reservoir Area		Embankments, Dikes, and Levees		Excavated Ponds (Aquifer- fed)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BuC: Busher-----	100	Very limited Seepage Depth to bedrock	1.00 0.00	Somewhat limited Seepage Thin layer	0.21 0.11	Very limited Deep to water	1.00
BxD: Busher-----	70	Very limited Seepage Depth to bedrock	1.00 0.00	Somewhat limited Seepage Thin layer	0.21 0.11	Very limited Deep to water	1.00
Tassel-----	30	Somewhat limited Depth to bedrock Seepage	0.74 0.05	Very limited Thin layer Seepage	1.00 0.08	Very limited Deep to water	1.00
ByE: Busher-----	65	Very limited Seepage Slope Depth to bedrock	1.00 0.03 0.00	Somewhat limited Seepage Thin layer	0.21 0.11	Very limited Deep to water	1.00
Tassel-----	35	Somewhat limited Depth to bedrock Seepage Slope	0.74 0.05 0.03	Very limited Thin layer Seepage	1.00 0.08	Very limited Deep to water	1.00
CcF: Canyon-----	100	Somewhat limited Depth to bedrock Slope Seepage	0.74 0.08 0.05	Very limited Thin layer Seepage	1.00 0.08	Very limited Deep to water	1.00
CdG: Canyon-----	60	Somewhat limited Depth to bedrock Slope Seepage	0.74 0.40 0.05	Very limited Thin layer Piping Seepage	1.00 1.00 0.08	Very limited Deep to water	1.00
Rock Outcrop-----	40	Not rated		Not rated		Not rated	
CeE: Canyon-----	55	Somewhat limited Depth to bedrock Seepage Slope	0.74 0.05 0.01	Very limited Thin layer Seepage	1.00 0.08	Very limited Deep to water	1.00
Bayard-----	45	Very limited Seepage Slope	1.00 0.01	Somewhat limited Seepage	0.07	Very limited Deep to water	1.00
CtB: Creighton-----	100	Somewhat limited Seepage	0.70	Very limited Piping Seepage	1.00 0.07	Very limited Deep to water	1.00
CtC: Creighton-----	100	Somewhat limited Seepage	0.70	Very limited Piping Seepage	1.00 0.07	Very limited Deep to water	1.00
DhD: Dix-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.97	Very limited Deep to water	1.00
DhG: Dix-----	100	Very limited Seepage Slope	1.00 0.55	Somewhat limited Seepage	0.97	Very limited Deep to water	1.00
Du: Duroc-----	100	Somewhat limited Seepage	0.70	Very limited Piping	1.00	Very limited Deep to water	1.00
DuB: Duroc-----	100	Somewhat limited Seepage	0.70	Very limited Piping	1.00	Very limited Deep to water	1.00

WATER MANAGEMENT--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Pond Reservoir Area		Embankments, Dikes, and Levees		Excavated Ponds (Aquifer-fed)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Dv: Duroc-----	100	Very limited Seepage	1.00	Very limited Seepage Piping	1.00 1.00	Very limited Deep to water	1.00
Dx: Duroc-----	100	Somewhat limited Seepage	0.70	Very limited Piping	1.00	Very limited Deep to water	1.00
DyE: Dwyer-----	100	Very limited Seepage Slope	1.00 0.01	Somewhat limited Seepage	0.21	Very limited Deep to water	1.00
ErE: Epping-----	55	Somewhat limited Depth to bedrock Slope	0.66 0.00	Very limited Thin layer	1.00	Very limited Deep to water	1.00
Mitchell-----	45	Somewhat limited Seepage Slope	0.70 0.00	Very limited Piping Seepage	1.00 0.05	Very limited Deep to water	1.00
Gd: Glenberg-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.09	Very limited Deep to water	1.00
Go: Goshen-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.80	Very limited Deep to water	1.00
GP: Pits-----	100	Not rated		Not rated		Not rated	
JmB: Jayem-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.07	Very limited Deep to water	1.00
JmC: Jayem-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.08	Very limited Deep to water	1.00
Jo: Johnstown-----	100	Very limited Seepage	1.00	Somewhat limited Seepage Piping	0.95 0.90	Very limited Deep to water	1.00
Ke: Keith-----	100	Somewhat limited Seepage	0.70	Very limited Piping	1.00	Very limited Deep to water	1.00
KeB: Keith-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping	1.00	Very limited Deep to water	1.00
KeC: Keith-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.90	Very limited Deep to water	1.00
Ku: Kuma-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.53	Very limited Deep to water	1.00
Lm: Las-----	100	Somewhat limited Seepage	0.05	Somewhat limited Depth to saturated zone Piping	0.86 0.50	Somewhat limited Slow refill Cutbanks cave Deep to water	0.95 0.10 0.06
Lw: Las Animas-----	100	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.04	Very limited Cutbanks cave	1.00
Ly: Lodgepole-----	100	Very limited		Very limited		Somewhat limited	

WATER MANAGEMENT--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Pond Reservoir Area		Embankments, Dikes, and Levees		Excavated Ponds (Aquifer-fed)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
M-W: Miscellaneous Water-	100	Seepage	1.00	Depth to saturated zone Seepage	1.00 0.09	Cutbanks cave	0.10
Mc: Mccook-----	100	Not rated		Not rated		Not rated	
MkC: Mitchell-----	100	Somewhat limited Seepage	0.70	Very limited Piping Seepage	1.00 0.05	Very limited Deep to water	1.00
MkD: Mitchell-----	100	Somewhat limited Seepage	0.70	Very limited Piping Seepage	1.00 0.05	Very limited Deep to water	1.00
MkE: Mitchell-----	100	Somewhat limited Seepage Slope	0.70 0.03	Very limited Piping Seepage	1.00 0.05	Very limited Deep to water	1.00
ReG: Rock Outcrop-----	55	Not rated		Not rated		Not rated	
Epping-----	45	Somewhat limited Depth to bedrock Slope	0.66 0.40	Very limited Thin layer	1.00	Very limited Deep to water	1.00
RhG: Rock Outcrop-----	55	Not rated		Not rated		Not rated	
Tassel-----	45	Somewhat limited Slope Depth to bedrock Seepage	0.88 0.74 0.05	Very limited Thin layer Seepage	1.00 0.08	Very limited Deep to water	1.00
Ro: Rosebud-----	100	Somewhat limited Seepage Depth to bedrock	0.70 0.11	Somewhat limited Thin layer	0.85	Very limited Deep to water	1.00
RoB: Rosebud-----	100	Somewhat limited Seepage Depth to bedrock	0.70 0.11	Very limited Piping Thin layer Seepage	1.00 0.85 0.08	Very limited Deep to water	1.00
RoC: Rosebud-----	100	Somewhat limited Seepage Depth to bedrock	0.70 0.11	Somewhat limited Thin layer Piping	0.85 0.68	Very limited Deep to water	1.00
RsD: Rosebud-----	55	Somewhat limited Seepage Depth to bedrock	0.70 0.11	Somewhat limited Piping Thin layer Seepage	0.97 0.85 0.08	Very limited Deep to water	1.00
Canyon-----	45	Somewhat limited Depth to bedrock Seepage	0.74 0.05	Very limited Thin layer Piping Seepage	1.00 1.00 0.06	Very limited Deep to water	1.00
Sb: Satanta-----	100	Very limited Seepage	1.00	Somewhat limited Piping	0.97	Very limited Deep to water	1.00

WATER MANAGEMENT--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Pond Reservoir Area		Embankments, Dikes, and Levees		Excavated Ponds (Aquifer-fed)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SbB: Satanta-----	100	Very limited Seepage	1.00	Seepage Somewhat limited Piping Seepage	0.33 0.61 0.33	Very limited Deep to water	1.00
SbC: Satanta-----	100	Very limited Seepage	1.00	Somewhat limited Piping Seepage	0.98 0.33	Very limited Deep to water	1.00
SnC: Sidney-----	100	Somewhat limited Seepage Depth to bedrock	0.70 0.00	Very limited Piping Thin layer	1.00 0.11	Very limited Deep to water	1.00
SoD: Sidney-----	55	Somewhat limited Seepage Depth to bedrock	0.70 0.00	Very limited Piping Thin layer	1.00 0.11	Very limited Deep to water	1.00
Canyon-----	45	Somewhat limited Depth to bedrock Seepage	0.74 0.05	Very limited Thin layer	1.00	Very limited Deep to water	1.00
TbF: Tassel-----	55	Somewhat limited Depth to bedrock Slope Seepage	0.74 0.06 0.05	Very limited Thin layer Seepage	1.00 0.08	Very limited Deep to water	1.00
Busher-----	45	Very limited Seepage Slope Depth to bedrock	1.00 0.06 0.00	Somewhat limited Seepage Thin layer	0.21 0.11	Very limited Deep to water	1.00
TcG: Tassel-----	55	Somewhat limited Slope Depth to bedrock Seepage	0.76 0.74 0.05	Very limited Thin layer Seepage	1.00 0.30	Very limited Deep to water	1.00
Busher-----	30	Very limited Seepage Slope Depth to bedrock	1.00 0.15 0.00	Somewhat limited Seepage Thin layer	0.21 0.11	Very limited Deep to water	1.00
UyB: Ulysses-----	100	Somewhat limited Seepage	0.70	Very limited Piping	1.00	Very limited Deep to water	1.00
UyC: Ulysses-----	100	Somewhat limited Seepage	0.70	Very limited Piping	1.00	Very limited Deep to water	1.00
VdD: Valent-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	1.00	Very limited Deep to water	1.00
W: Water-----	100	Not rated		Not rated		Not rated	



SANITARY FACILITIES  
Cheyenne, Nebraska

Sanitary Facilities

The following tables show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. Slightly limited indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A trench sanitary landfill is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

SANITARY FACILITIES  
Cheyenne, Nebraska

In an area sanitary landfill, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

SANITARY FACILITIES--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Ao: Alliance-----	100	Somewhat limited Depth to bedrock	0.78	Somewhat limited Seepage	0.50
		Restricted permeability	0.68	Depth to soft bedrock	0.42
AoB: Alliance-----	100	Somewhat limited Depth to bedrock	0.78	Somewhat limited Seepage	0.50
				Depth to soft bedrock	0.42
				Slope	0.00
AoC: Alliance-----	100	Somewhat limited Depth to bedrock	0.78	Somewhat limited Slope	0.67
		Restricted permeability	0.68	Seepage	0.50
				Depth to soft bedrock	0.42
AtB: Altvan-----	100	Very limited Filtering capacity	1.00	Very limited Seepage	1.00
		Restricted permeability	0.50	Slope	0.00
AtC: Altvan-----	100	Very limited Filtering capacity	1.00	Very limited Seepage	1.00
		Restricted permeability	0.50	Slope	0.67
AvD: Altvan-----	65	Very limited Filtering capacity	1.00	Very limited Seepage	1.00
		Restricted permeability	0.50	Slope	0.91
Dix-----	35	Very limited Filtering capacity	1.00	Very limited Seepage	1.00
				Slope	0.91
Bb: Bankard-----	100	Very limited Flooding	1.00	Very limited Flooding	1.00
		Filtering capacity	1.00	Seepage	1.00
Bc: Bankard-----	100	Very limited Flooding	1.00	Very limited Flooding	1.00
		Filtering capacity	1.00	Seepage	1.00
Be: Bayard-----	100	Not limited		Very limited Seepage	1.00
BeB: Bayard-----	100	Not limited		Very limited Seepage	1.00
				Slope	0.00
BeC: Bayard-----	100	Not limited		Very limited Seepage	1.00
				Slope	0.67
BeD: Bayard-----	100	Somewhat limited Slope	0.00	Very limited Seepage	1.00
				Slope	1.00
BeE: Bayard-----	100	Very limited Slope	1.00	Very limited Slope	1.00
				Seepage	1.00
Bg: Bridget-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
BgB: Bridget-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
				Slope	0.00
BgC: Bridget-----	100	Somewhat limited		Somewhat limited	

SANITARY FACILITIES--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
BgD: Bridget-----	100	Restricted permeability	0.50	Slope	0.67
				Seepage	0.50
BuC: Busher-----	100	Somewhat limited Restricted permeability	0.50	Very limited Slope	1.00
		Slope	0.00	Seepage	0.50
BxD: Busher-----	70	Somewhat limited Depth to bedrock	0.78	Very limited Seepage	1.00
				Slope	0.67
				Depth to soft bedrock	0.42
Tassel-----	30	Somewhat limited Depth to bedrock	0.78	Very limited Seepage	1.00
				Slope	0.91
				Depth to soft bedrock	0.42
ByE: Busher-----	65	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Slope	1.00	Seepage	1.00
			0.78	Depth to soft bedrock	0.42
Tassel-----	35	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	1.00
CcF: Canyon-----	100	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
CdG: Canyon-----	60	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
Rock Outcrop-----	40	Not rated		Seepage	0.50
CeE: Canyon-----	55	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Slope	0.84	Slope	1.00
Bayard-----	45	Somewhat limited Slope	0.84	Very limited Seepage	1.00
				Slope	1.00
CtB: Creighton-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
				Slope	0.00
CtC: Creighton-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Slope	0.67
				Seepage	0.50
DhD: Dix-----	100	Very limited Filtering capacity	1.00	Very limited Seepage	1.00
				Slope	1.00
DhG: Dix-----	100	Very limited Filtering capacity	1.00	Very limited Slope	1.00
		Slope	1.00	Seepage	1.00
Du: Duroc-----	100	Somewhat limited		Somewhat limited	

SANITARY FACILITIES--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
DuB:		Restricted permeability	0.50	Seepage	0.50
Duroc-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
Dv:				Slope	0.00
Duroc-----	100	Very limited Filtering capacity Restricted permeability	1.00 0.50	Very limited Seepage	1.00
Dx:					
Duroc-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
DyE:					
Dwyer-----	100	Very limited Filtering capacity Slope	1.00 0.84	Very limited Slope Seepage	1.00 1.00
ErE:					
Epping-----	55	Very limited Depth to bedrock Slope	1.00 0.63	Very limited Depth to soft bedrock Slope Seepage	1.00 1.00 0.50
Mitchell-----	45	Somewhat limited Slope Restricted permeability	0.63 0.50	Very limited Slope Seepage	1.00 0.50
Gd:					
Glenberg-----	100	Not limited		Very limited Seepage	1.00
Go:					
Goshen-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
GP:					
Pits-----	100	Not rated		Not rated	
JmB:					
Jayem-----	100	Not limited		Very limited Seepage Slope	1.00 0.00
JmC:					
Jayem-----	100	Not limited		Very limited Seepage Slope	1.00 0.67
Jo:					
Johnstown-----	100	Very limited Filtering capacity Restricted permeability	1.00 0.50	Very limited Seepage	1.00
Ke:					
Keith-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
KeB:					
Keith-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage Slope	0.50 0.00
KeC:					
Keith-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Slope Seepage	0.67 0.50
Ku:					
Kuma-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
Lm:					
Las-----	100	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00

SANITARY FACILITIES--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Lw: Las Animas-----	100	Restricted permeability	1.00		
		Very limited Flooding	1.00	Very limited Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
				Depth to saturated zone	1.00
Ly: Lodgepole-----	100	Very limited Restricted permeability	1.00	Very limited Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
M-W: Miscellaneous Water-	100	Not rated		Not rated	
Mc: Mccook-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
MkC: Mitchell-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Slope	0.67
				Seepage	0.50
MkD: Mitchell-----	100	Somewhat limited Restricted permeability	0.50	Very limited Slope	1.00
		Slope	0.00	Seepage	0.50
MkE: Mitchell-----	100	Very limited Slope	1.00	Very limited Slope	1.00
		Restricted permeability	0.50	Seepage	0.50
ReG: Rock Outcrop-----	55	Not rated		Not rated	
Epping-----	45	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
RhG: Rock Outcrop-----	55	Not rated		Not rated	
Tassel-----	45	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
Ro: Rosebud-----	100	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
				Seepage	0.50
RoB: Rosebud-----	100	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Restricted permeability	0.50	Seepage	0.50
				Slope	0.00
RoC: Rosebud-----	100	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	0.67
				Seepage	0.50
RSD: Rosebud-----	55	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
				Slope	0.91
				Seepage	0.50
Canyon-----	45	Very limited		Very limited	

SANITARY FACILITIES--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Sb: Satanta-----	100	Depth to bedrock	1.00	Depth to soft bedrock	1.00
				Slope	0.91
				Seepage	0.50
SbB: Satanta-----	100	Very limited Filtering capacity	1.00	Very limited Seepage	1.00
		Restricted permeability	0.50		
				Slope	0.00
SbC: Satanta-----	100	Very limited Filtering capacity	1.00	Very limited Seepage	1.00
		Restricted permeability	0.50	Slope	0.00
SnC: Sidney-----	100	Somewhat limited		Somewhat limited	
		Depth to bedrock	0.78	Slope	0.67
		Restricted permeability	0.50	Seepage	0.50
SoD: Sidney-----	55	Somewhat limited		Somewhat limited	
		Depth to bedrock	0.78	Slope	0.91
		Restricted permeability	0.50	Seepage	0.50
Canyon-----	45	Very limited		Depth to soft bedrock	0.42
		Depth to bedrock	1.00	Very limited	
				Depth to soft bedrock	1.00
TbF: Tassel-----	55	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Seepage	1.00
Busher-----	45	Very limited		Very limited	
		Slope	1.00	Seepage	1.00
		Depth to bedrock	0.78	Slope	1.00
TcG: Tassel-----	55	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
Busher-----	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.78	Seepage	1.00
UyB: Ulysses-----	100	Somewhat limited		Somewhat limited	
		Restricted permeability	0.50	Seepage	0.50
				Slope	0.00
UyC: Ulysses-----	100	Somewhat limited		Somewhat limited	
		Restricted permeability	0.50	Slope	0.67
				Seepage	0.50
VdD: Valent-----	100	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
		Slope	0.04	Seepage	1.00
W: Water-----	100	Not rated		Not rated	

SANITARY FACILITIES--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit				

SANITARY FACILITIES--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ao: Alliance-----	100	Very limited Depth to bedrock	1.00	Not limited		Somewhat limited Depth to bedrock	0.42
AoB: Alliance-----	100	Very limited Depth to bedrock	1.00	Not limited		Somewhat limited Depth to bedrock	0.42
AoC: Alliance-----	100	Very limited Depth to bedrock	1.00	Not limited		Somewhat limited Depth to bedrock	0.42
AtB: Altvan-----	100	Very limited Too Sandy	1.00	Not limited		Very limited Too Sandy Seepage	1.00 1.00
AtC: Altvan-----	100	Very limited Too Sandy	1.00	Not limited		Very limited Too Sandy Seepage	1.00 1.00
AvD: Altvan-----	65	Very limited Too Sandy	1.00	Not limited		Very limited Too Sandy Seepage	1.00 1.00
Dix-----	35	Very limited Seepage Too Sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Seepage Too Sandy Gravel content	1.00 0.50 0.22
Bb: Bankard-----	100	Very limited Flooding Too Sandy	1.00 1.00	Very limited Flooding	1.00	Very limited Seepage Too Sandy	1.00 0.50
Bc: Bankard-----	100	Very limited Flooding Too Sandy	1.00 1.00	Very limited Flooding	1.00	Very limited Seepage Too Sandy	1.00 0.50
Be: Bayard-----	100	Very limited Seepage	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.50
BeB: Bayard-----	100	Very limited Seepage	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.50
BeC: Bayard-----	100	Very limited Seepage	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.50
BeD: Bayard-----	100	Very limited Seepage Slope	1.00 0.00	Very limited Seepage Slope	1.00 0.00	Somewhat limited Seepage Slope	0.50 0.00
BeE: Bayard-----	100	Very limited Seepage Slope	1.00 1.00	Very limited Seepage Slope	1.00 1.00	Very limited Slope Seepage	1.00 0.50
Bg: Bridget-----	100	Not limited		Not limited		Not limited	
BgB: Bridget-----	100	Not limited		Not limited		Not limited	
BgC: Bridget-----	100	Not limited		Not limited		Not limited	
BgD: Bridget-----	100	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00
BuC: Busher-----	100	Very limited Depth to bedrock Too Sandy	1.00 1.00	Not limited		Somewhat limited Seepage Depth to bedrock	0.50 0.42
BxD: Busher-----	70	Very limited Depth to bedrock Too Sandy	1.00 1.00	Not limited		Somewhat limited Seepage Depth to bedrock	0.50 0.42
Tassel-----	30	Very limited Depth to bedrock	1.00	Not limited		Very limited Depth to bedrock Seepage	1.00 0.50
ByE: Busher-----	65	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Slope	1.00	Very limited Slope Seepage Depth to bedrock	1.00 0.50 0.42
Tassel-----	35	Very limited Depth to bedrock Too Sandy Slope	1.00 1.00 1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope Seepage	1.00 1.00 0.50
CcF: Canyon-----	100	Very limited Depth to bedrock	1.00	Very limited Slope	1.00	Very limited Depth to bedrock	1.00

SANITARY FACILITIES--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CdG:		Slope	1.00			Slope	1.00
Canyon-----	60	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope	1.00 1.00
Rock Outcrop-----	40	Not rated		Not rated		Not rated	
CeE:		Very limited Depth to bedrock Slope	1.00 0.84	Somewhat limited Slope	0.84	Very limited Depth to bedrock Slope	1.00 0.84
Canyon-----	55						
Bayard-----	45	Very limited Seepage Slope	1.00 0.84	Very limited Seepage Slope	1.00 0.84	Somewhat limited Slope Seepage	0.84 0.50
CtB:		Not limited		Not limited		Not limited	
Creighton-----	100						
CtC:		Not limited		Not limited		Not limited	
Creighton-----	100						
DhD:		Very limited Seepage Too Sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too Sandy Seepage Gravel content	1.00 1.00 1.00
Dix-----	100						
DhG:		Very limited Seepage Too Sandy Slope	1.00 1.00 1.00	Very limited Seepage Slope	1.00 1.00	Very limited Too Sandy Seepage Gravel content Slope	1.00 1.00 1.00 1.00
Dix-----	100						
Du:		Not limited		Not limited		Not limited	
Duroc-----	100						
DuB:		Not limited		Not limited		Not limited	
Duroc-----	100						
Dv:		Very limited Seepage	1.00	Not limited		Not limited	
Duroc-----	100						
Dx:		Not limited		Not limited		Not limited	
Duroc-----	100						
DyE:		Very limited Too Sandy Slope	1.00 0.84	Somewhat limited Slope	0.84	Very limited Too Sandy Seepage Slope	1.00 1.00 0.84
Dwyer-----	100						
ErE:		Very limited Depth to bedrock Slope	1.00 0.63	Somewhat limited Slope	0.63	Very limited Depth to bedrock Slope	1.00 0.63
Epping-----	55						
Mitchell-----	45	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63
Gd:		Very limited Too Sandy	1.00	Not limited		Very limited Too Sandy Seepage	1.00 0.50
Glenberg-----	100						
Go:		Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
Goshen-----	100						
GP:		Not rated		Not rated		Not rated	
Pits-----	100						
JmB:		Not limited		Not limited		Somewhat limited Seepage	0.50
Jayem-----	100						
JmC:		Not limited		Not limited		Somewhat limited Seepage	0.50
Jayem-----	100						
Jo:		Very limited Seepage	1.00	Not limited		Not limited	
Johnstown-----	100						
Ke:		Not limited		Not limited		Not limited	
Keith-----	100						
KeB:		Not limited		Not limited		Not limited	
Keith-----	100						
KeC:		Not limited		Not limited		Not limited	
Keith-----	100						
Ku:		Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
Kuma-----	100						

SANITARY FACILITIES--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Lm: Las-----	100	Very limited Flooding Depth to saturated zone Too clayey	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Somewhat limited Too clayey Depth to saturated zone	0.50 0.47
Lw: Las Animas-----	100	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Depth to saturated zone Seepage	1.00 0.50
Ly: Lodgepole-----	100	Very limited Depth to saturated zone Seepage Too clayey	1.00 1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Hard to compact Too clayey	1.00 1.00 0.50
M-W: Miscellaneous Water-	100	Not rated		Not rated		Not rated	
Mc: Mccook-----	100	Not limited		Not limited		Not limited	
MkC: Mitchell-----	100	Not limited		Not limited		Not limited	
MkD: Mitchell-----	100	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00
MkE: Mitchell-----	100	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
ReG: Rock Outcrop-----	55	Not rated		Not rated		Not rated	
Epping-----	45	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope	1.00 1.00
RhG: Rock Outcrop-----	55	Not rated		Not rated		Not rated	
Tassel-----	45	Very limited Slope Depth to bedrock Too Sandy	1.00 1.00 1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope Seepage	1.00 1.00 0.50
Ro: Rosebud-----	100	Very limited Depth to bedrock	1.00	Not limited		Very limited Depth to bedrock	1.00
RoB: Rosebud-----	100	Very limited Depth to bedrock	1.00	Not limited		Very limited Depth to bedrock	1.00
RoC: Rosebud-----	100	Very limited Depth to bedrock	1.00	Not limited		Very limited Depth to bedrock	1.00
RsD: Rosebud-----	55	Very limited Depth to bedrock	1.00	Not limited		Very limited Depth to bedrock	1.00
Canyon-----	45	Very limited Depth to bedrock	1.00	Not limited		Very limited Depth to bedrock	1.00
Sb: Satanta-----	100	Not limited		Not limited		Not limited	
SbB: Satanta-----	100	Not limited		Not limited		Not limited	
SbC: Satanta-----	100	Not limited		Not limited		Not limited	
SnC: Sidney-----	100	Very limited Depth to bedrock	1.00	Somewhat limited Depth to bedrock	0.42	Somewhat limited Depth to bedrock	0.42
SoD: Sidney-----	55	Very limited Depth to bedrock	1.00	Somewhat limited Depth to bedrock	0.42	Somewhat limited Depth to bedrock	0.42
Canyon-----	45	Very limited Depth to bedrock	1.00	Not limited		Very limited Depth to bedrock	1.00
TbF: Tassel-----	55	Very limited Depth to bedrock Too Sandy Slope	1.00 1.00 1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope Seepage	1.00 1.00 0.50

SANITARY FACILITIES--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Busher-----	45	Very limited Depth to bedrock Too Sandy Slope	1.00 1.00 1.00	Very limited Slope	1.00	Very limited Slope Seepage Depth to bedrock	1.00 0.50 0.42
TcG: Tassel-----	55	Very limited Depth to bedrock Too Sandy Slope	1.00 1.00 1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope Seepage	1.00 1.00 0.50
Busher-----	30	Very limited Depth to bedrock Too Sandy Slope	1.00 1.00 1.00	Very limited Slope	1.00	Very limited Slope Seepage Depth to bedrock	1.00 0.50 0.42
UyB: Ulysses-----	100	Not limited		Not limited		Not limited	
UyC: Ulysses-----	100	Not limited		Not limited		Not limited	
VdD: Valent-----	100	Very limited Too Sandy Slope	1.00 0.04	Somewhat limited Slope	0.04	Very limited Seepage Too Sandy Slope	1.00 0.50 0.04
W: Water-----	100	Not rated		Not rated		Not rated	



AGRICULTURAL WASTE MANAGEMENT  
Cheyenne, Nebraska

The nature of the soil is also important in the application of organic wastes and wastewater to land as fertilizers and irrigation; it is also important when the soil is used as a medium for treatment and disposal of these wastes. Favorable soil properties are required to prevent environmental damage.

The use of organic wastes and wastewater as production resources will result in energy conservation, prevent the waste of these important resources, and prevent problems associated with their disposal. Where disposal is the goal, and a maximum amount is disposed in a minimum area to hold costs to a minimum, risk of environmental damage is the principal constraint. Where the reuse goal is pursued, and a minimum amount is applied to a maximum area to obtain the greatest benefit, environmental damage is unlikely.

Interpretations developed for waste management may include ratings for (1) manure and food processing wastes; (2) municipal sewage sludge; (3) irrigation use of wastewater; or (4) treatment of wastewater by the slow rate process, overland flow process, or rapid infiltration process. If available, these should be located in this subsection.

Soil properties are important considerations in areas where soils are used as sites for the treatment and disposal of organic waste and wastewater. Selection of soils with properties that favor waste management can help to prevent environmental damage.

The Ag-Waste tables show the degree and kind of soil limitations affecting the treatment of agricultural waste, including municipal and food-processing wastewater and effluent from lagoons or storage ponds. Municipal wastewater is the waste stream from a municipality. It contains domestic waste and may contain industrial waste. It may have received primary or secondary treatment. It is rarely untreated sewage. Food-processing wastewater results from the preparation of fruits, vegetables, milk, cheese, and meats for public consumption. In places it is high in content of sodium and chloride. In the context of these tables, the effluent in lagoons and storage ponds is from facilities used to treat or store food-processing wastewater or domestic or animal waste. Domestic and food-processing wastewater is very dilute, and the effluent from the facilities that treat or store it commonly is very low in content of carbonaceous and nitrogenous material; the content of nitrogen commonly ranges from 10 to 30 milligrams per liter. The wastewater from animal waste treatment lagoons or storage ponds, however, has much higher concentrations of these materials, mainly because the manure has not been diluted as much as the domestic waste. The content of nitrogen in this wastewater generally ranges from 50 to 2,000 milligrams per liter. When wastewater is applied, checks should be made to ensure that nitrogen, phosphorus, heavy metals, and salts are not added in excessive amounts.

The ratings in the tables are for waste management systems that not only dispose of and treat organic waste or wastewater but also are beneficial to crops (application of manure and food-processing waste, application of sewage sludge, and disposal of wastewater by irrigation) and for waste management systems that are designed only for the purpose of wastewater disposal and treatment (overland flow of wastewater, rapid infiltration of wastewater, and slow rate treatment of wastewater).

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect agricultural waste management. Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. Slightly limited indicates that the soil has features that are generally favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Application of manure and food-processing waste not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. Manure is the excrement of livestock and poultry, and food-processing waste is damaged fruit and vegetables and the peelings, stems, leaves, pits, and soil particles removed in food preparation. The manure and food-processing waste are either solid, slurry, or liquid. Their nitrogen content varies. A high content of nitrogen limits the application rate. Toxic or otherwise dangerous wastes, such as those mixed with the lye used in food processing, are not considered in the ratings.

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by which the waste is applied. The properties that affect absorption include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Application of sewage sludge not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. In the context of this table, sewage sludge is the residual product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy metals and exotic organic compounds, and should be analyzed chemically prior to use.

AGRICULTURAL WASTE MANAGEMENT  
Cheyenne, Nebraska

The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of sludge. Permanently frozen soils are unsuitable for waste treatment.

Disposal of wastewater by irrigation not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also can improve crop production by increasing the amount of water available to crops. The ratings in the table are based on the soil properties that affect the design, construction, management, and performance of the irrigation system. The properties that affect design and management include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, permeability, slope, and flooding. The properties that affect construction include stones, cobbles, depth to bedrock or a cemented pan, depth to a water table, and ponding.

The properties that affect performance include depth to bedrock or a cemented pan, bulk density, the sodium adsorption ratio, salinity, reaction, and the cation-exchange capacity, which is used to estimate the capacity of a soil to adsorb heavy metals. Permanently frozen soils are not suitable for disposal of wastewater by irrigation.

See the National Soil Handbook, September 1992, Part 620, for criteria used in rating soils for sanitary facilities and waste management.

AGRICULTURAL WASTE MANAGEMENT--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ao: Alliance-----	100	Not limited		Not limited		Not limited	
AoB: Alliance-----	100	Not limited		Not limited		Not limited	
AoC: Alliance-----	100	Not limited		Not limited		Somewhat limited Too steep for surface application	0.31
AtB: Altvan-----	100	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
AtC: Altvan-----	100	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity Too steep for surface application	0.31
AvD: Altvan-----	65	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity Too steep for surface application	0.66
						Too steep for sprinkler application	0.00
Dix-----	35	Very limited Filtering capacity Leaching limitation	1.00 0.45	Very limited Filtering capacity Droughty	1.00 0.06	Very limited Filtering capacity Too steep for surface application Droughty Too steep for sprinkler application	1.00 0.66 0.06 0.00
		Droughty	0.06				
Bb: Bankard-----	100	Very limited Filtering capacity Flooding	1.00 0.60	Very limited Flooding Filtering capacity	1.00 1.00	Very limited Filtering capacity Flooding	1.00 0.60
		Leaching limitation	0.45				
Bc: Bankard-----	100	Very limited Flooding Filtering capacity Leaching limitation	1.00 1.00 0.45	Very limited Flooding Filtering capacity	1.00 1.00	Very limited Flooding Filtering capacity	1.00 1.00
Be: Bayard-----	100	Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00
BeB: Bayard-----	100	Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00
BeC: Bayard-----	100	Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00	Somewhat limited Too steep for surface application Filtering capacity	0.31 0.00
BeD: Bayard-----	100	Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00	Very limited Too steep for surface application	1.00
		Slope	0.00	Slope	0.00	Too steep for sprinkler application	0.10

AGRICULTURAL WASTE MANAGEMENT--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BeE: Bayard-----	100					Filtering capacity	0.00
		Very limited Slope	1.00	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
		Filtering capacity	0.00	Filtering capacity	0.00	Too steep for sprinkler application	1.00
Bg: Bridget-----	100					Filtering capacity	0.00
		Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00
BgB: Bridget-----	100	Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00
BgC: Bridget-----	100	Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00	Somewhat limited Too steep for surface application	0.31
BgD: Bridget-----	100					Filtering capacity	0.00
		Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00	Very limited Too steep for surface application	1.00
		Slope	0.00	Slope	0.00	Too steep for sprinkler application	0.10
						Filtering capacity	0.00
BuC: Busher-----	100	Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00	Somewhat limited Too steep for surface application	0.31
BxD: Busher-----	70					Filtering capacity	0.00
		Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00	Somewhat limited Too steep for surface application	0.66
Tassel-----	30					Filtering capacity	0.00
		Very limited Depth to bedrock	1.00	Very limited Droughty	1.00	Too steep for sprinkler application	0.00
		Droughty	1.00	Depth to bedrock	1.00	Filtering capacity	0.00
		Runoff limitation	0.40	Filtering capacity	0.00	Too steep for surface application	0.66
		Filtering capacity	0.00			Filtering capacity	0.00
						Too steep for sprinkler application	0.00
ByE: Busher-----	65					Filtering capacity	0.00
		Very limited Slope	1.00	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
		Filtering capacity	0.00	Filtering capacity	0.00	Too steep for sprinkler application	1.00
						Filtering capacity	0.00
Tassel-----	35					Filtering capacity	0.00
		Very limited Depth to bedrock	1.00	Very limited Droughty	1.00	Very limited Droughty	1.00
		Droughty	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00

AGRICULTURAL WASTE MANAGEMENT--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CcF: Canyon-----	100	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
		Runoff limitation	0.40	Filtering capacity	0.00	Too steep for sprinkler application	1.00
		Filtering capacity	0.00			Filtering capacity	0.00
		Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Droughty	1.00	Droughty	1.00
		Droughty	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
CdG: Canyon-----	60	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
		Runoff limitation	0.40	Filtering capacity	0.00	Too steep for sprinkler application	1.00
		Low adsorption	0.01			Low adsorption	0.01
		Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Droughty	1.00	Droughty	1.00
		Droughty	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Rock Outcrop-----	40	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
		Runoff limitation	0.40	Filtering capacity	0.00	Too steep for sprinkler application	1.00
		Filtering capacity	0.00			Filtering capacity	0.00
CeE: Canyon-----	55	Not rated		Not rated		Not rated	
		Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Droughty	1.00	Droughty	1.00
Bayard-----	45	Droughty	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.84	Slope	0.84	Too steep for surface application	1.00
		Runoff limitation	0.40	Filtering capacity	0.00	Too steep for sprinkler application	0.89
CtB: Creighton-----	100	Low adsorption	0.01			Low adsorption	0.01
		Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Too steep for surface application	1.00
CtC: Creighton-----	100	Filtering capacity	0.00	Filtering capacity	0.00	Too steep for sprinkler application	0.89
						Filtering capacity	0.00
		Somewhat limited		Somewhat limited		Somewhat limited	
DhD: Dix-----	100	Filtering capacity	0.00	Filtering capacity	0.00	Too steep for surface application	0.31
						Filtering capacity	0.00
		Somewhat limited		Somewhat limited		Too steep for surface application	0.31
		Filtering capacity	0.00	Filtering capacity	0.00	Filtering capacity	0.00
DhD: Dix-----	100	Very limited		Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
		Depth to dense layer	1.00	Droughty	0.98	Droughty	0.98
						Too steep for surface application	0.91

AGRICULTURAL WASTE MANAGEMENT--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
DhG: Dix-----	100	Leaching limitation	0.45			Too steep for sprinkler application	0.02
		Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
		Slope	1.00	Slope	1.00	Too steep for surface application	1.00
		Depth to dense layer	1.00	Droughty	1.00	Too steep for sprinkler application	1.00
		Droughty Leaching limitation	1.00 0.45			Droughty	1.00
Du: Duroc-----	100	Not limited		Not limited		Not limited	
DuB: Duroc-----	100	Not limited		Not limited		Not limited	
Dv: Duroc-----	100	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
Dx: Duroc-----	100	Not limited		Not limited		Not limited	
DyE: Dwyer-----	100	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Too steep for surface application	1.00
		Slope	0.84	Slope	0.84	Filtering capacity	1.00
		Leaching limitation	0.45	Droughty	0.04	Too steep for sprinkler application	0.89
		Droughty	0.04			Droughty	0.04
ErE: Epping-----	55	Very limited Depth to bedrock	1.00	Very limited Droughty	1.00	Very limited Droughty	1.00
		Droughty	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Too steep for surface application	1.00
Mitchell-----	45	Runoff limitation	0.40			Too steep for sprinkler application	0.77
		Low adsorption	0.02	Somewhat limited		Low adsorption	0.02
		Somewhat limited Slope	0.63	Slope	0.63	Very limited Too steep for surface application	1.00
Gd: Glenberg-----	100	Filtering capacity	0.00	Filtering capacity	0.00	Too steep for sprinkler application	0.77
						Filtering capacity	0.00
Go: Goshen-----	100	Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00
GP: Pits-----	100	Not limited		Not limited		Not limited	
JmB: Jayem-----	100	Not rated		Not rated		Not rated	
JmC: Jayem-----	100	Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00
						Too steep for surface application	0.31

AGRICULTURAL WASTE MANAGEMENT--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Jo: Johnstown-----	100	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Filtering capacity	0.00
Ke: Keith-----	100	Not limited		Not limited		Very limited Filtering capacity	1.00
KeB: Keith-----	100	Not limited		Not limited		Not limited	
KeC: Keith-----	100	Not limited		Not limited		Not limited	
Ku: Kuma-----	100	Not limited		Not limited		Somewhat limited Too steep for surface application	0.31
Lm: Las-----	100	Somewhat limited Depth to saturated zone Flooding	0.86 0.60	Very limited Flooding	1.00	Not limited	
		Restricted permeability	0.30	Depth to saturated zone Restricted permeability	0.86 0.22	Somewhat limited Depth to saturated zone Flooding	0.86 0.60
Lw: Las Animas-----	100	Very limited Depth to saturated zone Flooding Runoff limitation Droughty Filtering capacity	1.00 1.00 0.40 0.00 0.00	Very limited Depth to saturated zone Flooding Droughty Filtering capacity	1.00 1.00 0.00 0.00	Restricted permeability	0.22
Ly: Lodgepole-----	100	Very limited Restricted permeability Depth to saturated zone Runoff limitation Filtering capacity	1.00 1.00 0.40 0.00	Very limited Restricted permeability Depth to saturated zone Filtering capacity	1.00 1.00 0.00	Very limited Depth to saturated zone Flooding Droughty Filtering capacity	1.00 1.00 0.00 0.00
M-W: Miscellaneous Water-	100	Not rated		Not rated		Very limited Restricted permeability Depth to saturated zone Filtering capacity	1.00 1.00 0.00
Mc: Mccook-----	100	Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00	Not rated	
MkC: Mitchell-----	100	Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00
						Somewhat limited Too steep for surface application Filtering capacity	0.31 0.00
MkD: Mitchell-----	100	Somewhat limited Filtering capacity Slope	0.00 0.00	Somewhat limited Filtering capacity Slope	0.00 0.00	Very limited Too steep for surface application Too steep for sprinkler application Filtering capacity	1.00 0.10 0.00
MkE: Mitchell-----	100	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Too steep for surface application	1.00

AGRICULTURAL WASTE MANAGEMENT--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ReG: Rock Outcrop-----	55	Filtering capacity	0.00	Filtering capacity	0.00	Too steep for sprinkler application	1.00
		Not rated		Not rated		Filtering capacity	0.00
Epping-----	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Droughty	1.00	Droughty	1.00
		Droughty	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
RhG: Rock Outcrop-----	55	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
		Runoff limitation	0.40			Too steep for sprinkler application	1.00
		Low adsorption	0.37			Low adsorption	0.37
Tassel-----	45	Not rated		Not rated		Not rated	
		Very limited		Very limited		Very limited	
		Slope	1.00	Droughty	1.00	Droughty	1.00
		Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
Ro: Rosebud-----	100	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	1.00	Slope	1.00	Too steep for surface application	1.00
		Runoff limitation	0.40			Too steep for sprinkler application	1.00
		Somewhat limited		Somewhat limited		Somewhat limited	
RoB: Rosebud-----	100	Droughty	0.76	Droughty	0.76	Droughty	0.76
		Depth to bedrock	0.42	Depth to bedrock	0.42	Depth to bedrock	0.42
RoC: Rosebud-----	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to bedrock	0.42	Depth to bedrock	0.42	Depth to bedrock	0.42
RsD: Rosebud-----	55	Droughty	0.30	Droughty	0.30	Droughty	0.30
		Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to bedrock	0.42	Depth to bedrock	0.42	Depth to bedrock	0.42
Canyon-----	45	Droughty	0.17	Droughty	0.17	Too steep for surface application	0.31
		Somewhat limited		Somewhat limited		Too steep for sprinkler application	0.17
		Depth to bedrock	0.42	Depth to bedrock	0.42	Somewhat limited	
		Droughty	0.25	Droughty	0.25	Too steep for surface application	0.66
Sb: Satanta-----	100	Very limited		Very limited		Very limited	
		Filtering capacity	1.00	Droughty	1.00	Droughty	1.00
		Runoff limitation	0.40	Depth to bedrock	1.00	Depth to bedrock	1.00
Sb: Satanta-----	100	Very limited		Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
		Runoff limitation	0.40	Runoff limitation	0.40	Too steep for surface application	0.66

AGRICULTURAL WASTE MANAGEMENT--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SbB: Satanta-----	100	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
SbC: Satanta-----	100	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity Too steep for surface application	1.00 0.31
SnC: Sidney-----	100	Somewhat limited Sodium content	0.08	Somewhat limited Sodium content	0.08	Somewhat limited Too steep for surface application Sodium content	0.31 0.08
SoD: Sidney-----	55	Somewhat limited Sodium content	0.08	Somewhat limited Sodium content	0.08	Somewhat limited Too steep for surface application Sodium content Too steep for sprinkler application	0.66 0.08 0.00
Canyon-----	45	Very limited Depth to bedrock Droughty Runoff limitation  Low adsorption	1.00 1.00 0.40  0.05	Very limited Droughty Depth to bedrock	1.00 1.00	Very limited Droughty Depth to bedrock Too steep for surface application Low adsorption Too steep for sprinkler application	1.00 1.00 0.66  0.05 0.00
TbF: Tassel-----	55	Very limited Depth to bedrock Droughty Slope  Filtering capacity  Runoff limitation	1.00 1.00 1.00  1.00  0.40	Very limited Droughty Depth to bedrock Slope	1.00 1.00 1.00	Very limited Droughty Depth to bedrock Too steep for surface application Too steep for sprinkler application Filtering capacity	1.00 1.00 1.00  1.00  1.00
Busher-----	45	Very limited Slope  Filtering capacity	1.00  0.00	Very limited Slope  Filtering capacity	1.00  0.00	Very limited Too steep for surface application Too steep for sprinkler application Filtering capacity	1.00  1.00 0.00
TcG: Tassel-----	55	Very limited Depth to bedrock Droughty Slope  Filtering capacity  Runoff limitation	1.00 1.00 1.00  1.00  0.40	Very limited Droughty Depth to bedrock Slope	1.00 1.00 1.00	Very limited Droughty Depth to bedrock Too steep for surface application Too steep for sprinkler application Filtering capacity	1.00 1.00 1.00  1.00  1.00
Busher-----	30	Very limited Slope  Filtering capacity	1.00  0.00	Very limited Slope  Filtering capacity	1.00  0.00	Very limited Too steep for surface application Too steep for sprinkler application Filtering capacity	1.00  1.00 0.00

AGRICULTURAL WASTE MANAGEMENT--Continued  
Cheyenne, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UyB: Ulysses-----	100	Not limited		Not limited		Not limited	
UyC: Ulysses-----	100	Not limited		Not limited		Somewhat limited Too steep for surface application	0.31
VdD: Valent-----	100	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Too steep for surface application	1.00
		Leaching limitation	0.45	Droughty	0.23	Filtering capacity	1.00
		Droughty	0.23	Slope	0.04	Droughty	0.23
		Slope	0.04			Too steep for sprinkler application	0.22
W: Water-----	100	Not rated		Not rated		Not rated	



In this section, hydric soils are defined and described and the hydric soils in the survey area are listed. The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for each of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 1995). These criteria are used to identify a phase of a soil series that normally is associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (USDA, 1999) and "Keys to Soil Taxonomy" (USDA, 1998) and in the "Soil Survey Manual" (USDA, 1993).

If soils are wet enough for a long enough period to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils in this survey area are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 1996).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units in the Hydric Soil Interpretations table meet the definition of hydric soils and, in addition, have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 1996).

Map units that are made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

These map units, in general, do not meet the definition of hydric soils because they do not have one of the hydric soil indicators. A portion of these map units, however, may include hydric soils. Onsite investigation is recommended to determine whether hydric soils occur and the location of the included hydric soils.

HYDRIC SOIL INTERPRETATIONS  
HYDRIC SOILS LIST  
Cheyenne, Nebraska

All mapunits are displayed regardless of hydric status and are listed in alpha-numeric order by mapunit symbol. The "Hydric Soils Criteria" columns indicate the conditions that caused the mapunit component to be classified as "Hydric" or "Non-Hydric". These criteria are defined in "Hydric Soils of the United States" (USDA Miscellaneous Publication No. 1491, June, 1991). See the "Criteria for Hydric Soils" endnote to determine the meaning of these columns. Spot symbols are footnoted at the end of the table.

Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
Ao:							
ALLIANCE LOAM, 0 TO 1 PERCENT SLOPES	ALLIANCE	No	plain	---	---	---	---
	LODGEPOLE	Yes	playa	2A	YES	NO	NO
AoB:							
ALLIANCE LOAM, 1 TO 3 PERCENT SLOPES	ALLIANCE	No	plain	---	---	---	---
	LODGEPOLE	Yes	playa	2A	YES	NO	NO
AoC:							
ALLIANCE LOAM, 3 TO 6 PERCENT SLOPES	ALLIANCE	No	hillslope	---	---	---	---
AtB:							
ALTVAN LOAM, 1 TO 3 PERCENT SLOPES	ALTVAN	No	plain	---	---	---	---
AtC:							
ALTVAN LOAM, 3 TO 6 PERCENT SLOPES	ALTVAN	No	hillslope	---	---	---	---
AvD:							
ALTVAN-DIX COMPLEX, 3 TO 9 PERCENT SLOPES	ALTVAN	No	hillslope	---	---	---	---
	DIX	No	hillslope	---	---	---	---
Bb:							
BANKARD LOAMY SAND, 0 TO 2 PERCENT SLOPES	BANKARD	No	flood plain	---	---	---	---
	WT AT 0-1 FOOT	Yes	swale	2B2	YES	NO	NO
Bc:							
BANKARD LOAMY FINE SAND, CHANNELED	BANKARD	No	flood plain	---	---	---	---
	WT AT 0-1 FOOT	Yes	swale	2B2	YES	NO	NO
Be:							
BAYARD FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES	BAYARD	No	stream terrace	---	---	---	---
BeB:							
BAYARD FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES	BAYARD	No	stream terrace	---	---	---	---
BeC:							
BAYARD FINE SANDY LOAM, 3 TO 6 PERCENT SLOPES	BAYARD	No	stream terrace	---	---	---	---
	PERCHED WT	Yes	playa	2A	YES	NO	NO
BeD:							
BAYARD FINE SANDY LOAM, 6 TO 9 PERCENT SLOPES	BAYARD	No	hillslope	---	---	---	---
	PERCHED WT	Yes	playa	2A	YES	NO	NO
BeE:							
BAYARD FINE SANDY LOAM, 9 TO 20 PERCENT SLOPES	BAYARD	No	hillslope	---	---	---	---
Bg:							
BRIDGET VERY FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES	BRIDGET	No	stream terrace	---	---	---	---
BgB:							
BRIDGET VERY FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES	BRIDGET	No	stream terrace	---	---	---	---
BgC:							
BRIDGET VERY FINE SANDY LOAM, 3 TO 6 PERCENT SLOPES	BRIDGET	No	stream terrace	---	---	---	---
BgD:							
BRIDGET VERY FINE SANDY LOAM, 6 TO 9 PERCENT SLOPES	BRIDGET	No	hillslope	---	---	---	---
BuC:							
BUSHER FINE SANDY LOAM, 3 TO 6 PERCENT SLOPES	BUSHER	No	hillslope	---	---	---	---
BxD:							
BUSHER-TASSEL COMPLEX, 3 TO 9 PERCENT SLOPES	BUSHER	No	hillslope	---	---	---	---
	TASSEL	No	hillslope	---	---	---	---
ByE:							
BUSHER-TASSEL COMPLEX, 9 TO 20 PERCENT SLOPES	BUSHER	No	hillslope	---	---	---	---
	TASSEL	No	hillslope	---	---	---	---

HYDRIC SOIL INTERPRETATIONS  
HYDRIC SOILS LIST  
Cheyenne, Nebraska

All mapunits are displayed regardless of hydric status and are listed in alpha-numeric order by mapunit symbol. The "Hydric Soils Criteria" columns indicate the conditions that caused the mapunit component to be classified as "Hydric" or "Non-Hydric". These criteria are defined in "Hydric Soils of the United States" (USDA Miscellaneous Publication No. 1491, June, 1991). See the "Criteria for Hydric Soils" endnote to determine the meaning of these columns. Spot symbols are footnoted at the end of the table.

Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
CcF: CANYON FINE SANDY LOAM, 6 TO 30 PERCENT SLOPES	CANYON	No	hillslope	---	---	---	---
CdG: CANYON-ROCK OUTCROP COMPLEX, 11 TO 60 PERCENT SLOPES	CANYON	No	hillslope	---	---	---	---
	ROCK OUTCROP	Unranked	hillslope	---	---	---	---
CeE: CANYON-BAYARD COMPLEX, 6 TO 20 PERCENT SLOPES	CANYON	No	hillslope	---	---	---	---
	BAYARD	No	hillslope	---	---	---	---
CtB: CREIGHTON VERY FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES	CREIGHTON	No	plain	---	---	---	---
CtC: CREIGHTON VERY FINE SANDY LOAM, 3 TO 6 PERCENT SLOPES	CREIGHTON	No	hillslope	---	---	---	---
DhD: DIX GRAVELLY LOAM, 3 TO 11 PERCENT SLOPES	DIX	No	hillslope	---	---	---	---
DhG: DIX GRAVELLY LOAM, 11 TO 50 PERCENT SLOPES	DIX	No	hillslope	---	---	---	---
Du: DUROC LOAM, 0 TO 1 PERCENT SLOPES	DUROC	No	swale	---	---	---	---
	LODGEPOLE	Yes	playa	2A	YES	NO	NO
DuB: DUROC LOAM, 1 TO 3 PERCENT SLOPES	DUROC	No	swale	---	---	---	---
	LODGEPOLE	Yes	playa	2A	YES	NO	NO
Dv: DUROC LOAM, TERRACE, GRAVELLY SUBSTRATUM, 0 TO 1 PERCENT SLOPES	DUROC	No	stream terrace	---	---	---	---
Dx: DUROC SILT LOAM, TERRACE, 0 TO 1 PERCENT SLOPES	DUROC	No	stream terrace	---	---	---	---
	LODGEPOLE	Yes	playa	2A	YES	NO	NO
DyE: DWYER LOAMY FINE SAND, 9 TO 17 PERCENT SLOPES	DWYER	No	dune	---	---	---	---
ErE: EPPING-MITCHELL COMPLEX, 3 TO 20 PERCENT SLOPES	EPPING	No	hillslope	---	---	---	---
	MITCHELL	No	hillslope	---	---	---	---
Gd: GLENBERG FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES	GLENBERG	No	flood plain	---	---	---	---
	WT AT 0-1 FOOT	Yes	swale	2B3	YES	NO	NO
Go: GOSHEN SILT LOAM, 0 TO 1 PERCENT SLOPES	GOSHEN	No	swale	---	---	---	---
	LODGEPOLE	Yes	playa	2A	YES	NO	NO
GP: GRAVEL PIT	PITS	Unranked	---	---	---	---	---
JmB: JAYEM FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES	JAYEM	No	plain	---	---	---	---
	PERCHED WT	Yes	playa	2B3	YES	NO	NO
JmC: JAYEM FINE SANDY LOAM, 3 TO 6 PERCENT SLOPES	JAYEM	No	hillslope	---	---	---	---
	PERCHED WT	Yes	playa	2B3	YES	NO	NO
Jo: JOHNSTOWN LOAM, 0 TO 1 PERCENT SLOPES	JOHNSTOWN	No	plain	---	---	---	---
Ke: KEITH LOAM, 0 TO 1 PERCENT SLOPES	KEITH	No	plain	---	---	---	---
	LODGEPOLE	Yes	playa	2A	YES	NO	NO

HYDRIC SOIL INTERPRETATIONS  
HYDRIC SOILS LIST  
Cheyenne, Nebraska

All mapunits are displayed regardless of hydric status and are listed in alpha-numeric order by mapunit symbol. The "Hydric Soils Criteria" columns indicate the conditions that caused the mapunit component to be classified as "Hydric" or "Non-Hydric". These criteria are defined in "Hydric Soils of the United States" (USDA Miscellaneous Publication No. 1491, June, 1991). See the "Criteria for Hydric Soils" endnote to determine the meaning of these columns. Spot symbols are footnoted at the end of the table.

Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
KeB: KEITH LOAM, 1 TO 3 PERCENT SLOPES	KEITH	No	plain	---	---	---	---
	LODGEPOLE	Yes	playa	2A	YES	NO	NO
KeC: KEITH LOAM, 3 TO 6 PERCENT SLOPES	KEITH	No	hillslope	---	---	---	---
	LODGEPOLE	Yes	playa	2A	YES	NO	NO
Ku: KUMA LOAM, 0 TO 1 PERCENT SLOPES	KUMA	No	plain	---	---	---	---
	LODGEPOLE	Yes	playa	2A	YES	NO	NO
LD: SANITARY LANDFILL	SANITARY LANDFILL	---	---	---	---	---	---
Lm: LAS LOAM, 0 TO 1 PERCENT SLOPES	LAS	No	flood plain	---	---	---	---
	WT AT 0-1 FOOT	Yes	swale	2B3	YES	NO	NO
Lw: LAS ANIMAS LOAM, 0 TO 2 PERCENT SLOPES	LAS ANIMAS	Yes	flood plain	2B3	YES	NO	NO
	WT AT 0-1 FOOT	Yes	swale	2B3	YES	NO	NO
Ly: LODGEPOLE SILT LOAM, 0 TO 1 PERCENT SLOPES	LODGEPOLE	Yes	depression	2A	YES	NO	NO
	PONDED SOILS	Yes	playa	2B3,3	YES	NO	YES
M-W: MISCELLANEOUS WATER, SEWAGE LAGOONS	MISCELLANEOUS WATER	---	---	---	---	---	---
Mc: MCCOOK VERY FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES	MCCOOK	No	flood plain	---	---	---	---
MkC: MITCHELL VERY FINE SANDY LOAM, 3 TO 6 PERCENT SLOPES	MITCHELL	No	hillslope	---	---	---	---
MkD: MITCHELL VERY FINE SANDY LOAM, 6 TO 9 PERCENT SLOPES	MITCHELL	No	hillslope	---	---	---	---
MkE: MITCHELL VERY FINE SANDY LOAM, 9 TO 20 PERCENT SLOPES	MITCHELL	No	hillslope	---	---	---	---
ReG: ROCK OUTCROP-EPPING COMPLEX, 11 TO 60 PERCENT SLOPES	ROCK OUTCROP	Unranked	hillslope	---	---	---	---
	EPPING	No	hillslope	---	---	---	---
RhG: ROCK OUTCROP-TASSEL COMPLEX, 20 TO 60 PERCENT SLOPES	ROCK OUTCROP	Unranked	hillslope	---	---	---	---
	TASSEL	No	hillslope	---	---	---	---
Ro: ROSEBUD LOAM, 0 TO 1 PERCENT SLOPES	ROSEBUD	No	divide	---	---	---	---
	LODGEPOLE	Yes	playa	2A	YES	NO	NO
RoB: ROSEBUD LOAM, 1 TO 3 PERCENT SLOPES	ROSEBUD	No	hillslope	---	---	---	---
	LODGEPOLE	Yes	playa	2A	YES	NO	NO
RoC: ROSEBUD LOAM, 3 TO 6 PERCENT SLOPES	ROSEBUD	No	hillslope	---	---	---	---
Rsd: ROSEBUD-CANYON COMPLEX, 3 TO 9 PERCENT SLOPES	ROSEBUD	No	hillslope	---	---	---	---
	CANYON	No	hillslope	---	---	---	---
Sb: SATANTA LOAM, GRAVELLY SUBSTRATUM, 0 TO 1 PERCENT SLOPES	SATANTA	No	plain	---	---	---	---
	LODGEPOLE	Yes	playa	2A	YES	NO	NO
SbB: SATANTA LOAM, GRAVELLY SUBSTRATUM, 1 TO 3 PERCENT SLOPES	SATANTA	No	plain	---	---	---	---

All mapunits are displayed regardless of hydric status and are listed in alpha-numeric order by mapunit symbol. The "Hydric Soils Criteria" columns indicate the conditions that caused the mapunit component to be classified as "Hydric" or "Non-Hydric". These criteria are defined in "Hydric Soils of the United States" (USDA Miscellaneous Publication No. 1491, June, 1991). See the "Criteria for Hydric Soils" endnote to determine the meaning of these columns. Spot symbols are footnoted at the end of the table.

Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
SbC: SATANTA LOAM, GRAVELLY SUBSTRATUM, 3 TO 6 PERCENT SLOPES	SATANTA	No	hillslope	---	---	---	---
SnC: SIDNEY LOAM, 3 TO 6 PERCENT SLOPES	SIDNEY	No	hillslope	---	---	---	---
SoD: SIDNEY-CANYON COMPLEX, 3 TO 9 PERCENT SLOPES	SIDNEY	No	hillslope	---	---	---	---
	CANYON	No	hillslope	---	---	---	---
TbF: TASSEL-BUSHER COMPLEX, 3 TO 30 PERCENT SLOPES	TASSEL	No	hillslope	---	---	---	---
	BUSHER	No	hillslope	---	---	---	---
TcG: TASSEL-BUSHER-ROCK OUTCROP COMPLEX, 11 TO 60 PERCENT SLOPES	TASSEL	No	hillslope	---	---	---	---
	BUSHER	No	hillslope	---	---	---	---
	ROCK OUTCROP	Unranked	---	---	---	---	---
UyB: ULYSSES LOAM, 1 TO 3 PERCENT SLOPES	ULYSSES	No	divide	---	---	---	---
UyC: ULYSSES LOAM, 3 TO 6 PERCENT SLOPES	ULYSSES	No	hillslope	---	---	---	---
VdD: VALENT LOAMY FINE SAND, 6 TO 9 PERCENT SLOPES	VALENT	No	dune	---	---	---	---
W: WATER	WATER	Unranked	---	---	---	---	---

FOOTNOTE: There may be small areas of included soils or miscellaneous areas that are significant to use and management of the soil; yet are too small to delineate on the soil map at the map's original scale. These may be designated as spot symbols and are defined in the published Soil Survey Report or the USDA-NRCS Technical Guide, Part II. Areas mapped as water or any map unit that contains one of the following conventional symbols is considered a hydric soil map unit: marshes or swamps; wet spots; depressions; streams, lakes and ponds.

1. All Histosols except Folists, or
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Aquisalids, Pachic subgroups, or Cumulic subgroups that are:
  - a. Somewhat poorly drained with a water table equal to 0.0 foot (ft) from the surface during the growing season, or
  - b. poorly drained or very poorly drained and have either:
    - (1) water table equal to 0.0 ft during the growing season if textures are coarse sand, sand, or fine sand in all layers within 20 inches (in), or for other soils
    - (2) water table at less than or equal to 0.5 ft from the surface during the growing season if permeability is equal to or greater than 6.0 in/hour (h) in all layers within 20 in, or
    - (3) water table at less than or equal to 1.0 ft from the surface during the growing season if permeability is less than 6.0 in/h in any layer within 20 in, or
3. Soils that are frequently ponded for long duration or very long duration during the growing season, or
4. Soils that are frequently flooded for long duration or very long duration during the growing season.



HIGHLY ERODIBLE LANDS REPORT

Survey Area- CHEYENNE COUNTY, NEBRASKA

Map Symbol	Soil Mapunit Name	HEL Classifications		
		C=60	R=75	wnd wat mu
Ao	ALLIANCE LOAM, 0 TO 1 PERCENT SLOPES	3	3	3
AoB	ALLIANCE LOAM, 1 TO 3 PERCENT SLOPES	3	3	3
AoC	ALLIANCE LOAM, 3 TO 6 PERCENT SLOPES	3	3	3
AtB	ALTVAN LOAM, 1 TO 3 PERCENT SLOPES	1	3	1
AtC	ALTVAN LOAM, 3 TO 6 PERCENT SLOPES	1	2	1
AvD	ALTVAN-DIX COMPLEX, 3 TO 9 PERCENT SLOPES	1	2	1
Bb	BANKARD LOAMY SAND, 0 TO 2 PERCENT SLOPES	1	3	1
Bc	BANKARD LOAMY FINE SAND, CHANNELED	1	3	1
Be	BAYARD FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES	1	3	1
BeB	BAYARD FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES	1	3	1
BeC	BAYARD FINE SANDY LOAM, 3 TO 6 PERCENT SLOPES	1	3	1
BeD	BAYARD FINE SANDY LOAM, 6 TO 9 PERCENT SLOPES	1	3	1
BeE	BAYARD FINE SANDY LOAM, 9 TO 20 PERCENT SLOPES	1	2	1
Bg	BRIDGET VERY FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES	1	3	1
BgB	BRIDGET VERY FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES	1	3	1
BgC	BRIDGET VERY FINE SANDY LOAM, 3 TO 6 PERCENT SLOPES	1	3	1
BgD	BRIDGET VERY FINE SANDY LOAM, 6 TO 9 PERCENT SLOPES	1	2	1
BuC	BUSHER FINE SANDY LOAM, 3 TO 6 PERCENT SLOPES	1	3	1
BxD	BUSHER-TASSEL COMPLEX, 3 TO 9 PERCENT SLOPES	1	2	1
ByE	BUSHER-TASSEL COMPLEX, 9 TO 20 PERCENT SLOPES	1	2	1
CcF	CANYON FINE SANDY LOAM, 6 TO 30 PERCENT SLOPES	1	1	1
CdG	CANYON-ROCK OUTCROP COMPLEX, 11 TO 60 PERCENT SLOPES	1	1	1
CeE	CANYON-BAYARD COMPLEX, 6 TO 20 PERCENT SLOPES	1	1	1
CtB	CREIGHTON VERY FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES	1	3	1
CtC	CREIGHTON VERY FINE SANDY LOAM, 3 TO 6 PERCENT SLOPES	1	3	1
DhD	DIX GRAVELLY LOAM, 3 TO 11 PERCENT SLOPES	1	2	1
DhG	DIX GRAVELLY LOAM, 11 TO 50 PERCENT SLOPES	3	1	1
Du	DUROC LOAM, 0 TO 1 PERCENT SLOPES	3	3	3
DuB	DUROC LOAM, 1 TO 3 PERCENT SLOPES	3	3	3
Dv	DUROC LOAM, TERRACE, GRAVELLY SUBSTRATUM, 0 TO 1 PERCENT SLOPES	3	3	3
Dx	DUROC SILT LOAM, TERRACE, 0 TO 1 PERCENT SLOPES	3	3	3
DyE	DWYER LOAMY FINE SAND, 9 TO 17 PERCENT SLOPES	1	3	1
ErE	EPPING-MITCHELL COMPLEX, 3 TO 20 PERCENT SLOPES	1	2	1
Gd	GLENBERG FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES	1	3	1
Go	GOSHEN SILT LOAM, 0 TO 1 PERCENT SLOPES	3	3	3
JmB	JAYEM FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES	1	3	1
JmC	JAYEM FINE SANDY LOAM, 3 TO 6 PERCENT SLOPES	1	3	1
Jo	JOHNSTOWN LOAM, 0 TO 1 PERCENT SLOPES	3	3	3
Ke	KEITH LOAM, 0 TO 1 PERCENT SLOPES	3	3	3
KeB	KEITH LOAM, 1 TO 3 PERCENT SLOPES	3	3	3
KeC	KEITH LOAM, 3 TO 6 PERCENT SLOPES	3	3	3
Ku	KUMA LOAM, 0 TO 1 PERCENT SLOPES	3	3	3
Lm	LAS LOAM, 0 TO 1 PERCENT SLOPES	3	3	3
Lw	LAS ANIMAS LOAM, 0 TO 2 PERCENT SLOPES	3	3	3
Ly	LODGEPOLE SILT LOAM, 0 TO 1 PERCENT SLOPES	1	3	1
Mc	MCCOOK VERY FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES	1	3	1
MkC	MITCHELL VERY FINE SANDY LOAM, 3 TO 6 PERCENT SLOPES	1	3	1
MkD	MITCHELL VERY FINE SANDY LOAM, 6 TO 9 PERCENT SLOPES	1	2	1
MkE	MITCHELL VERY FINE SANDY LOAM, 9 TO 20 PERCENT SLOPES	1	2	1

Pg	PITS, SAND AND GRAVEL	3	3	3
ReG	ROCK OUTCROP-EPPING COMPLEX, 11 TO 60 PERCENT SLOPES		1	1
RhG	ROCK OUTCROP-TASSEL COMPLEX, 20 TO 60 PERCENT SLOPES	1	2	1
Ro	ROSEBUD LOAM, 0 TO 1 PERCENT SLOPES	1	3	1
RoB	ROSEBUD LOAM, 1 TO 3 PERCENT SLOPES	1	3	1
RoC	ROSEBUD LOAM, 3 TO 6 PERCENT SLOPES	1	2	1
RsD	ROSEBUD-CANYON COMPLEX, 3 TO 9 PERCENT SLOPES	1	2	1
Sb	SATANTA LOAM, GRAVELLY SUBSTRATUM, 0 TO 1 PERCENT SLOPES	3	3	3
SbB	SATANTA LOAM, GRAVELLY SUBSTRATUM, 1 TO 3 PERCENT SLOPES	3	3	3
SbC	SATANTA LOAM, GRAVELLY SUBSTRATUM, 3 TO 6 PERCENT SLOPES	3	2	2
SnC	SIDNEY LOAM, 3 TO 6 PERCENT SLOPES	1	3	1
SoD	SIDNEY-CANYON COMPLEX, 3 TO 9 PERCENT SLOPES	1	3	1
TbF	TASSEL-BUSHER COMPLEX, 3 TO 30 PERCENT SLOPES	1	2	1
TcG	TASSEL-BUSHER-ROCK OUTCROP COMPLEX, 11 TO 60 PERCENT SLOPES	1	1	1
UyB	ULYSSES LOAM, 1 TO 3 PERCENT SLOPES	3	3	3
UyC	ULYSSES LOAM, 3 TO 6 PERCENT SLOPES	3	3	3
VdD	VALENT LOAMY FINE SAND, 6 TO 9 PERCENT SLOPES	1	3	1