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*\*County specific computer generated reports.*

## ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Saunders County, Nebraska: Update

Map symbol	Soil name	Acres	Percent
1050	Aksarben Silty Clay Loam, 0 To 2 Percent Slopes-----	6,742	1.4
1100	Alda Fine Sandy Loam, 0 To 2 Percent Slopes, Occasionally Flooded-----	3,062	0.6
1347	Barney Silty Clay Loam, 0 To 2 Percent Slopes, Wet, Frequently Flooded---	2,632	0.5
1616	Boel Loamy Fine Sand, 0 To 3 Percent Slopes, Occasionally Flooded-----	1,622	0.3
1873	Burchard-Steinauer Clay Loams, 6 To 12 Percent Slopes, Eroded-----	4,216	0.9
1879	Burchard-Steinauer Clay Loams, 12 To 18 Percent Slopes, Eroded-----	5,468	1.1
2420	Deroin Silty Clay Loam, 5 To 11 Percent Slopes, Eroded-----	339	*
2830	Filbert Silt Loam, 0 To 1 Percent Slopes-----	21,810	4.5
2844	Fillmore Silt Loam, Terrace, 0 To 1 Percent Slopes-----	2,772	0.6
2863	Fluvaquents, Silty, Frequently Flooded-----	582	0.1
3025	Gibson Silt Loam, 0 To 2 Percent Slopes, Occasionally Flooded-----	4,694	1.0
3038	Gibbon-Saltine Loams, 0 To 2 Percent Slopes, Occasionally Flooded-----	2,037	0.4
3421	Hedville Cobbly Loam, 6 To 30 Percent Slopes-----	87	*
3830	Ida-Steinauer Complex, 17 To 60 Percent Slopes-----	6,801	1.4
3890	Inglewood Loamy Fine Sand, 0 To 3 Percent Slopes, Rarely Flooded-----	2,334	0.5
4104	Judson Silt Loam, 0 To 2 Percent Slopes-----	3,507	0.7
4106	Judson Silt Loam, 2 To 5 Percent Slopes-----	24,509	5.0
4250	Kenridge Silty Clay Loam, 0 To 2 Percent Slopes, Occasionally Flooded----	15,606	3.2
4404	Lamo Silty Clay Loam, 0 To 2 Percent Slopes, Occasionally Flooded-----	3,268	0.7
4583	Lex Loam, 0 To 2 Percent Slopes, Occasionally Flooded-----	1,529	0.3
4853	Malcolm Silt Loam, 5 To 11 Percent Slopes, Moderately Eroded-----	186	*
4860	Malmo Clay Loam, 6 To 12 Percent Slopes, Eroded-----	8,441	1.7
5388	Morrill Clay Loam, 6 To 12 Percent Slopes, Moderately Eroded-----	1,686	0.3
5480	Muscotah Silty Clay Loam, 0 To 1 Percent Slopes Occasionally Flooded----	6,106	1.3
5540	Nodaway Silt Loam, 0 To 2 Percent Slopes, Occasionally Flooded-----	31,908	6.6
5541	Nodaway Silt Loam, 0 To 2 Percent Slopes, Channeled, Frequently Flooded---	7,755	1.6
5736	Obert Silty Clay Loam, 0 To 2 Percent Slopes, Wet, Frequently Flooded----	1,290	0.3
5742	Obert Silty Clay Loam, 0 To 2 Percent Slopes, Occasionally Flooded-----	1,806	0.4
5780	Olmitz Loam, 2 To 5 Percent Slopes-----	2,784	0.6
6046	Pawnee Clay Loam, 6 To 12 Percent Slopes, Moderately Eroded-----	2,145	0.4
6130	Platte Fine Sandy Loam, 0 To 2 Percent Slopes Occasionally Flooded-----	3,160	0.7
6138	Platte-Barney Complex, 0 To 2 Percent Slopes, Channeled-----	2,605	0.5
6160	Pohocco Silty Clay Loam, 5 To 11 Percent Slopes, Eroded-----	12,968	2.7
6162	Pohocco Silty Clay Loam, 11 To 17 Percent Slopes, Eroded-----	16,208	3.3
6170	Pohocco-Pahuk Complex, 5 To 11 Percent Slopes, Eroded-----	6,506	1.3
6172	Pohocco-Pahuk Complex, 11 To 17 Percent Slopes, Eroded-----	1,084	0.2
6520	Saltillo Silt Loam, 0 To 2 Percent Slopes, Occasionally Flooded-----	417	*
6791	Scott Silt Loam, Terrace, 0 To 1 Percent Slopes-----	816	0.2
7069	Steinauer Clay Loam, 12 To 30 Percent Slopes-----	1,591	0.3
7290	Tomek Silt Loam, 0 To 2 Percent Slopes-----	33,427	6.9
7920	Wann Fine Sandy Loam, 0 To 2 Percent Slopes, Occasionally Flooded-----	4,598	0.9
8120	Yutan Silty Clay Loam, 11 To 17 Percent Slopes, Eroded-----	11,334	2.3
8124	Yutan Silty Clay Loam, Terrace, 2 To 5 Percent Slopes, Eroded-----	34,409	7.1
8130	Yutan, Eroded-Aksarben Silty Clay Loams, 2 To 5 Percent Slopes-----	64,376	13.3
8134	Yutan, Eroded-Judson Complex, 5 To 11 Percent Slopes-----	106,773	22.0
9900	Arents, Earthen Dam-----	122	*
9985	Gravel Pits-----	1,771	0.4
9998	Water-----	5,820	1.2
	Total-----	485,709	100.0

\* Less than 0.1 percent.



NONTECHNICAL SOIL DESCRIPTIONS  
Saunders County, 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.

1050 Aksarben Silty Clay Loam, 0 To 2 Percent Slopes

Aksarben soil makes up 98 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping broad interstream divide on upland. The runoff class is low. The parent material consists of loess. 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. This soil is in the Silty - Veg. Zone 4 range site. This soil is in the irrigated land capability class 1. It is in the nonirrigated land capability classification 1.

1100 Alda Fine Sandy Loam, 0 To 2 Percent Slopes, Occasionally Flooded

Alda, OCCASIONALLY FLOODED, soil makes up 85 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is low. The parent material consists of loamy alluvium over sandy and gravelly alluvium. This soil is somewhat poorly drained. The slowest permeability is moderate. It has a moderate available water capacity and a low shrink swell potential. This soil is occasionally flooded and is not ponded. The top of the seasonal high water table is at 27 inches. The soil contains a maximum amount of 15 percent calcium carbonate. It has a horizon that is slightly sodic. This soil is in the Subirrigated - Veg. Zone 4 range site. This soil is in the irrigated land capability class 3w. It is in the nonirrigated land capability classification 3w.

1347 Barney Silty Clay Loam, 0 To 2 Percent Slopes, Wet, Frequently Flooded

Barney, FREQUENTLY FLOODED, soil makes up 87 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is very low. The parent material consists of loamy alluvium over sandy and gravelly 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 12 inches. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Wet Land - Veg. Zone 3 range site. It is in the nonirrigated land capability classification 5w.

1616 Boel Loamy Fine Sand, 0 To 3 Percent Slopes, Occasionally Flooded

Boel, OCCASIONALLY FLOODED, soil makes up 85 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is very low. The parent material consists of sandy alluvium. This soil is somewhat poorly drained. The slowest permeability is rapid. It has a low available water capacity and a low shrink swell potential. This soil is occasionally flooded and is not ponded. The top of the seasonal high water table is at 27 inches. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Subirrigated - Veg. Zone 4 range site. This soil is in the irrigated land capability class 4w. It is in the nonirrigated land capability classification 4w.

1873 Burchard-Steinauer Clay Loams, 6 To 12 Percent Slopes, Eroded

Burchard soil makes up 50 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping backslope hillslope on upland. The runoff class is high. The parent material consists of calcareous till. 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 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 4 range site. It is in the nonirrigated land capability classification 4e.

Steinauer soil makes up 35 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping backslope hillslope on upland. The runoff class is high. The parent material consists of calcareous loamy till. 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 15 percent calcium carbonate. This soil is in the Limy Upland - Veg. Zone 4 range site. It is in the nonirrigated land capability classification 4e.

1879 Burchard-Steinauer Clay Loams, 12 To 18 Percent Slopes, Eroded

Burchard soil makes up 45 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately steep backslope hillslope on upland. The runoff class is high. The parent material consists of calcareous till. 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 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 4 range site. It is in the nonirrigated land capability classification 6e.

NONTECHNICAL SOIL DESCRIPTIONS--Continued  
Saunders County, Nebraska

Steinauer soil makes up 40 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately steep backslope hillslope on upland. The runoff class is high. The parent material consists of calcareous loamy till. 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 15 percent calcium carbonate. This soil is in the Limy Upland - Veg. Zone 4 range site. It is in the nonirrigated land capability classification 6e.

2420 Deroin Silty Clay Loam, 5 To 11 Percent Slopes, Eroded

Deroin, SEVERELY ERODED, soil makes up 90 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping backslope hillslope on upland. The runoff class is medium. The parent material consists of loess. 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 5 percent calcium carbonate. This soil is in the Silty - Veg. Zone 4 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 4e.

2830 Filbert Silt Loam, 0 To 1 Percent Slopes

Filbert soil makes up 90 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a nearly level depression on stream terrace on valley. 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 moderate 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 10 inches. This soil is in the Clayey - Veg. Zone 4 range site. This soil is in the irrigated land capability class 2w. It is in the nonirrigated land capability classification 2w.

2844 Fillmore Silt Loam, Terrace, 0 To 1 Percent Slopes

Fillmore soil makes up 90 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a nearly level playa on stream terrace on valley. 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 occasional ponded. The top of the seasonal high water table is at 12 inches. This soil is in the Clayey Overflow - Veg. Zone 4 range site. This soil is in the irrigated land capability class 4w. It is in the nonirrigated land capability classification 3w.

2863 Fluvaquents, Silty, Frequently Flooded

Fluvaquents soil makes up 95 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a nearly level depression on flood plain on river valley. The runoff class is negligible. The parent material consists of silty alluvium. This soil is very poorly drained. The slowest permeability is slow. It has a high available water capacity and a moderate shrink swell potential. This soil is frequently flooded and is frequent ponded. The top of the seasonal high water table is at 0 inches. The soil contains a maximum amount of 5 percent calcium carbonate. It is in the nonirrigated land capability classification 8w.

3025 Gibbon Silt Loam, 0 To 2 Percent Slopes, Occasionally Flooded

Gibbon, OCCASIONALLY FLOODED, soil makes up 95 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is low. The parent material consists of stratified calcareous silty alluvium. This soil is somewhat poorly drained. The slowest permeability is moderate. It has a very 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 27 inches. The soil contains a maximum amount of 15 percent calcium carbonate. It has a horizon that is slightly sodic. This soil is in the Subirrigated - Veg. Zone 4 range site. This soil is in the irrigated land capability class 2w. It is in the nonirrigated land capability classification 2w.

3038 Gibbon-Saltine Loams, 0 To 2 Percent Slopes, Occasionally Flooded

Gibbon, OCCASIONALLY FLOODED, soil makes up 50 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is low. The parent material consists of stratified calcareous silty alluvium. This soil is somewhat poorly drained. The slowest permeability is moderate. It has a very 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 27 inches. The soil contains a maximum amount of 15 percent calcium carbonate. It has a horizon that is slightly sodic. This soil is in the Subirrigated - Veg. Zone 4 range site. This soil is in the irrigated land capability class 2w. It is in the nonirrigated land capability classification 2w.

Saltine, OCCASIONALLY FLOODED, soil makes up 38 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is low. The parent material consists of silty alluvium. This soil is somewhat poorly drained. The slowest permeability is moderately slow. It has a high available water capacity and a high shrink swell potential. This soil is occasionally flooded and is not ponded. The top of the seasonal high water table is at 27 inches. The soil contains a maximum amount of 10 percent calcium carbonate. This soil contains a moderately saline horizon, it has a horizon that is strongly sodic. This soil is in the Saline Subirrigated - Veg. Zone 4 range site. It is in the nonirrigated land capability classification 6s.

NONTECHNICAL SOIL DESCRIPTIONS--Continued  
Saunders County, Nebraska

3421 Hedville Cobbly Loam, 6 To 30 Percent Slopes

Hedville soil makes up 80 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to steep shoulder, backslope hillslope on upland. The runoff class is high. The parent material consists of residuum weathered from sandstone. The soil is 4 to 20 inches deep to bedrock (lithic). This soil is somewhat 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. This soil is in the Shallow Sandy - Veg. Zone 4 range site. It is in the nonirrigated land capability classification 6s.

3830 Ida-Steinauer Complex, 17 To 60 Percent Slopes

Ida, 30-60% slopes, soil makes up 60 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately steep to very steep backslope hillslope on upland. The runoff class is high. The parent material consists of calcareous loess. This soil is well drained. The slowest permeability is moderate. It has a very 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 30 percent calcium carbonate. This soil is in the Thin Loess - Veg. Zone 4 range site. It is in the nonirrigated land capability classification 7e.

Steinauer soil makes up 30 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately steep to very steep backslope hillslope on upland. The runoff class is very high. The parent material consists of calcareous loamy till. 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 15 percent calcium carbonate. This soil is in the Limy Upland - Veg. Zone 4 range site. It is in the nonirrigated land capability classification 7e.

3890 Inglewood Loamy Fine Sand, 0 To 3 Percent Slopes, Rarely Flooded

Inglewood, RARELY FLOODED, soil makes up 85 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is low. The parent material consists of sandy alluvium. This soil is moderately well drained. The slowest permeability is rapid. It has a moderate available water capacity and a low shrink swell potential. This soil is rarely flooded and is not ponded. The top of the seasonal high water table is at 54 inches. This soil is in the Sandy Lowland - Veg. Zone 4 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 4e.

4104 Judson Silt Loam, 0 To 2 Percent Slopes

Judson soil makes up 85 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping footslope hillslope on upland. The runoff class is low. The parent material consists of fine-silty colluvium. 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. This soil is in the Silty - Veg. Zone 4 range site. This soil is in the irrigated land capability class 1. It is in the nonirrigated land capability classification 1.

4106 Judson Silt Loam, 2 To 5 Percent Slopes

Judson soil makes up 90 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping footslope hillslope on upland. The runoff class is low. The parent material consists of fine-silty colluvium. 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. This soil is in the Silty - Veg. Zone 4 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 2e.

4250 Kenridge Silty Clay Loam, 0 To 2 Percent Slopes, Occasionally Flooded

Kenridge, OCCASIONALLY FLOODED, soil makes up 92 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is low. The parent material consists of silty alluvium. This soil is moderately well 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 54 inches. This soil is in the Silty Lowland - Veg. Zone 4 range site. This soil is in the irrigated land capability class 2w. It is in the nonirrigated land capability classification 2w.

4404 Lamo Silty Clay Loam, 0 To 2 Percent Slopes, Occasionally Flooded

Lamo, OCCASIONALLY FLOODED, soil makes up 96 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is low. The parent material consists of silty alluvium. This soil is somewhat poorly drained. The slowest permeability is moderately slow. It has a very 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 24 inches. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Subirrigated - Veg. Zone 4 range site. This soil is in the irrigated land capability class 2w. It is in the nonirrigated land capability classification 2w.

NONTECHNICAL SOIL DESCRIPTIONS--Continued  
Saunders County, Nebraska

4583 Lex Loam, 0 To 2 Percent Slopes, Occasionally Flooded

Lex, OCCASIONALLY FLOODED, soil makes up 94 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is low. The parent material consists of loamy alluvium over sandy and gravelly alluvium. This soil is somewhat poorly drained. The slowest permeability is moderately slow. It has a moderate available water capacity and a low shrink swell potential. This soil is occasionally flooded and is not ponded. The top of the seasonal high water table is at 24 inches. The soil contains a maximum amount of 10 percent calcium carbonate. It has a horizon that is slightly sodic. This soil is in the Subirrigated - Veg. Zone 4 range site. This soil is in the irrigated land capability class 3w. It is in the nonirrigated land capability classification 3w.

4853 Malcolm Silt Loam, 5 To 11 Percent Slopes, Moderately Eroded

Malcolm soil makes up 85 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping backslope hillslope on upland. The runoff class is high. The parent material consists of silty glaciofluvial 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. This soil is in the Silty - Veg. Zone 4 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 4e.

4860 Malmo Clay Loam, 6 To 12 Percent Slopes, Eroded

Malmo, SEVERELY ERODED, soil makes up 85 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping backslope hillslope on upland. The runoff class is very high. The parent material consists of weathered till. This soil is moderately well drained. The slowest permeability is very slow. It has a moderate 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 24 inches. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Clayey - Veg. Zone 4 range site. It is in the nonirrigated land capability classification 4e.

5388 Morrill Clay Loam, 6 To 12 Percent Slopes, Moderately Eroded

Morrill soil makes up 89 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping backslope hillslope on upland. The runoff class is medium. The parent material consists of loamy till or outwash. 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. This soil is in the Silty - Veg. Zone 4 range site. It is in the nonirrigated land capability classification 4e.

5480 Muscotah Silty Clay Loam, 0 To 1 Percent Slopes Occasionally Flooded

Muscotah, OCCASIONALLY FLOODED, soil makes up 90 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a nearly level flood plain on river valley. The runoff class is low. The parent material consists of clayey alluvium. 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 occasionally flooded and is not ponded. The top of the seasonal high water table is at 27 inches. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Clayey Overflow Veg. Zone 4 range site. This soil is in the irrigated land capability class 2w. It is in the nonirrigated land capability classification 2w.

5540 Nodaway Silt Loam, 0 To 2 Percent Slopes, Occasionally Flooded

Nodaway, OCCASIONALLY FLOODED, soil makes up 90 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is negligible. The parent material consists of silty alluvium. This soil is moderately well drained. The slowest permeability is moderate. It has a very 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 48 inches. This soil is in the Silty Overflow - Veg. Zone 4 range site. This soil is in the irrigated land capability class 2w. It is in the nonirrigated land capability classification 2w.

5541 Nodaway Silt Loam, 0 To 2 Percent Slopes, Channeled, Frequently Flooded

Nodaway, CHANNELED, soil makes up 85 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping drainageway on flood plain on river valley. The runoff class is negligible. The parent material consists of silty alluvium. This soil is moderately well drained. The slowest permeability is moderate. It has a very high available water capacity and a moderate shrink swell potential. This soil is frequently flooded and is not ponded. The top of the seasonal high water table is at 48 inches. This soil is in the Silty Overflow - Veg. Zone 4 range site. It is in the nonirrigated land capability classification 6w.

5736 Obert Silty Clay Loam, 0 To 2 Percent Slopes, Wet, Frequently Flooded

Obert, FREQUENTLY FLOODED, soil makes up 80 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is medium. The parent material consists of calcareous alluvium. This soil is very poorly drained. The slowest permeability is moderately slow. It has a high available water capacity and a high shrink swell potential. This soil is frequently flooded and is occasional ponded. The top of the seasonal high water table is at 9 inches. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Wet Land - Veg. Zone 4 range site. It is in the nonirrigated land capability classification 6w.

NONTECHNICAL SOIL DESCRIPTIONS--Continued  
Saunders County, Nebraska

- 5742 Obert Silty Clay Loam, 0 To 2 Percent Slopes, Occasionally Flooded  
Obert, OCCASIONALLY FLOODED, soil makes up 86 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is low. The parent material consists of calcareous alluvium. This soil is poorly drained. The slowest permeability is moderately slow. It has a high available water capacity and a high shrink swell potential. This soil is occasionally flooded and is not ponded. The top of the seasonal high water table is at 9 inches. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Wet Land - Veg. Zone 4 range site. It is in the nonirrigated land capability classification 6w.
- 5780 Olmitz Loam, 2 To 5 Percent Slopes  
Olmitz soil makes up 85 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping footslope 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 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 irrigated land capability class 3e. It is in the nonirrigated land capability classification 2e.
- 6046 Pawnee Clay Loam, 6 To 12 Percent Slopes, Moderately Eroded  
Pawnee soil makes up 80 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping backslope hillslope on upland. The runoff class is high. The parent material consists of clayey till. This soil is moderately well drained. The slowest permeability is very slow. It has a moderate 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 24 inches. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Clayey - Veg. Zone 4 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 4e.
- 6130 Platte Fine Sandy Loam, 0 To 2 Percent Slopes Occasionally Flooded  
Platte, OCCASIONALLY FLOODED, soil makes up 80 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is low. The parent material consists of loamy alluvium over sandy and gravelly alluvium. This soil is somewhat poorly drained. The slowest permeability is moderately rapid. It has a low available water capacity and a low shrink swell potential. This soil is occasionally flooded and is not ponded. The top of the seasonal high water table is at 24 inches. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the irrigated land capability class 4w. It is in the nonirrigated land capability classification 4w.
- 6138 Platte-Barney Complex, 0 To 2 Percent Slopes, Channeled  
Platte, FREQUENTLY FLOODED, soil makes up 50 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is low. The parent material consists of loamy alluvium over sandy and gravelly alluvium. This soil is somewhat poorly drained. The slowest permeability is moderately rapid. 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 24 inches. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the irrigated land capability class 4w. It is in the nonirrigated land capability classification 4w.
- Barney, FREQUENTLY FLOODED, CHANNELED, soil makes up 46 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is very low. The parent material consists of loamy alluvium over sandy and gravelly 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 12 inches. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Wet Land - Veg. Zone 3 range site. It is in the nonirrigated land capability classification 6w.
- 6160 Pohocco Silty Clay Loam, 5 To 11 Percent Slopes, Eroded  
Pohocco soil makes up 80 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping backslope hillslope on upland. The runoff class is high. 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 4 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 3e.
- 6162 Pohocco Silty Clay Loam, 11 To 17 Percent Slopes, Eroded  
Pohocco soil makes up 80 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a strongly sloping to moderately steep backslope hillslope on upland. The runoff class is high. 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 4 range site. It is in the nonirrigated land capability classification 4e.

NONTECHNICAL SOIL DESCRIPTIONS--Continued  
Saunders County, Nebraska

6170 Pohocco-Pahuk Complex, 5 To 11 Percent Slopes, Eroded

Pohocco soil makes up 52 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping backslope hillslope on upland. The runoff class is high. 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 4 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 3e.

Pahuk soil makes up 45 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping backslope hillslope on upland. The runoff class is medium. The parent material consists of sandy alluvium. 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 Sandy - Veg. Zone 4 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 6e.

6172 Pohocco-Pahuk Complex, 11 To 17 Percent Slopes, Eroded

Pohocco soil makes up 59 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a strongly sloping to moderately steep backslope hillslope on upland. The runoff class is high. 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 4 range site. It is in the nonirrigated land capability classification 4e.

Pahuk soil makes up 35 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a strongly sloping to moderately steep backslope hillslope on upland. The runoff class is medium. The parent material consists of sandy alluvium. 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 Sandy - Veg. Zone 4 range site. It is in the nonirrigated land capability classification 6e.

6520 Saltillo Silt Loam, 0 To 2 Percent Slopes, Occasionally Flooded

Saltillo, OCCASIONALLY FLOODED, soil makes up 85 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is low. The parent material consists of silty alluvium. This soil is poorly drained. The slowest permeability is moderate. It has a very 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 9 inches. The soil contains a maximum amount of 10 percent calcium carbonate. The soil contains strongly saline horizon, it has a horizon that is strongly sodic. This soil is in the Saline Subirrigated - Veg. Zone 4 range site. It is in the nonirrigated land capability classification 6s.

6791 Scott Silt Loam, Terrace, 0 To 1 Percent Slopes

Scott soil makes up 100 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a nearly level playa on terrace on valley. The runoff class is negligible. The parent material consists of loess. This soil is very 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 frequent ponded. The top of the seasonal high water table is at 12 inches. It is in the nonirrigated land capability classification 5w.

7069 Steinauer Clay Loam, 12 To 30 Percent Slopes

Steinauer soil makes up 85 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately steep to steep backslope hillslope on upland. The runoff class is very high. The parent material consists of calcareous loamy till. 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 15 percent calcium carbonate. This soil is in the Limy Upland - Veg. Zone 4 range site. It is in the nonirrigated land capability classification 6e.

7290 Tomek Silt Loam, 0 To 2 Percent Slopes

Tomek soil makes up 86 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping stream terrace on valley. The runoff class is medium. The parent material consists of loess. This soil is well drained. The slowest permeability is moderately slow. It has a high available water capacity and a high 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 4 range site. This soil is in the irrigated land capability class 1 It is in the nonirrigated land capability classification 1.

NONTECHNICAL SOIL DESCRIPTIONS--Continued  
Saunders County, Nebraska

7920 Wann Fine Sandy Loam, 0 To 2 Percent Slopes, Occasionally Flooded

Wann, OCCASIONALLY FLOODED, soil makes up 92 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is low. The parent material consists of calcareous loamy alluvium. This soil is somewhat poorly drained. The slowest permeability is moderately rapid. It has a moderate available water capacity and a low 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 5 percent calcium carbonate. It has a horizon that is slightly sodic. This soil is in the Subirrigated - Veg. Zone 4 range site. This soil is in the irrigated land capability class 2w. It is in the nonirrigated land capability classification 2w.

8120 Yutan Silty Clay Loam, 11 To 17 Percent Slopes, Eroded

Yutan soil makes up 88 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a strongly sloping to moderately steep backslope hillslope on upland. The runoff class is high. The parent material consists of loess. 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. This soil is in the Silty - Veg. Zone 4 range site. It is in the nonirrigated land capability classification 4e.

8124 Yutan Silty Clay Loam, Terrace, 2 To 5 Percent Slopes, Eroded

Yutan soil makes up 92 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping stream terrace on valley. The runoff class is high. The parent material consists of loess. 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. This soil is in the Silty - Veg. Zone 4 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 2e.

8130 Yutan, Eroded-Aksarben Silty Clay Loams, 2 To 5 Percent Slopes

Yutan soil makes up 65 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping shoulder, summit hillslope on upland. The runoff class is high. The parent material consists of loess. 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. This soil is in the Silty - Veg. Zone 4 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 2e.

Aksarben soil makes up 33 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping summit hillslope on upland. The runoff class is low. The parent material consists of loess. 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. This soil is in the Silty - Veg. Zone 4 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 2e.

8134 Yutan, Eroded-Judson Complex, 5 To 11 Percent Slopes

Yutan soil makes up 64 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping backslope hillslope on upland. The runoff class is high. The parent material consists of loess. 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. This soil is in the Silty - Veg. Zone 4 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 3e.

Judson soil makes up 25 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping footslope hillslope on upland. The runoff class is low. The parent material consists of fine-silty colluvium. 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. This soil is in the Silty - Veg. Zone 4 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 3e.



**1050—Aksarben silty clay loam, 0 to 2 percent slopes**

*Mapunit Information:* This map unit occurs on nearly level summits on the highest part of the landform.

**Map Unit Composition**

Aksarben: 98 percent  
Minor components: 2 percent

**Component Descriptions**

Aksarben

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Broad interstream divide on upland

*Parent material:* Loess

*Slope:* 0 to 2 percent

*Drainage class:* Well drained

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

*Available water capacity:* High (About 10.7 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 4

*Land capability (irrigated):* 1

*Land capability (nonirrigated):* 1

**Typical Profile:**

Ap—0 to 6 inches; silty clay loam

A—6 to 12 inches; silty clay loam

Bt1—12 to 18 inches; silty clay loam

Bt2—18 to 26 inches; silty clay loam

Bt3—26 to 34 inches; silty clay loam

Bt4—34 to 42 inches; silty clay loam

BC—42 to 60 inches; silty clay loam

C—60 to 80 inches; silt loam

*Component note:* Similar inclusions are: Soils that are dark to a depth of more than 24 inches.

**Minor Components****Fillmore**

*Composition:* About 2 percent

*Slope:* 0 to 1 percent

*Drainage class:* Somewhat poorly drained

*Ecological site:* Clayey Overflow - Veg. Zone 4

*General Considerations:* Most of the acreage of this soil is used for cultivated crops.

**1100—Alda fine sandy loam, 0 to 2 percent slopes, Occasionally Flooded****Map Unit Composition**

Alda: 85 percent  
Minor components: 15 percent

**Component Descriptions**

Alda

*MLRA:* 102C - Loess Uplands

*Landform:* Flood plain on river valley

*Parent material:* Loamy alluvium over sandy and gravelly alluvium

*Slope:* 0 to 2 percent

*Drainage class:* Somewhat poorly drained

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

*Available water capacity:* Moderate (About 6.1 inches)

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

*Flooding hazard:* Occasional

*Depth to seasonal water saturation:* About 18 to 36 inches

*Runoff class:* Low

*Ecological site:* Subirrigated - Veg. Zone 4

*Land capability (irrigated):* 3w

*Land capability (nonirrigated):* 3w

**Typical Profile:**

A—0 to 11 inches; fine sandy loam

AC—11 to 17 inches; fine sandy loam

C—17 to 29 inches; fine sandy loam

2Cg1—29 to 34 inches; coarse sand

2Cg2—34 to 80 inches; stratified coarse sand to gravelly sand

*Component note:* Similar inclusions are: Soils with more clay in the profile.

**Minor Components****Wann**

*Phase:* Occasionally Flooded

*Composition:* About 10 percent

*Slope:* 0 to 2 percent

*Drainage class:* Somewhat poorly drained

*Ecological site:* Subirrigated - Veg. Zone 4

**Platte**

*Phase:* Occasionally Flooded

*Composition:* About 3 percent

*Slope:* 0 to 2 percent

*Drainage class:* Somewhat poorly drained

**Barney**

*Phase:* Frequently Flooded

*Composition:* About 2 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Poorly drained  
*Ecological site:* Wet Land - Veg. Zone 3

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. The remaining acreage is used as pasture or mowed for hay. Soil blowing is a hazard on this soil. If this soil is irrigated, sprinkler irrigation is best suited because frequent and light applications of irrigation water are needed. Excess water leaches plant nutrients and pesticides below the plant roots.

### **1347—Barney silty clay loam, 0 to 2 percent slopes, Wet, Frequently Flooded**

#### Map Unit Composition

Barney: 87 percent  
 Minor components: 13 percent

#### Component Descriptions

Barney  
*MLRA:* 102C - Loess Uplands  
*Landform:* Flood plain on river valley  
*Parent material:* Loamy alluvium over sandy and gravelly alluvium  
*Slope:* 0 to 2 percent  
*Drainage class:* Poorly drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Low (About 3.6 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* Frequent  
*Depth to seasonal water saturation:* About 0 to 24 inches  
*Runoff class:* Very low  
*Ecological site:* Wet Land - Veg. Zone 3  
*Land capability (nonirrigated):* 5w

#### *Typical Profile:*

A—0 to 7 inches; silty clay loam  
 ACg—7 to 10 inches; loam  
 Cg1—10 to 30 inches; fine sand  
 Cg2—30 to 80 inches; coarse sand

#### **Minor Components**

##### **Platte**

*Phase:* Frequently Flooded  
*Composition:* About 9 percent  
*Slope:* 0 to 2 percent

*Drainage class:* Somewhat poorly drained

#### **Fluvaquents**

*Composition:* About 4 percent  
*Slope:* 0 to 1 percent  
*Drainage class:* Very poorly drained

*General Considerations:* All of the acreage of this soil supports native grasses and is used as pasture or mowed for hay.

### **1616—Boel loamy fine sand, 0 to 3 percent slopes, Occasionally Flooded**

#### Map Unit Composition

Boel: 85 percent  
 Minor components: 15 percent

#### Component Descriptions

Boel  
*MLRA:* 102C - Loess Uplands  
*Landform:* Flood plain on river valley  
*Parent material:* Sandy alluvium  
*Slope:* 0 to 3 percent  
*Drainage class:* Somewhat poorly drained  
*Slowest permeability:* Rapid (About 5.95 in/hr)  
*Available water capacity:* Low (About 5.1 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* Occasional  
*Depth to seasonal water saturation:* About 18 to 36 inches  
*Runoff class:* Very low  
*Ecological site:* Subirrigated - Veg. Zone 4  
*Land capability (irrigated):* 4w  
*Land capability (nonirrigated):* 4w

#### *Typical Profile:*

A—0 to 11 inches; loamy fine sand  
 AC—11 to 15 inches; fine sandy loam  
 C—15 to 60 inches; stratified fine sand, stratified loamy fine sand, stratified coarse sand

#### **Minor Components**

##### **Inglewood**

*Phase:* Rarely Flooded  
*Composition:* About 7 percent  
*Slope:* 0 to 3 percent  
*Drainage class:* Moderately well drained  
*Ecological site:* Sandy Lowland - Veg. Zone 4

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**Alda**

*Phase:* Occasionally Flooded  
*Composition:* About 6 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Somewhat poorly drained  
*Ecological site:* Subirrigated - Veg. Zone 4

**Barney**

*Phase:* Frequently Flooded  
*Composition:* About 2 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Poorly drained  
*Ecological site:* Wet Land - Veg. Zone 3

*General Considerations:* Most of the acreage of this soil is used as pasture or mowed for hay. A small acreage of this soil is used for cultivated crops. Most areas that were cultivated have been reseeded back to grass. Soil blowing is a severe hazard on this soil. If this soil is irrigated, sprinkler irrigation is best suited because frequent and light applications of irrigation water are needed. Excess water leaches plant nutrients and pesticides below the plant roots.

### **1873—Burchard-Steinauer clay loams, 6 to 12 percent slopes, Eroded**

*Mapunit Information:* In areas of native vegetation, the Burchard soils are predominant.

**Map Unit Composition**

Burchard: 50 percent  
 Steinauer: 35 percent  
 Minor components: 15 percent

**Component Descriptions**

**Burchard**  
*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills  
*Landform:* Hillslope on upland  
*Hillslope position:* Backslope  
*Parent material:* Calcareous till  
*Slope:* 6 to 12 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderately slow (About 0.20 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:* High  
*Ecological site:* Silty - Veg. Zone 4  
*Land capability (nonirrigated):* 4e

**Typical Profile:**

A—0 to 13 inches; clay loam  
 Bt—13 to 19 inches; clay loam  
 Btk—19 to 29 inches; clay loam  
 Bk—29 to 37 inches; clay loam  
 C—37 to 60 inches; clay loam

*Component note:* Similar inclusions are soils that have carbonates above 12 or below 30 inches in the soil profile; and soils that have more clay in the particle size control section.

**Steinauer**

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills  
*Landform:* Hillslope on upland  
*Hillslope position:* Backslope  
*Parent material:* Calcareous loamy till  
*Slope:* 6 to 12 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderately slow (About 0.20 in/hr)  
*Available water capacity:* High (About 10.8 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:* Limy Upland - Veg. Zone 4  
*Land capability (nonirrigated):* 4e

**Typical Profile:**

Ap—0 to 6 inches; clay loam  
 AC—6 to 15 inches; clay loam  
 C1—15 to 41 inches; clay loam  
 C2—41 to 60 inches; clay loam

*Component note:* Similar inclusions are soils that have carbonates lower in the profile; and soils that have more clay in the particle size control section.

**Minor Components****Morrill**

*Composition:* About 8 percent  
*Landform:* hillslope on upland  
*Slope:* 6 to 12 percent  
*Drainage class:* Well drained  
*Ecological site:* Silty - Veg. Zone 4

**Malmo**

*Phase:* Severely Eroded  
*Composition:* About 7 percent  
*Landform:* hillslope on upland  
*Slope:* 6 to 12 percent  
*Drainage class:* Moderately well drained  
*Ecological site:* Clayey - Veg. Zone 4

*General Considerations:* More than half of the acreage of these soils is used for cultivated crops or has been reseeded back to native grasses. The remaining acreage is used for pasture or rangeland. Water erosion is a severe hazard that can be controlled by contour farming, terraces and conservation tillage.

### **1879—Burchard-Steinauer clay loams, 12 to 18 percent slopes, Eroded**

*Mapunit Information:* In areas of native vegetation, the Burchard soils are predominant.

#### Map Unit Composition

Burchard: 45 percent  
 Steinauer: 40 percent  
 Minor components: 15 percent

#### Component Descriptions

**Burchard**  
*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Hillslope on upland  
*Hillslope position:* Backslope  
*Parent material:* Calcareous till  
*Slope:* 12 to 18 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderately slow (About 0.20 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:* High  
*Ecological site:* Silty - Veg. Zone 4  
*Land capability (nonirrigated):* 6e

#### *Typical Profile:*

A—0 to 13 inches; clay loam  
 Bt—13 to 19 inches; clay loam

Btk—19 to 29 inches; clay loam  
 Bk—29 to 37 inches; clay loam  
 C—37 to 60 inches; clay loam

*Component note:* Similar inclusions are soils that have carbonates above 12 or below 30 inches in the soil profile; and soils that have more clay in the particle size control section.

#### **Steinauer**

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills  
*Landform:* Hillslope on upland  
*Hillslope position:* Backslope  
*Parent material:* Calcareous loamy till  
*Slope:* 12 to 18 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderately slow (About 0.20 in/hr)  
*Available water capacity:* High (About 10.8 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:* Limy Upland - Veg. Zone 4  
*Land capability (nonirrigated):* 6e

#### *Typical Profile:*

Ap—0 to 6 inches; clay loam  
 AC—6 to 15 inches; clay loam  
 C1—15 to 41 inches; clay loam  
 C2—41 to 60 inches; clay loam

*Component note:* Similar inclusions are soils that have carbonates lower in the profile; and soils that have more clay in the particle size control section.

#### **Minor Components**

##### **Morrill**

*Composition:* About 9 percent  
*Landform:* hillslope on upland  
*Slope:* 12 to 18 percent  
*Drainage class:* Well drained  
*Ecological site:* Silty - Veg. Zone 4

##### **Malmo**

*Phase:* Severely Eroded  
*Composition:* About 6 percent  
*Landform:* hillslope on upland  
*Slope:* 6 to 12 percent  
*Drainage class:* Moderately well drained  
*Ecological site:* Clayey - Veg. Zone 4

*General Considerations:* Most of the acreage of these soils have been reseeded back to native grasses, or are used for pasture or rangeland. Water erosion is a severe hazard

that can be controlled by contour farming, terraces and conservation tillage.

### **2420—Deroin silty clay loam, 5 to 11 percent slopes, Eroded**

*Mapunit Information:* These soils formed in Loveland age loess.

#### Map Unit Composition

Deroin: 90 percent  
Minor components: 10 percent

#### Component Descriptions

Deroin

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Hillslope on upland

*Hillslope position:* Backslope

*Parent material:* Loess

*Slope:* 5 to 11 percent

*Drainage class:* Well drained

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

*Available water capacity:* High (About 11.2 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 4

*Land capability (irrigated):* 4e

*Land capability (nonirrigated):* 4e

#### *Typical Profile:*

Ap—0 to 7 inches; silty clay loam  
Bt1—7 to 12 inches; silty clay loam  
Bt2—12 to 18 inches; silty clay loam  
Bt3—18 to 40 inches; silty clay loam  
BC—40 to 50 inches; silty clay loam  
C—50 to 80 inches; silty clay loam

*Component note:* Similar inclusions are soils that formed in yellowish brown loess; soils that have dark surface layers more than 10 inches thick; and soils that have more clay in the particle size control section.

#### **Minor Components**

##### **Malmo**

*Phase:* Severely Eroded

*Composition:* About 10 percent

*Landform:* hillslope on upland

*Slope:* 6 to 12 percent

*Drainage class:* Moderately well drained

*Ecological site:* Clayey - Veg. Zone 4

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. Water erosion is a severe hazard that can be controlled by contour farming, terraces and conservation tillage.

### **2830—Filbert silt loam, 0 to 1 percent slopes**

#### Map Unit Composition

Filbert: 90 percent  
Minor components: 10 percent

#### Component Descriptions

Filbert

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Depression on stream terrace on valley

*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:* Moderate (About 8.7 inches)

*Shrink-swell potential:* High (About 7.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* About 6 to 18 inches

*Runoff class:* Negligible

*Ecological site:* Clayey - Veg. Zone 4

*Land capability (irrigated):* 2w

*Land capability (nonirrigated):* 2w

#### *Typical Profile:*

Ap1—0 to 5 inches; silt loam  
Ap2—5 to 7 inches; silt loam  
E1—7 to 12 inches; silt loam  
E2—12 to 15 inches; silt loam  
Bt1—15 to 25 inches; silty clay  
Bt2—25 to 36 inches; silty clay  
Bt3—36 to 43 inches; silty clay  
Bt4—43 to 53 inches; silty clay  
Bt5—53 to 62 inches; silty clay  
Bt6—62 to 80 inches; silty clay loam

#### **Minor Components**

##### **Fillmore**

*Composition:* About 6 percent

*Slope:* 0 to 1 percent

*Drainage class:* Somewhat poorly drained

*Ecological site:* Clayey Overflow - Veg. Zone 4

*Slope:* 0 to 0 percent  
*Drainage class:* Very poorly drained

**Tomek**

*Composition:* About 4 percent  
*Slope:* 0 to 1 percent  
*Drainage class:* Well drained  
*Ecological site:* Silty - Veg. Zone 4

**Tomek**

*Composition:* About 2 percent  
*Slope:* 0 to 1 percent  
*Drainage class:* Well drained  
*Ecological site:* Silty - Veg. Zone 4

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. Wetness is a problem in most years.

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. Wetness or brief ponding are problems in most years.

## 2844—Fillmore silt loam, Terrace, 0 to 1 percent slopes

## 2863—Fluvaquents, silty, Frequently Flooded

### Map Unit Composition

*Mapunit Information:* Open water more than 6 inches deep is common in some areas.

Fillmore: 90 percent  
Minor components: 10 percent

### Map Unit Composition

Fluvaquents: 95 percent  
Minor components: 5 percent

### Component Descriptions

Fillmore  
*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills  
*Landform:* Playa on stream terrace on valley  
*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 9.9 inches)  
*Shrink-swell potential:* High (About 7.5 LEP)  
*Flooding hazard:* None  
*Ponding hazard:* Occasional  
*Depth to seasonal water saturation:* About 0 to 24 inches  
*Runoff class:* Negligible  
*Ecological site:* Clayey Overflow - Veg. Zone 4  
*Land capability (irrigated):* 4w  
*Land capability (nonirrigated):* 3w

### Component Descriptions

Fluvaquents  
*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills  
*Landform:* Depression on flood plain on river valley  
*Parent material:* Silty alluvium  
*Slope:* 0 to 1 percent  
*Drainage class:* Very poorly drained  
*Slowest permeability:* Slow (About 0.06 in/hr)  
*Available water capacity:* High (About 10.8 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* Frequent  
*Ponding hazard:* Frequent  
*Depth to seasonal water saturation:* About 0 to 0 inches  
*Runoff class:* Negligible  
*Land capability (nonirrigated):* 8w

### Typical Profile:

A1—0 to 7 inches; silt loam  
A2—7 to 14 inches; silt loam  
E—14 to 22 inches; silt loam  
Bt1—22 to 30 inches; clay  
Bt2—30 to 42 inches; clay  
Bt3—42 to 54 inches; silty clay  
Bt4—54 to 62 inches; silty clay  
Bt5—62 to 80 inches; silty clay

### Typical Profile:

A—0 to 20 inches; silty clay  
C—20 to 80 inches; stratified variable  
*Component note:* Similar inclusions are soils that have loamy or sandy textured surface layers.

### Minor Components

**Scott**  
*Composition:* About 8 percent

### Minor Components

**Kezan**  
*Phase:* Frequently Flooded  
*Composition:* About 5 percent  
*Slope:* 0 to 2 percent

*Drainage class:* Poorly drained  
*Ecological site:* Wet Subirrigated - Veg. Zone 4

*General Considerations:* All of the acreage of this soil is used for wetland wildlife habitat.

### **3025—Gibbon silt loam, 0 to 2 percent slopes, Occasionally Flooded**

#### Map Unit Composition

Gibbon: 95 percent  
 Minor components: 5 percent

#### Component Descriptions

Gibbon  
*MLRA:* 102C - Loess Uplands  
*Landform:* Flood plain on river valley  
*Parent material:* Stratified calcareous silty alluvium  
*Slope:* 0 to 2 percent  
*Drainage class:* Somewhat poorly drained  
*Slowest permeability:* Moderate (About 0.57 in/hr)  
*Available water capacity:* Very high (About 12.3 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* Occasional  
*Depth to seasonal water saturation:* About 18 to 36 inches  
*Runoff class:* Low  
*Ecological site:* Subirrigated - Veg. Zone 4  
*Land capability (irrigated):* 2w  
*Land capability (nonirrigated):* 2w

#### *Typical Profile:*

Ap—0 to 5 inches; silt loam  
 A—5 to 19 inches; silt loam  
 AC—19 to 24 inches; silt loam  
 Cg1—24 to 30 inches; silt loam  
 Cg2—30 to 42 inches; stratified very fine sandy loam to silt loam  
 Cg3—42 to 60 inches; stratified very fine sandy loam to silt loam

#### **Minor Components**

##### **Wann**

*Phase:* Occasionally Flooded  
*Composition:* About 3 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Somewhat poorly drained  
*Ecological site:* Subirrigated - Veg. Zone 4

##### **Obert**

*Phase:* Occasionally Flooded  
*Composition:* About 2 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Poorly drained  
*Ecological site:* Wet Land - Veg. Zone 4

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. Some of the acreage is used as pasture or mowed for hay. Some areas are irrigated if water is available.

### **3038—Gibbon-Saltine loams, 0 to 2 percent slopes, Occasionally Flooded**

#### Map Unit Composition

Gibbon: 50 percent  
 Saltine: 38 percent  
 Minor components: 12 percent

#### Component Descriptions

Gibbon  
*MLRA:* 102C - Loess Uplands  
*Landform:* Flood plain on river valley  
*Parent material:* Stratified calcareous silty alluvium  
*Slope:* 0 to 2 percent  
*Drainage class:* Somewhat poorly drained  
*Slowest permeability:* Moderate (About 0.57 in/hr)  
*Available water capacity:* Very high (About 12.3 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* Occasional  
*Depth to seasonal water saturation:* About 18 to 36 inches  
*Runoff class:* Low  
*Ecological site:* Subirrigated - Veg. Zone 4  
*Land capability (irrigated):* 2w  
*Land capability (nonirrigated):* 2w

#### *Typical Profile:*

Ap—0 to 5 inches; silt loam  
 A—5 to 19 inches; silt loam  
 AC—19 to 24 inches; silt loam  
 Cg1—24 to 30 inches; silt loam  
 Cg2—30 to 42 inches; stratified very fine sandy loam to silt loam  
 Cg3—42 to 60 inches; stratified very fine sandy loam to silt loam

##### Saltine

*MLRA:* 102C - Loess Uplands  
*Landform:* Flood plain on river valley

*Parent material:* Silty alluvium  
*Slope:* 0 to 2 percent  
*Drainage class:* Somewhat poorly drained  
*Slowest permeability:* Moderately slow (About 0.20 in/hr)  
*Available water capacity:* High (About 11.1 inches)  
*Shrink-swell potential:* High (About 7.5 LEP)  
*Flooding hazard:* Occasional  
*Depth to seasonal water saturation:* About 18 to 36 inches  
*Runoff class:* Low  
*Ecological site:* Saline Subirrigated - Veg. Zone 4  
*Land capability (nonirrigated):* 6s

*Typical Profile:*

Ap—0 to 7 inches; silty clay loam  
 Bw1—7 to 12 inches; silty clay loam  
 Bw2—12 to 30 inches; silty clay loam  
 C1—30 to 48 inches; silty clay loam  
 C2—48 to 55 inches; silty clay loam  
 C3—55 to 60 inches; sandy clay loam

**Minor Components**

**Wann**

*Phase:* Occasionally Flooded  
*Composition:* About 10 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Somewhat poorly drained  
*Ecological site:* Subirrigated - Veg. Zone 4

**Obert**

*Phase:* Occasionally Flooded  
*Composition:* About 2 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Poorly drained  
*Ecological site:* Wet Land - Veg. Zone 4

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. Some of the acreage is used as pasture or mowed for hay. Some areas are irrigated if water is available.

**3421—Hedville cobbly loam, 6 to 30 percent slopes**

*Mapunit Information:* These soils formed in residuum weathered from noncalcareous sandstone of the Dakota formation. Sandstone fragments on the surface are common in some areas.

Map Unit Composition

Hedville: 80 percent

Minor components: 20 percent

Component Descriptions

Hedville

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Hillslope on upland

*Hillslope position:* Shoulder, backslope

*Parent material:* Residuum weathered from sandstone

*Slope:* 6 to 30 percent

*Surface fragments:* About 1 to 5 percent subangular channers

*Depth to restrictive feature:* 4 to 20 inches to bedrock (lithic)

*Drainage class:* Somewhat excessively drained

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

*Available water capacity:* Very low (About 2.0 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 Sandy - Veg. Zone 4

*Land capability (nonirrigated):* 6s

*Typical Profile:*

A—0 to 10 inches; cobbly loam  
 C—10 to 16 inches; cobbly loam  
 R—16 to 22 inches; bedrock

*Component note:* Similar inclusions are soils with a loam or fine sandy loam surface layer.

**Minor Components**

**Lancaster**

*Composition:* About 10 percent

*Landform:* hillslope on upland

*Slope:* 6 to 12 percent

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

*Drainage class:* Well drained

*Ecological site:* Silty - Veg. Zone 4

**Rock outcrop**

*Composition:* About 10 percent

*Landform:* hillslope on upland

*Slope:* 11 to 30 percent

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

*Ecological site:* No Site - Veg. Zone 4

*General Considerations:* All of the acreage of this soil is used for pasture or rangeland.

**3830—Ida-Steinauer complex, 17 to 60 percent slopes**

## Map Unit Composition

Ida: 60 percent  
Steinauer: 30 percent  
Minor components: 10 percent

## Component Descriptions

## Ida

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Hillslope on upland

*Hillslope position:* Backslope

*Parent material:* Calcareous loess

*Slope:* 17 to 60 percent

*Drainage class:* Well drained

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

*Available water capacity:* Very high (About 12.4 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:* Thin Loess - Veg. Zone 4

*Land capability (nonirrigated):* 7e

*Typical Profile:*

A—0 to 4 inches;  
AC—4 to 8 inches;  
C1—8 to 18 inches;  
C2—18 to 40 inches;  
C3—40 to 60 inches;

## Steinauer

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Hillslope on upland

*Hillslope position:* Backslope

*Parent material:* Calcareous loamy till

*Slope:* 17 to 60 percent

*Drainage class:* Well drained

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

*Available water capacity:* High (About 10.8 inches)

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

*Flooding hazard:* None

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

*Runoff class:* Very high

*Ecological site:* Limy Upland - Veg. Zone 4

*Land capability (nonirrigated):* 7e

*Typical Profile:*

Ap—0 to 6 inches; clay loam  
AC—6 to 15 inches; clay loam  
C1—15 to 41 inches; clay loam  
C2—41 to 60 inches; clay loam

*Component note:* Similar inclusions are soils that have a surface layer more than 10 inches thick.

**Minor Components****Judson**

*Composition:* About 10 percent

*Landform:* hillslope on upland

*Slope:* 2 to 5 percent

*Drainage class:* Well drained

*Ecological site:* Silty - Veg. Zone 4

*General Considerations:* All of the acreage of this soil is used for rangeland or wildlife habitat. Trees and other shrubs are a problem if not properly managed.

**3890—Inglewood loamy fine sand, 0 to 3 percent slopes, Rarely Flooded**

## Map Unit Composition

Inglewood: 85 percent  
Minor components: 15 percent

## Component Descriptions

## Inglewood

*MLRA:* 102C - Loess Uplands

*Landform:* Flood plain on river valley

*Parent material:* Sandy alluvium

*Slope:* 0 to 3 percent

*Drainage class:* Moderately well drained

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

*Available water capacity:* Moderate (About 7.0 inches)

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

*Flooding hazard:* Rare

*Depth to seasonal water saturation:* About 36 to 72 inches

*Runoff class:* Low

*Ecological site:* Sandy Lowland - Veg. Zone 4

*Land capability (irrigated):* 3e

*Land capability (nonirrigated):* 4e

*Typical Profile:*

Ap—0 to 5 inches; loamy fine sand

C1—5 to 22 inches; stratified sand to fine sandy loam  
 C2—22 to 30 inches; stratified sand to fine sandy loam  
 C3—30 to 40 inches; stratified sand to fine sandy loam  
 C4—40 to 50 inches; sand, fine sand  
 Cg—50 to 80 inches; sand, fine sand

### Minor Components

#### Boel

*Phase:* Occasionally Flooded  
*Composition:* About 8 percent  
*Slope:* 0 to 3 percent  
*Drainage class:* Somewhat poorly drained  
*Ecological site:* Subirrigated - Veg. Zone 4

#### Wann

*Phase:* Occasionally Flooded  
*Composition:* About 5 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Somewhat poorly drained  
*Ecological site:* Subirrigated - Veg. Zone 4

#### Barney

*Phase:* Frequently Flooded  
*Composition:* About 2 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Poorly drained  
*Ecological site:* Wet Land - Veg. Zone 3

*General Considerations:* Most of the acreage of this soil is used as pasture or mowed for hay. A small acreage of this soil is used for cultivated crops. Most areas that were cultivated have been reseeded back to grass. Soil blowing is a severe hazard on this soil. If this soil is irrigated, sprinkler irrigation is best suited because frequent and light applications of irrigation water are needed. Excess water leaches plant nutrients and pesticides below the plant roots.

## 4104—Judson silt loam, 0 to 2 percent slopes

### Map Unit Composition

Judson: 85 percent  
 Minor components: 15 percent

### Component Descriptions

Judson  
 MLRA: 106 - Nebraska and Kansas Loess-Drift Hills  
*Landform:* Hillslope on upland

*Hillslope position:* Footslope  
*Parent material:* Fine-silty colluvium  
*Slope:* 0 to 2 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Very high (About 13.0 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 4  
*Land capability (irrigated):* 1  
*Land capability (nonirrigated):* 1

### Typical Profile:

Ap1—0 to 6 inches; silt loam  
 Ap2—6 to 12 inches; silty clay loam  
 A1—12 to 22 inches; silty clay loam  
 A2—22 to 31 inches; silty clay loam  
 AB—31 to 43 inches; silty clay loam  
 Bw1—43 to 54 inches; silty clay loam  
 Bw2—54 to 69 inches; silty clay loam  
 Bw3—69 to 80 inches; silty clay loam

*Component note:* Similar inclusions are soils that have more clay in the particle size control section; soils with a loam surface layer; and soils that have dark surface layers less than 24 inches thick.

### Minor Components

#### Kenridge

*Phase:* Occasionally Flooded  
*Composition:* About 15 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Moderately well drained  
*Ecological site:* Silty Lowland - Veg. Zone 4

*General Considerations:* Most of the acreage of this soil is used for cultivated crops.

## 4106—Judson silt loam, 2 to 5 percent slopes

*Mapunit Information:* Areas of this map unit are usually long and narrow.

### Map Unit Composition

Judson: 90 percent  
 Minor components: 10 percent

### Component Descriptions

Judson

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Hillslope on upland

*Hillslope position:* Footslope

*Parent material:* Fine-silty colluvium

*Slope:* 2 to 5 percent

*Drainage class:* Well drained

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

*Available water capacity:* Very high (About 13.0 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 4

*Land capability (irrigated):* 3e

*Land capability (nonirrigated):* 2e

*Typical Profile:*

Ap1—0 to 6 inches; silt loam

Ap2—6 to 12 inches; silty clay loam

A1—12 to 22 inches; silty clay loam

A2—22 to 31 inches; silty clay loam

AB—31 to 43 inches; silty clay loam

Bw1—43 to 54 inches; silty clay loam

Bw2—54 to 69 inches; silty clay loam

Bw3—69 to 80 inches; silty clay loam

*Component note:* Similar inclusions are soils that have more clay in the particle size control section; soils with a loam surface layer; and soils that have dark surface layers less than 24 inches thick.

**Minor Components**

**Nodaway**

*Phase:* Occasionally Flooded

*Composition:* About 10 percent

*Slope:* 0 to 2 percent

*Drainage class:* Moderately well drained

*Ecological site:* Silty Overflow - Veg. Zone 4

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. Corn, soybeans and grain sorghum are the principle crops.

**4250—Kenridge silty clay loam, 0 to 2 percent slopes, Occasionally Flooded**

Map Unit Composition

Kenridge: 92 percent

Minor components: 8 percent

Component Descriptions

Kenridge

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Flood plain on river valley

*Parent material:* Silty alluvium

*Slope:* 0 to 2 percent

*Drainage class:* Moderately well drained

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

*Available water capacity:* High (About 11.8 inches)

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

*Flooding hazard:* Occasional

*Depth to seasonal water saturation:* About 36 to 72 inches

*Runoff class:* Low

*Ecological site:* Silty Lowland - Veg. Zone 4

*Land capability (irrigated):* 2w

*Land capability (nonirrigated):* 2w

*Typical Profile:*

Ap—0 to 8 inches; silty clay loam

A—8 to 20 inches; silty clay loam

Bw1—20 to 36 inches; silty clay loam

Bw2—36 to 46 inches; silty clay loam

Bw3—46 to 60 inches; silty clay loam

BC—60 to 80 inches; silty clay loam

**Minor Components**

**Muscotah**

*Phase:* Occasionally Flooded

*Composition:* About 6 percent

*Slope:* 0 to 1 percent

*Drainage class:* Somewhat poorly drained

*Ecological site:* Clayey Overflow Veg. Zone 4

**Obert**

*Phase:* Occasionally Flooded

*Composition:* About 2 percent

*Slope:* 0 to 2 percent

*Drainage class:* Poorly drained

*Ecological site:* Wet Land - Veg. Zone 4

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. Some of the acreage is used as pasture or mowed for hay. Some areas are irrigated if water is available.

### 4404—Lamo silty clay loam, 0 to 2 percent slopes, Occasionally Flooded

#### Map Unit Composition

Lamo: 96 percent  
Minor components: 4 percent

#### Component Descriptions

**Lamo**  
*MLRA:* 102C - Loess Uplands  
*Landform:* Flood plain on river valley  
*Parent material:* Silty alluvium  
*Slope:* 0 to 2 percent  
*Drainage class:* Somewhat poorly drained  
*Slowest permeability:* Moderately slow (About 0.20 in/hr)  
*Available water capacity:* Very high (About 12.2 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* Occasional  
*Depth to seasonal water saturation:* About 12 to 36 inches  
*Runoff class:* Low  
*Ecological site:* Subirrigated - Veg. Zone 4  
*Land capability (irrigated):* 2w  
*Land capability (nonirrigated):* 2w

#### Typical Profile:

Ap—0 to 5 inches; silty clay loam  
A—5 to 25 inches; silty clay loam  
AC—25 to 36 inches; silty clay loam  
C1—36 to 44 inches; silty clay loam  
C2—44 to 60 inches; silty clay loam

#### Minor Components

##### Obert

*Phase:* Occasionally Flooded  
*Composition:* About 4 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Poorly drained  
*Ecological site:* Wet Land - Veg. Zone 4

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. Some of the acreage is used as pasture or mowed for hay. Some areas are irrigated if water is available.

### 4583—Lex loam, 0 to 2 percent slopes, Occasionally Flooded

#### Map Unit Composition

Lex: 94 percent  
Minor components: 6 percent

#### Component Descriptions

**Lex**  
*MLRA:* 102C - Loess Uplands  
*Landform:* Flood plain on river valley  
*Parent material:* Loamy alluvium over sandy and gravelly alluvium  
*Slope:* 0 to 2 percent  
*Drainage class:* Somewhat poorly drained  
*Slowest permeability:* Moderately slow (About 0.20 in/hr)  
*Available water capacity:* Moderate (About 6.8 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* Occasional  
*Depth to seasonal water saturation:* About 12 to 36 inches  
*Runoff class:* Low  
*Ecological site:* Subirrigated - Veg. Zone 4  
*Land capability (irrigated):* 3w  
*Land capability (nonirrigated):* 3w

#### Typical Profile:

Ap—0 to 7 inches; loam  
A1—7 to 17 inches; clay loam  
A2—17 to 19 inches; loam  
C1—19 to 27 inches; stratified fine sandy loam to loam to sandy clay loam  
2C2—27 to 60 inches; coarse sand

#### Minor Components

##### Wann

*Phase:* Occasionally Flooded  
*Composition:* About 4 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Somewhat poorly drained  
*Ecological site:* Subirrigated - Veg. Zone 4

##### Barney

*Phase:* Frequently Flooded  
*Composition:* About 2 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Poorly drained  
*Ecological site:* Wet Land - Veg. Zone 3

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. Some of the acreage is used as pasture or mowed for hay. Some areas are irrigated if water is available.

**4853—Malcolm silt loam, 5 to 11 percent slopes, Moderately Eroded**

Map Unit Composition

Malcolm: 85 percent  
Minor components: 15 percent

Component Descriptions

Malcolm

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Hillslope on upland

*Hillslope position:* Backslope

*Parent material:* Silty glaciofluvial deposits

*Slope:* 5 to 11 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:* High

*Ecological site:* Silty - Veg. Zone 4

*Land capability (irrigated):* 4e

*Land capability (nonirrigated):* 4e

*Typical Profile:*

A—0 to 7 inches; silt loam  
Bt1—7 to 12 inches; silty clay loam  
Bt2—12 to 20 inches; silty clay loam  
BC—20 to 28 inches; silty clay loam  
C—28 to 60 inches; silt loam

**Minor Components**

**Burchard**

*Composition:* About 8 percent

*Landform:* hillslope on upland

*Slope:* 6 to 12 percent

*Drainage class:* Well drained

*Ecological site:* Silty - Veg. Zone 4

**Yutan**

*Composition:* About 7 percent

*Landform:* hillslope on upland

*Slope:* 5 to 11 percent

*Drainage class:* Well drained

*Ecological site:* Silty - Veg. Zone 4

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. Water erosion is a severe hazard that can be

controlled by contour farming, terraces and conservation tillage.

**4860—Malmo clay loam, 6 to 12 percent slopes, Eroded**

Map Unit Composition

Malmo: 85 percent  
Minor components: 15 percent

Component Descriptions

Malmo

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Hillslope on upland

*Hillslope position:* Backslope

*Parent material:* Weathered till

*Slope:* 6 to 12 percent

*Drainage class:* Moderately well drained

*Slowest permeability:* Very slow (About 0.01 in/hr)

*Available water capacity:* Moderate (About 8.1 inches)

*Shrink-swell potential:* High (About 7.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* About 12 to 36 inches

*Runoff class:* Very high

*Ecological site:* Clayey - Veg. Zone 4

*Land capability (nonirrigated):* 4e

*Typical Profile:*

Ap—0 to 6 inches; clay loam  
Bt1—6 to 15 inches; clay  
Bt2—15 to 25 inches; clay  
Bt3—25 to 39 inches; clay  
Bt4—39 to 43 inches; gravelly clay  
BC—43 to 54 inches; clay loam  
C—54 to 80 inches; loam

*Component note:* Similar inclusions are soils that have carbonates at shallower depths; soils that have 6 to 18 inches of loess on the surface; soils that have a dark colored surface layer more than 10 inches thick. These soils were previously mapped as Mayberry, severely eroded.

**Minor Components**

**Morrill**

*Composition:* About 9 percent

*Landform:* hillslope on upland

*Slope:* 6 to 12 percent

*Drainage class:* Well drained

*Ecological site:* Silty - Veg. Zone 4

**Pawnee**

*Composition:* About 6 percent  
*Landform:* hillslope on upland  
*Slope:* 6 to 12 percent  
*Drainage class:* Moderately well drained  
*Ecological site:* Clayey - Veg. Zone 4

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. Water erosion is a severe hazard that can be controlled by contour farming, terraces and conservation tillage.

### **5388—Morrill clay loam, 6 to 12 percent slopes, Moderately Eroded**

#### Map Unit Composition

Morrill: 89 percent  
 Minor components: 11 percent

#### Component Descriptions

Morrill  
*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills  
*Landform:* Hillslope on upland  
*Hillslope position:* Backslope  
*Parent material:* Loamy till or outwash  
*Slope:* 6 to 12 percent  
*Surface fragments:* About 0 to 2 percent coarse rounded gravel  
*Drainage class:* Well drained  
*Slowest permeability:* Moderately slow (About 0.20 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:* Medium  
*Ecological site:* Silty - Veg. Zone 4  
*Land capability (nonirrigated):* 4e

#### Typical Profile:

Ap—0 to 6 inches; loam  
 BA—6 to 12 inches; loam  
 Bt1—12 to 22 inches; loam  
 Bt2—22 to 30 inches; sandy clay loam  
 Bt3—30 to 35 inches; sandy clay loam  
 Bt4—35 to 43 inches; sandy clay loam  
 BC—43 to 52 inches; fine sandy loam  
 2C1—52 to 59 inches; fine sandy loam  
 2C2—59 to 73 inches; loamy fine sand

2C3—73 to 80 inches; sand  
*Component note:* Similar inclusions are soils with a thinner surface layer; and soils that have variable textures below 40 inches.

#### Minor Components

##### **Malmo**

*Phase:* Severely Eroded  
*Composition:* About 7 percent  
*Landform:* hillslope on upland  
*Slope:* 6 to 12 percent  
*Drainage class:* Moderately well drained  
*Ecological site:* Clayey - Veg. Zone 4

##### **Steinauer**

*Composition:* About 4 percent  
*Landform:* hillslope on upland  
*Slope:* 6 to 12 percent  
*Drainage class:* Well drained  
*Ecological site:* Limy Upland - Veg. Zone 4

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. Water erosion is a severe hazard that can be controlled by contour farming, terraces and conservation tillage.

### **5480—Muscotah silty clay loam, 0 to 1 percent slopes Occasionally Flooded**

*Mapunit Information:* Most areas have had the drainage altered in order to reduce the hazard of wetness.

#### Map Unit Composition

Muscotah: 90 percent  
 Minor components: 10 percent

#### Component Descriptions

Muscotah  
*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills  
*Landform:* Flood plain on river valley  
*Parent material:* Clayey alluvium  
*Slope:* 0 to 1 percent  
*Drainage class:* Somewhat poorly drained  
*Slowest permeability:* Very slow (About 0.01 in/hr)  
*Available water capacity:* High (About 10.8 inches)  
*Shrink-swell potential:* High (About 7.5 LEP)  
*Flooding hazard:* Occasional  
*Depth to seasonal water saturation:* About 18 to 36 inches

*Runoff class:* Low  
*Ecological site:* Clayey Overflow Veg. Zone 4  
*Land capability (irrigated):* 2w  
*Land capability (nonirrigated):* 2w

*Typical Profile:*

Ap—0 to 9 inches; silty clay loam  
 A1—9 to 16 inches; silty clay loam  
 A2—16 to 23 inches; silty clay loam  
 Bw1—23 to 35 inches; silty clay  
 Bw2—35 to 44 inches; silty clay  
 Bw3—44 to 60 inches; silty clay  
 Bw4—60 to 70 inches; silty clay  
 Bg—70 to 80 inches; silty clay

*Component note:* Similar inclusions are soils that have more clay in the particle size control section; and soils that are calcareous to the surface.

**Minor Components**

**Nodaway**

*Phase:* Occasionally Flooded  
*Composition:* About 7 percent  
*Slope:* 0 to 1 percent  
*Drainage class:* Moderately well drained  
*Ecological site:* Silty Overflow - Veg. Zone 4

**Kezan**

*Phase:* Occasionally Flooded  
*Composition:* About 3 percent  
*Slope:* 0 to 1 percent  
*Drainage class:* Poorly drained  
*Ecological site:* Wet Subirrigated - Veg. Zone 4

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. Corn, soybeans and grain sorghum are the main crops.

**5540—Nodaway silt loam, 0 to 2 percent slopes, Occasionally Flooded**

*Mapunit Information:* These soils are stratified with recent sediments due to flooding.

Map Unit Composition

Nodaway: 90 percent  
 Minor components: 10 percent

Component Descriptions

Nodaway

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Flood plain on river valley

*Parent material:* Silty alluvium  
*Slope:* 0 to 2 percent  
*Drainage class:* Moderately well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)

*Available water capacity:* Very high (About 13.0 inches)

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

*Flooding hazard:* Occasional

*Depth to seasonal water saturation:* About 36 to 60 inches

*Runoff class:* Negligible

*Ecological site:* Silty Overflow - Veg. Zone 4

*Land capability (irrigated):* 2w

*Land capability (nonirrigated):* 2w

*Typical Profile:*

Ap—0 to 7 inches; silt loam  
 C1—7 to 14 inches; stratified silt loam  
 C2—14 to 45 inches; stratified silt loam  
 C3—45 to 60 inches; stratified silt loam

*Component note:* Similar inclusions are soils that have thick dark surface layers; and soils that have stratified coarse textured surface layers.

**Minor Components**

**Judson**

*Composition:* About 5 percent  
*Landform:* hillslope on upland  
*Slope:* 0 to 2 percent  
*Drainage class:* Well drained  
*Ecological site:* Silty - Veg. Zone 4

**Nodaway**

*Phase:* Channeled  
*Composition:* About 3 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Moderately well drained  
*Ecological site:* Silty Overflow - Veg. Zone 4

**Kezan**

*Phase:* Occasionally Flooded  
*Composition:* About 2 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Poorly drained  
*Ecological site:* Wet Subirrigated - Veg. Zone 4

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. Corn, soybeans, and grain sorghum are the principle crops.

### 5541—Nodaway silt loam, 0 to 2 percent slopes, Channeled, Frequently Flooded

*Mapunit Information:* Most areas are dissected by a meandering stream channel. There are short, very steep or vertical slopes into the stream channel.

#### Map Unit Composition

Nodaway: 85 percent  
Minor components: 15 percent

#### Component Descriptions

Nodaway

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Drainageway on flood plain on river valley

*Parent material:* Silty alluvium

*Slope:* 0 to 2 percent

*Drainage class:* Moderately well drained

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

*Available water capacity:* Very high (About 13.0 inches)

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

*Flooding hazard:* Frequent

*Depth to seasonal water saturation:* About 36 to 60 inches

*Runoff class:* Negligible

*Ecological site:* Silty Overflow - Veg. Zone 4

*Land capability (nonirrigated):* 6w

#### Typical Profile:

A—0 to 7 inches; silt loam  
C1—7 to 14 inches; stratified silt loam  
C2—14 to 45 inches; stratified silt loam  
C3—45 to 60 inches; stratified silt loam

*Component note:* Similar inclusions are soils that have stratified, coarse textured surface layers.

#### Minor Components

##### Nodaway

*Phase:* Occasionally Flooded

*Composition:* About 10 percent

*Slope:* 0 to 2 percent

*Drainage class:* Moderately well drained

*Ecological site:* Silty Overflow - Veg. Zone 4

##### Judson

*Composition:* About 3 percent

*Landform:* hillslope on upland

*Slope:* 0 to 2 percent

*Drainage class:* Well drained

*Ecological site:* Silty - Veg. Zone 4

##### Kezan

*Phase:* Occasionally Flooded

*Composition:* About 2 percent

*Slope:* 0 to 2 percent

*Drainage class:* Poorly drained

*Ecological site:* Wet Subirrigated - Veg. Zone 4

*General Considerations:* Most of the acreage of this soil is in native grasses and trees. The area is best suited for wildlife habitat.

### 5736—Obert silty clay loam, 0 to 2 percent slopes, Wet, Frequently Flooded

#### Map Unit Composition

Obert: 80 percent  
Minor components: 20 percent

#### Component Descriptions

Obert

*MLRA:* 102C - Loess Uplands

*Landform:* Flood plain on river valley

*Parent material:* Calcareous alluvium

*Slope:* 0 to 2 percent

*Drainage class:* Very poorly drained

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

*Available water capacity:* High (About 11.6 inches)

*Shrink-swell potential:* High (About 7.5 LEP)

*Flooding hazard:* Frequent

*Ponding hazard:* Occasional

*Depth to seasonal water saturation:* About 0 to 18 inches

*Runoff class:* Medium

*Ecological site:* Wet Land - Veg. Zone 4

*Land capability (nonirrigated):* 6w

#### Typical Profile:

A1—0 to 12 inches; silty clay loam  
A2—12 to 24 inches; silty clay loam  
Cg—24 to 60 inches; silty clay loam

#### Minor Components

##### Lamo

*Phase:* Occasionally Flooded

*Composition:* About 11 percent

*Slope:* 0 to 2 percent

*Drainage class:* Somewhat poorly drained

*Ecological site:* Subirrigated - Veg. Zone 4

**Fluvaquents**

*Composition:* About 9 percent  
*Slope:* 0 to 1 percent  
*Drainage class:* Very poorly drained

*General Considerations:* All of the acreage of this soil supports native grasses and is used as pasture or mowed for hay.

**5742—Obert silty clay loam, 0 to 2 percent slopes, Occasionally Flooded**

## Map Unit Composition

Obert: 86 percent  
 Minor components: 14 percent

## Component Descriptions

## Obert

*MLRA:* 102C - Loess Uplands  
*Landform:* Flood plain on river valley  
*Parent material:* Calcareous alluvium  
*Slope:* 0 to 2 percent  
*Drainage class:* Poorly drained  
*Slowest permeability:* Moderately slow (About 0.20 in/hr)  
*Available water capacity:* High (About 11.6 inches)  
*Shrink-swell potential:* High (About 7.5 LEP)  
*Flooding hazard:* Occasional  
*Depth to seasonal water saturation:* About 0 to 18 inches  
*Runoff class:* Low  
*Ecological site:* Wet Land - Veg. Zone 4  
*Land capability (nonirrigated):* 6w

*Typical Profile:*

A1—0 to 12 inches; silty clay loam  
 A2—12 to 24 inches; silty clay loam  
 Cg—24 to 60 inches; silty clay loam

**Minor Components****Lamo**

*Phase:* Occasionally Flooded  
*Composition:* About 11 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Somewhat poorly drained  
*Ecological site:* Subirrigated - Veg. Zone 4

**Obert**

*Phase:* Frequently Flooded  
*Composition:* About 3 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Very poorly drained  
*Ecological site:* Wet Land - Veg. Zone 4

*General Considerations:* All of the acreage of this soil supports native grasses and is used as pasture or mowed for hay.

**5780—Olmitz loam, 2 to 5 percent slopes**

## Map Unit Composition

Olmitz: 85 percent  
 Minor components: 15 percent

## Component Descriptions

## Olmitz

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills  
*Landform:* Hillslope on upland  
*Hillslope position:* Footslope  
*Parent material:* Loamy colluvium  
*Slope:* 2 to 5 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* High (About 10.7 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Medium  
*Land capability (irrigated):* 3e  
*Land capability (nonirrigated):* 2e

*Typical Profile:*

Ap—0 to 6 inches; loam  
 A1—6 to 22 inches; clay loam  
 A2—22 to 32 inches; clay loam  
 Bw1—32 to 40 inches; clay loam  
 Bw2—40 to 52 inches; clay loam  
 BC—52 to 60 inches; clay loam

**Minor Components****Pahuk**

*Composition:* About 8 percent  
*Landform:* hillslope on upland  
*Slope:* 5 to 11 percent  
*Drainage class:* Excessively drained  
*Ecological site:* Sandy - Veg. Zone 4

**Pohocco**

*Composition:* About 7 percent  
*Landform:* hillslope on upland  
*Slope:* 2 to 5 percent  
*Drainage class:* Well drained

*Ecological site:* Silty - Veg. Zone 4

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. Water erosion is a slight hazard that can be controlled by contour farming, terraces and conservation tillage.

### **6046—Pawnee clay loam, 6 to 12 percent slopes, Moderately Eroded**

*Mapunit Information:* Pebbles and cobblestones are common on the surface in most places.

#### Map Unit Composition

Pawnee: 80 percent  
Minor components: 20 percent

#### Component Descriptions

##### Pawnee

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Hillslope on upland

*Hillslope position:* Backslope

*Parent material:* Clayey till

*Slope:* 6 to 12 percent

*Drainage class:* Moderately well drained

*Slowest permeability:* Very slow (About 0.01 in/hr)

*Available water capacity:* Moderate (About 7.3 inches)

*Shrink-swell potential:* High (About 7.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* About 12 to 36 inches

*Runoff class:* High

*Ecological site:* Clayey - Veg. Zone 4

*Land capability (irrigated):* 4e

*Land capability (nonirrigated):* 4e

#### *Typical Profile:*

Ap—0 to 6 inches; clay loam

A—6 to 10 inches; clay loam

BA—10 to 14 inches; clay loam

Bt1—14 to 24 inches; clay

Bt2—24 to 32 inches; clay

Bt3—32 to 45 inches; clay

BC—45 to 53 inches; clay

C—53 to 80 inches; clay loam

*Component note:* Similar inclusions are soils that have thinner surface horizons; soils that have carbonates at shallower depths; and soils that have 6 to 18 inches of loess on the surface.

#### **Minor Components**

##### **Malmo**

*Phase:* Severely Eroded

*Composition:* About 9 percent

*Landform:* hillslope on upland

*Slope:* 6 to 12 percent

*Drainage class:* Moderately well drained

*Ecological site:* Clayey - Veg. Zone 4

##### **Burchard**

*Phase:* 6-12% Slopes

*Composition:* About 6 percent

*Landform:* hillslope on upland

*Slope:* 6 to 12 percent

*Drainage class:* Well drained

*Ecological site:* Silty - Veg. Zone 4

##### **Steinauer**

*Phase:* 6-12% Slopes

*Composition:* About 5 percent

*Landform:* hillslope on upland

*Slope:* 6 to 12 percent

*Drainage class:* Well drained

*Ecological site:* Limy Upland - Veg. Zone 4

*General Considerations:* About half of this map unit is in cropland, with the remaining acreage in pasture or rangeland. Severe erosion from water is a hazard on this soil, and wetness is a problem in the spring in most years.

### **6130—Platte fine sandy loam, 0 to 2 percent slopes Occasionally Flooded**

#### Map Unit Composition

Platte: 80 percent  
Minor components: 20 percent

#### Component Descriptions

##### Platte

*MLRA:* 102C - Loess Uplands

*Landform:* Flood plain on river valley

*Parent material:* Loamy alluvium over sandy and gravelly alluvium

*Slope:* 0 to 2 percent

*Drainage class:* Somewhat poorly drained

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

*Available water capacity:* Low (About 4.0 inches)

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

*Flooding hazard:* Occasional

*Depth to seasonal water saturation:* About 12 to 36 inches  
*Runoff class:* Low  
*Land capability (irrigated):* 4w  
*Land capability (nonirrigated):* 4w

*Typical Profile:*

Ap—0 to 5 inches; fine sandy loam  
 A—5 to 8 inches; very fine sandy loam  
 C—8 to 16 inches; very fine sandy loam  
 2Cg—16 to 80 inches; stratified coarse sand to gravelly coarse sand to gravelly sand

**Minor Components**

**Alda**

*Phase:* Occasionally Flooded  
*Composition:* About 10 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Somewhat poorly drained  
*Ecological site:* Subirrigated - Veg. Zone 4

**Barney**

*Phase:* Frequently Flooded  
*Composition:* About 10 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Poorly drained  
*Ecological site:* Wet Land - Veg. Zone 3

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. The remaining acreage is used as pasture or mowed for hay. Soil blowing is a hazard on this soil. If this soil is irrigated, sprinkler irrigation is best suited because frequent and light applications of irrigation water are needed. Excess water leaches plant nutrients and pesticides below the plant roots.

**6138—Platte-Barney complex, 0 to 2 percent slopes, Channeled**

Map Unit Composition

Platte: 50 percent  
 Barney: 46 percent  
 Minor components: 4 percent

Component Descriptions

Platte  
*MLRA:* 102C - Loess Uplands  
*Landform:* Flood plain on river valley  
*Parent material:* Loamy alluvium over sandy and gravelly alluvium  
*Slope:* 0 to 2 percent  
*Drainage class:* Somewhat poorly drained

*Slowest permeability:* Moderately rapid (About 2.00 in/hr)  
*Available water capacity:* Low (About 4.0 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* Frequent  
*Depth to seasonal water saturation:* About 12 to 36 inches  
*Runoff class:* Low  
*Land capability (irrigated):* 4w  
*Land capability (nonirrigated):* 4w

*Typical Profile:*

Ap—0 to 5 inches; fine sandy loam  
 A—5 to 8 inches; very fine sandy loam  
 C—8 to 16 inches; very fine sandy loam  
 2Cg—16 to 80 inches; stratified coarse sand to gravelly coarse sand to gravelly sand

**Barney**

*MLRA:* 102C - Loess Uplands  
*Landform:* Flood plain on river valley  
*Parent material:* Loamy alluvium over sandy and gravelly alluvium  
*Slope:* 0 to 2 percent  
*Drainage class:* Poorly drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Low (About 3.6 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* Frequent  
*Depth to seasonal water saturation:* About 0 to 24 inches  
*Runoff class:* Very low  
*Ecological site:* Wet Land - Veg. Zone 3  
*Land capability (nonirrigated):* 6w

*Typical Profile:*

A—0 to 7 inches; silty clay loam  
 ACg—7 to 10 inches; loam  
 Cg1—10 to 30 inches; fine sand  
 Cg2—30 to 80 inches; coarse sand

**Minor Components**

**Inglewood**

*Phase:* Rarely Flooded  
*Composition:* About 4 percent  
*Slope:* 0 to 3 percent  
*Drainage class:* Moderately well drained  
*Ecological site:* Sandy Lowland - Veg. Zone 4

*General Considerations:* All of the acreage of this soil supports native grasses and is used as pasture or wildlife habitat.

**6160—Pohocco silty clay loam, 5 to 11 percent slopes, Eroded**

## Map Unit Composition

Pohocco: 80 percent  
 Minor components: 20 percent

## Component Descriptions

Pohocco  
 MLRA: 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Hillslope on upland

*Hillslope position:* Backslope

*Parent material:* Loess

*Slope:* 5 to 11 percent

*Drainage class:* Well drained

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

*Available water capacity:* Very high (About 12.2 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 4

*Land capability (irrigated):* 4e

*Land capability (nonirrigated):* 3e

*Typical Profile:*

Ap—0 to 6 inches; silty clay loam

Bw—6 to 15 inches; silt loam

Bk1—15 to 20 inches; silt loam

Bk2—20 to 28 inches; silt loam

C—28 to 80 inches; silt loam

**Minor Components****Yutan**

*Composition:* About 13 percent

*Landform:* hillslope on upland

*Slope:* 5 to 11 percent

*Drainage class:* Well drained

*Ecological site:* Silty - Veg. Zone 4

**Judson**

*Composition:* About 7 percent

*Landform:* hillslope on upland

*Slope:* 2 to 5 percent

*Drainage class:* Well drained

*Ecological site:* Silty - Veg. Zone 4

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. Water erosion is a severe hazard that can be

controlled by contour farming, terraces and conservation tillage.

**6162—Pohocco silty clay loam, 11 to 17 percent slopes, Eroded**

## Map Unit Composition

Pohocco: 80 percent  
 Minor components: 20 percent

## Component Descriptions

Pohocco

MLRA: 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Hillslope on upland

*Hillslope position:* Backslope

*Parent material:* Loess

*Slope:* 11 to 17 percent

*Drainage class:* Well drained

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

*Available water capacity:* Very high (About 12.2 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 4

*Land capability (nonirrigated):* 4e

*Typical Profile:*

Ap—0 to 6 inches; silty clay loam

Bw—6 to 15 inches; silt loam

Bk1—15 to 20 inches; silt loam

Bk2—20 to 28 inches; silt loam

C—28 to 80 inches; silt loam

**Minor Components****Yutan**

*Composition:* About 14 percent

*Landform:* hillslope on upland

*Slope:* 11 to 17 percent

*Drainage class:* Well drained

*Ecological site:* Silty - Veg. Zone 4

**Judson**

*Composition:* About 6 percent

*Landform:* hillslope on upland

*Slope:* 5 to 11 percent

*Drainage class:* Well drained

*Ecological site:* Silty - Veg. Zone 4

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. Water

erosion is a severe hazard that can be controlled by contour farming, terraces and conservation tillage.

### **6170—Pohocco-Pahuk complex, 5 to 11 percent slopes, Eroded**

#### Map Unit Composition

Pohocco: 52 percent  
Pahuk: 45 percent  
Minor components: 3 percent

#### Component Descriptions

##### Pohocco

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Hillslope on upland

*Hillslope position:* Backslope

*Parent material:* Loess

*Slope:* 5 to 11 percent

*Drainage class:* Well drained

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

*Available water capacity:* Very high (About 12.2 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 4

*Land capability (irrigated):* 4e

*Land capability (nonirrigated):* 3e

#### *Typical Profile:*

Ap—0 to 6 inches; silty clay loam

Bw—6 to 15 inches; silt loam

Bk1—15 to 20 inches; silt loam

Bk2—20 to 28 inches; silt loam

C—28 to 80 inches; silt loam

##### Pahuk

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Hillslope on upland

*Hillslope position:* Backslope

*Parent material:* Sandy alluvium

*Slope:* 5 to 11 percent

*Drainage class:* Excessively drained

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

*Available water capacity:* Low (About 4.0 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 4

*Land capability (irrigated):* 4e

*Land capability (nonirrigated):* 6e

#### *Typical Profile:*

A—0 to 6 inches; loamy fine sand

AC—6 to 14 inches; loamy fine sand

C1—14 to 40 inches; fine sand

C2—40 to 80 inches; fine sand

#### **Minor Components**

##### **Olmitz**

*Composition:* About 3 percent

*Landform:* hillslope on upland

*Slope:* 2 to 5 percent

*Drainage class:* Well drained

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. Water erosion is a severe hazard that can be controlled by contour farming, terraces and conservation tillage.

### **6172—Pohocco-Pahuk complex, 11 to 17 percent slopes, Eroded**

#### Map Unit Composition

Pohocco: 59 percent  
Pahuk: 35 percent  
Minor components: 6 percent

#### Component Descriptions

##### Pohocco

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Hillslope on upland

*Hillslope position:* Backslope

*Parent material:* Loess

*Slope:* 11 to 17 percent

*Drainage class:* Well drained

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

*Available water capacity:* Very high (About 12.2 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 4

*Land capability (nonirrigated): 4e*

*Typical Profile:*

Ap—0 to 6 inches; silty clay loam  
Bw—6 to 15 inches; silt loam  
Bk1—15 to 20 inches; silt loam  
Bk2—20 to 28 inches; silt loam  
C—28 to 80 inches; silt loam

Pahuk

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Hillslope on upland

*Hillslope position:* Backslope

*Parent material:* Sandy alluvium

*Slope:* 11 to 17 percent

*Drainage class:* Excessively drained

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

*Available water capacity:* Low (About 4.0 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 4

*Land capability (nonirrigated): 6e*

*Typical Profile:*

A—0 to 6 inches; loamy fine sand  
AC—6 to 14 inches; loamy fine sand  
C1—14 to 40 inches; fine sand  
C2—40 to 80 inches; fine sand

**Minor Components**

**Olmitz**

*Composition:* About 6 percent

*Landform:* hillslope on upland

*Slope:* 2 to 5 percent

*Drainage class:* Well drained

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. Water erosion is a severe hazard that can be controlled by contour farming, terraces and conservation tillage.

**6520—Saltillo silt loam, 0 to 2 percent slopes, Occasionally Flooded**

Map Unit Composition

Saltillo: 85 percent

Minor components: 15 percent

Component Descriptions

Saltillo

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Flood plain on river valley

*Parent material:* Silty alluvium

*Slope:* 0 to 2 percent

*Drainage class:* Poorly drained

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

*Available water capacity:* High (About 11.9 inches)

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

*Flooding hazard:* Occasional

*Depth to seasonal water saturation:* About 0 to 18 inches

*Runoff class:* Low

*Ecological site:* Saline Subirrigated - Veg. Zone 4

*Land capability (nonirrigated): 6s*

*Typical Profile:*

An—0 to 6 inches; silt loam  
Bn—6 to 17 inches; silt loam  
Anb1—17 to 32 inches; stratified silt loam to silty clay loam  
Anb2—32 to 50 inches; stratified silt loam to silty clay loam  
Anb3—50 to 60 inches; stratified silt loam to silty clay loam  
Cn—60 to 80 inches; stratified silt loam to silty clay loam

**Minor Components**

**Fluvaquents**

*Composition:* About 9 percent

*Slope:* 0 to 1 percent

*Drainage class:* Very poorly drained

**Salmo**

*Composition:* About 6 percent

*Slope:* 0 to 1 percent

*Drainage class:* Somewhat poorly drained

*Ecological site:* Saline Subirrigated - Veg. Zone 4

*General Considerations:* All of the acreage of this soil supports native grasses and is used as pasture or mowed for hay.

**6791—Scott silt loam, Terrace, 0 to 1 percent slopes**

Map Unit Composition

Scott: 100 percent

## Component Descriptions

## Scott

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Playa on terrace on valley

*Parent material:* Loess

*Slope:* 0 to 1 percent

*Drainage class:* Very poorly drained

*Slowest permeability:* Very slow (About 0.01 in/hr)

*Available water capacity:* High (About 9.1 inches)

*Shrink-swell potential:* High (About 7.5 LEP)

*Flooding hazard:* None

*Ponding hazard:* Frequent

*Depth to seasonal water saturation:* About 0 to 24 inches

*Runoff class:* Negligible

*Land capability (nonirrigated):* 5w

*Typical Profile:*

A—0 to 6 inches; silt loam

E—6 to 18 inches; silt loam

Bt1—18 to 28 inches; silty clay

Bt2—28 to 42 inches; silty clay

Bt3—42 to 56 inches; silty clay

Bt4—56 to 80 inches; silty clay

*General Considerations:* Most of the acreage of this soil is used as wildlife habitat. Some small areas have been drained and use for cultivated crops.

**7069—Steinauer clay loam, 12 to 30 percent slopes**

*Mapunit Information:* These mapunits are usually long and narrow.

## Map Unit Composition

Steinauer: 85 percent

Minor components: 15 percent

## Component Descriptions

## Steinauer

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Hillslope on upland

*Hillslope position:* Backslope

*Parent material:* Calcareous loamy till

*Slope:* 12 to 30 percent

*Drainage class:* Well drained

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

*Available water capacity:* High (About 10.8 inches)

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

*Flooding hazard:* None

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

*Runoff class:* Very high

*Ecological site:* Limy Upland - Veg. Zone 4

*Land capability (nonirrigated):* 6e

*Typical Profile:*

Ap—0 to 6 inches; clay loam

AC—6 to 15 inches; clay loam

C1—15 to 41 inches; clay loam

C2—41 to 60 inches; clay loam

*Component note:* Similar inclusions are soils that have a surface layer more than 10 inches thick.

**Minor Components****Burchard**

*Composition:* About 12 percent

*Landform:* hillslope on upland

*Slope:* 12 to 30 percent

*Drainage class:* Well drained

*Ecological site:* Silty - Veg. Zone 4

**Nodaway**

*Phase:* Channeled

*Composition:* About 3 percent

*Slope:* 0 to 2 percent

*Drainage class:* Moderately well drained

*Ecological site:* Silty Overflow - Veg. Zone 4

*General Considerations:* All of the acreage of this soil is used for rangeland or pasture. Cedar trees and other shrubs are a problem if not properly managed.

**7290—Tomek silt loam, 0 to 2 percent slopes**

## Map Unit Composition

Tomek: 86 percent

Minor components: 14 percent

## Component Descriptions

## Tomek

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Stream terrace on valley

*Parent material:* Loess

*Slope:* 0 to 2 percent

*Drainage class:* Well drained

*Slowest permeability:* Moderately slow (About 0.20 in/hr)  
*Available water capacity:* High (About 11.0 inches)  
*Shrink-swell potential:* High (About 7.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Medium  
*Ecological site:* Silty - Veg. Zone 4  
*Land capability (irrigated):* 1  
*Land capability (nonirrigated):* 1

*Typical Profile:*

Ap—0 to 11 inches; silt loam  
 AB—11 to 19 inches; silty clay loam  
 Bt—19 to 54 inches; silty clay loam  
 B/C—54 to 80 inches; silty clay loam

**Minor Components****Filbert**

*Composition:* About 11 percent  
*Slope:* 0 to 1 percent  
*Drainage class:* Somewhat poorly drained  
*Ecological site:* Clayey - Veg. Zone 4

**Fillmore**

*Composition:* About 3 percent  
*Slope:* 0 to 1 percent  
*Drainage class:* Somewhat poorly drained  
*Ecological site:* Clayey Overflow - Veg. Zone 4

*General Considerations:* Most of the acreage of this soil is used for cultivated crops.

## **7920—Wann fine sandy loam, 0 to 2 percent slopes, Occasionally Flooded**

## Map Unit Composition

Wann: 92 percent  
 Minor components: 8 percent

## Component Descriptions

Wann  
*MLRA:* 102C - Loess Uplands  
*Landform:* Flood plain on river valley  
*Parent material:* Calcareous loamy alluvium  
*Slope:* 0 to 2 percent  
*Drainage class:* Somewhat poorly 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:* Occasional  
*Depth to seasonal water saturation:* About 18 to 42 inches  
*Runoff class:* Low  
*Ecological site:* Subirrigated - Veg. Zone 4  
*Land capability (irrigated):* 2w  
*Land capability (nonirrigated):* 2w

*Typical Profile:*

Ap—0 to 6 inches; fine sandy loam  
 A—6 to 16 inches; fine sandy loam  
 C—16 to 50 inches; sandy loam  
 Cg—50 to 60 inches; stratified sandy loam to fine sandy loam to loamy sand to loam

**Minor Components****Boel**

*Phase:* Occasionally Flooded  
*Composition:* About 5 percent  
*Slope:* 0 to 3 percent  
*Drainage class:* Somewhat poorly drained  
*Ecological site:* Subirrigated - Veg. Zone 4

**Barney**

*Phase:* Frequently Flooded  
*Composition:* About 3 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Poorly drained  
*Ecological site:* Wet Land - Veg. Zone 3

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. The remaining acreage is used as pasture or mowed for hay. Soil blowing is a hazard on this soil. If this soil is irrigated, sprinkler irrigation is best suited because frequent and light applications of irrigation water are needed. Excess water leaches plant nutrients and pesticides below the plant roots.

## **8120—Yutan silty clay loam, 11 to 17 percent slopes, Eroded**

## Map Unit Composition

Yutan: 88 percent  
 Minor components: 12 percent

## Component Descriptions

Yutan  
*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills  
*Landform:* Hillslope on upland  
*Hillslope position:* Backslope

*Parent material:* Loess  
*Slope:* 11 to 17 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderately slow (About 0.20 in/hr)  
*Available water capacity:* High (About 11.1 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 4  
*Land capability (nonirrigated):* 4e

*Typical Profile:*

A—0 to 6 inches; silty clay loam  
 Bt1—6 to 13 inches; silty clay loam  
 Bt2—13 to 20 inches; silty clay loam  
 Bt3—20 to 27 inches; silty clay loam  
 Bt4—27 to 32 inches; silty clay loam  
 BC—32 to 43 inches; silty clay loam  
 C1—43 to 63 inches; silt loam  
 C2—63 to 80 inches; silt loam

**Minor Components****Judson**

*Composition:* About 12 percent  
*Landform:* hillslope on upland  
*Slope:* 5 to 11 percent  
*Drainage class:* Well drained  
*Ecological site:* Silty - Veg. Zone 4

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. Water erosion is a severe hazard that can be controlled by contour farming, terraces and conservation tillage.

### **8124—Yutan silty clay loam, Terrace, 2 to 5 percent slopes, Eroded**

## Map Unit Composition

Yutan: 92 percent  
 Minor components: 8 percent

## Component Descriptions

Yutan  
*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills  
*Landform:* Stream terrace on valley  
*Parent material:* Loess  
*Slope:* 2 to 5 percent

*Drainage class:* Well drained  
*Slowest permeability:* Moderately slow (About 0.20 in/hr)  
*Available water capacity:* High (About 11.1 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 4  
*Land capability (irrigated):* 3e  
*Land capability (nonirrigated):* 2e

*Typical Profile:*

A—0 to 6 inches; silty clay loam  
 Bt1—6 to 13 inches; silty clay loam  
 Bt2—13 to 20 inches; silty clay loam  
 Bt3—20 to 27 inches; silty clay loam  
 Bt4—27 to 32 inches; silty clay loam  
 BC—32 to 43 inches; silty clay loam  
 C1—43 to 63 inches; silt loam  
 C2—63 to 80 inches; silt loam

**Minor Components****Tomek**

*Composition:* About 8 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Well drained  
*Ecological site:* Silty - Veg. Zone 4

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. Water erosion is a moderate hazard that can be controlled by contour farming, terraces and conservation tillage.

### **8130—Yutan, Eroded-Aksarben silty clay loams, 2 to 5 percent slopes**

## Map Unit Composition

Yutan: 65 percent  
 Aksarben: 33 percent  
 Minor components: 2 percent

## Component Descriptions

Yutan  
*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills  
*Landform:* Hillslope on upland  
*Hillslope position:* Shoulder, summit  
*Parent material:* Loess

*Slope:* 2 to 5 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderately slow (About 0.20 in/hr)  
*Available water capacity:* High (About 11.1 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 4  
*Land capability (irrigated):* 3e  
*Land capability (nonirrigated):* 2e

*Typical Profile:*

A—0 to 6 inches; silty clay loam  
 Bt1—6 to 13 inches; silty clay loam  
 Bt2—13 to 20 inches; silty clay loam  
 Bt3—20 to 27 inches; silty clay loam  
 Bt4—27 to 32 inches; silty clay loam  
 BC—32 to 43 inches; silty clay loam  
 C1—43 to 63 inches; silt loam  
 C2—63 to 80 inches; silt loam

Aksarben

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Hillslope on upland*Hillslope position:* Summit*Parent material:* Loess*Slope:* 2 to 5 percent*Drainage class:* Well drained*Slowest permeability:* Moderately slow (About 0.20 in/hr)*Available water capacity:* High (About 10.7 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 4*Land capability (irrigated):* 3e*Land capability (nonirrigated):* 2e*Typical Profile:*

Ap—0 to 6 inches; silty clay loam  
 A—6 to 12 inches; silty clay loam  
 Bt1—12 to 18 inches; silty clay loam  
 Bt2—18 to 26 inches; silty clay loam  
 Bt3—26 to 34 inches; silty clay loam  
 Bt4—34 to 42 inches; silty clay loam  
 BC—42 to 60 inches; silty clay loam  
 C—60 to 80 inches; silt loam

*Component note:* Similar inclusions are: Soils that are dark to a depth of more than 24 inches.

**Minor Components****Judson***Composition:* About 2 percent*Landform:* hillslope on upland*Slope:* 2 to 5 percent*Drainage class:* Well drained*Ecological site:* Silty - Veg. Zone 4

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. Water erosion is a moderate hazard that can be controlled by contour farming, terraces and conservation tillage.

**8134—Yutan, Eroded-Judson complex, 5 to 11 percent slopes**

## Map Unit Composition

Yutan: 64 percent

Judson: 25 percent

Minor components: 11 percent

## Component Descriptions

Yutan

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Hillslope on upland*Hillslope position:* Backslope*Parent material:* Loess*Slope:* 5 to 11 percent*Drainage class:* Well drained*Slowest permeability:* Moderately slow (About 0.20 in/hr)*Available water capacity:* High (About 11.1 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 4*Land capability (irrigated):* 4e*Land capability (nonirrigated):* 3e*Typical Profile:*

A—0 to 6 inches; silty clay loam  
 Bt1—6 to 13 inches; silty clay loam  
 Bt2—13 to 20 inches; silty clay loam  
 Bt3—20 to 27 inches; silty clay loam

Bt4—27 to 32 inches; silty clay loam  
 BC—32 to 43 inches; silty clay loam  
 C1—43 to 63 inches; silt loam  
 C2—63 to 80 inches; silt loam

#### Map Unit Composition

Arents, Earthen Dam: 100 percent

#### Judson

*MLRA:* 106 - Nebraska and Kansas Loess-Drift Hills

*Landform:* Hillslope on upland

*Hillslope position:* Footslope

*Parent material:* Fine-silty colluvium

*Slope:* 5 to 11 percent

*Drainage class:* Well drained

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

*Available water capacity:* Very high (About 13.0 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 4

*Land capability (irrigated):* 4e

*Land capability (nonirrigated):* 3e

#### Typical Profile:

Ap1—0 to 6 inches; silt loam  
 Ap2—6 to 12 inches; silty clay loam  
 A1—12 to 22 inches; silty clay loam  
 A2—22 to 31 inches; silty clay loam  
 AB—31 to 43 inches; silty clay loam  
 Bw1—43 to 54 inches; silty clay loam  
 Bw2—54 to 69 inches; silty clay loam  
 Bw3—69 to 80 inches; silty clay loam

*Component note:* Similar inclusions are soils that have more clay in the particle size control section; soils with a loam surface layer; and soils that have dark surface layers less than 24 inches thick.

#### Minor Components

##### Aksarben

*Composition:* About 11 percent

*Landform:* interfluvium on upland

*Slope:* 2 to 5 percent

*Drainage class:* Well drained

*Ecological site:* Silty - Veg. Zone 4

*General Considerations:* Most of the acreage of this soil is used for cultivated crops. Water erosion is a severe hazard that can be controlled by contour farming, terraces and conservation tillage.

#### 9900—Arents, Earthen Dam

#### Component Descriptions

Arents, Earthen Dam

*MLRA:* -

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

*Land capability (nonirrigated):* 8

#### 9985—Gravel Pits

#### 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

#### 9998—Water

#### 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.

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  
Saunders County, 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		Grain sorghum		Soybeans		Winter wheat	
	N	I	N	I	N	I	N	I	N	I
			Bu		Bu		Bu		Bu	
1050: AKSARBEN-----	1	1	115.00	155.00	90.00	---	46.00	56.00	42.00	---
1100: ALDA-----	3w	3w	81.00	144.00	70.00	95.00	---	---	39.00	---
1347: BARNEY-----	5w	---	---	---	---	---	---	---	---	---
1616: BOEL-----	4w	4w	40.00	80.00	35.00	---	---	---	---	---
1873: BURCHARD-----	4e	---	80.00	130.00	80.00	120.00	29.00	43.00	40.00	---
STEINAUER-----	4e	---	75.00	120.00	70.00	110.00	27.00	41.00	36.00	---
1879: BURCHARD-----	6e	---	65.00	---	70.00	---	25.00	---	30.00	---
STEINAUER-----	6e	---	60.00	---	65.00	---	23.00	---	27.00	---
2420: DEROIN-----	4e	4e	80.00	130.00	80.00	115.00	30.00	45.00	37.00	---
2830: FILBERT-----	2w	2w	105.00	125.00	67.00	---	---	---	30.00	---
2844: FILLMORE-----	3w	4w	50.00	45.00	55.00	---	---	---	22.00	---
2863: FLUVAQUENTS-----	8w	---	---	---	---	---	---	---	---	---
3025: GIBBON-----	2w	2w	110.00	140.00	85.00	---	34.00	39.00	35.00	---
3038: GIBBON-----	2w	2w	110.00	140.00	85.00	---	34.00	39.00	35.00	---
SALTINE-----	6s	---	55.00	100.00	55.00	90.00	21.00	---	26.00	---
3421: HEDVILLE-----	6s	---	---	---	---	---	---	---	---	---
3830: IDA-----	7e	---	---	---	---	---	---	---	---	---
STEINAUER-----	7e	---	65.00	---	65.00	---	---	---	25.00	---
3890: INGLEWOOD-----	4e	3e	25.00	100.00	30.00	---	---	---	23.00	---
4104: JUDSON-----	1	1	105.00	150.00	85.00	120.00	40.00	52.00	45.00	---
4106: JUDSON-----	2e	3e	105.00	150.00	85.00	120.00	40.00	52.00	45.00	---
4250: KENRIDGE-----	2w	2w	120.00	160.00	100.00	---	46.00	56.00	46.00	---
4404: LAMO-----	2w	2w	90.00	135.00	80.00	---	32.00	40.00	---	---
4583: LEX-----	3w	3w	70.00	130.00	75.00	---	---	---	32.00	---
4853: MALCOLM-----	4e	4e	74.00	---	80.00	---	32.00	---	34.00	---
4860: MALMO-----	4e	---	72.00	127.00	74.00	105.00	27.00	42.00	35.00	---
5388: MORRILL-----	4e	---	75.00	---	55.00	---	25.00	---	30.00	---
5480: MUSCOTAH-----	2w	2w	95.00	150.00	100.00	135.00	40.00	50.00	41.00	---

LAND CAPABILITY AND YIELDS PER ACRE OF CROPS--Continued  
Saunders County, 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		Grain sorghum		Soybeans		Winter wheat	
	N	I	N	I	N	I	N	I	N	I
			Bu		Bu		Bu		Bu	
5540: NODAWAY-----	2w	2w	110.00	170.00	100.00	135.00	38.00	46.00	47.00	---
5541: NODAWAY-----	6w	---	---	---	---	---	---	---	---	---
5736: OBERT-----	6w	---	---	---	---	---	---	---	---	---
5742: OBERT-----	6w	---	---	---	---	---	---	---	---	---
5780: OLMITZ-----	2e	3e	105.00	140.00	75.00	---	34.00	40.00	40.00	---
6046: PAWNEE-----	4e	4e	80.00	130.00	80.00	115.00	30.00	45.00	38.00	---
6130: PLATTE-----	4w	4w	40.00	85.00	55.00	---	18.00	26.00	---	---
6138: PLATTE-----	4w	4w	40.00	85.00	55.00	---	18.00	26.00	---	---
BARNEY-----	6w	---	---	---	---	---	---	---	---	---
6160: POHOCCO-----	3e	4e	72.00	---	68.00	---	24.00	---	28.00	---
6162: POHOCCO-----	4e	---	72.00	---	68.00	---	24.00	---	28.00	---
6170: POHOCCO-----	3e	4e	72.00	---	68.00	---	24.00	---	28.00	---
PAHUK-----	6e	4e	50.00	---	45.00	---	---	---	---	---
6172: POHOCCO-----	4e	---	72.00	---	68.00	---	24.00	---	28.00	---
PAHUK-----	6e	---	50.00	---	45.00	---	---	---	---	---
6520: SALTILLO-----	6s	---	35.00	---	---	---	---	---	---	---
6791: SCOTT-----	5w	---	---	---	---	---	---	---	---	---
7069: STEINAUER-----	6e	---	65.00	---	65.00	---	---	---	25.00	---
7290: TOMEK-----	1	1	115.00	155.00	86.00	---	38.00	48.00	42.00	---
7920: WANN-----	2w	2w	88.00	138.00	79.00	---	---	---	43.00	---
8120: YUTAN-----	4e	---	90.00	110.00	80.00	---	30.00	34.00	32.00	---
8124: YUTAN-----	2e	3e	90.00	110.00	80.00	---	30.00	34.00	32.00	---
8130: YUTAN-----	2e	3e	90.00	110.00	80.00	---	30.00	34.00	32.00	---
AKSARBEN-----	2e	3e	115.00	155.00	90.00	---	46.00	56.00	42.00	---
8134: YUTAN-----	3e	4e	90.00	110.00	80.00	---	30.00	34.00	32.00	---
JUDSON-----	3e	4e	105.00	150.00	85.00	120.00	40.00	52.00	45.00	---
9900: ARENTS, EARTHEN DAM-----	8	---	---	---	---	---	---	---	---	---
9985: PITS-----	8s	---	---	---	---	---	---	---	---	---

LAND CAPABILITY AND YIELDS PER ACRE OF CROPS--Continued  
 Saunders County, 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		Grain sorghum		Soybeans		Winter wheat	
	N	I	N	I	N	I	N	I	N	I
			Bu		Bu		Bu		Bu	
9998: WATER-----	---	---	---	---	---	---	---	---	---	---



Farmland Classification  
Saunders County, Nebraska : Update

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
1050	Aksarben silty clay loam, 0 to 2 percent slopes	All areas are prime farmland
4104	Judson silt loam, 0 to 2 percent slopes	All areas are prime farmland
4106	Judson silt loam, 2 to 5 percent slopes	All areas are prime farmland
4250	Kenridge silty clay loam, 0 to 2 percent slopes, occasionally flooded	All areas are prime farmland
5540	Nodaway silt loam, 0 to 2 percent slopes, occasionally flooded	All areas are prime farmland
5780	Olmitz loam, 2 to 5 percent slopes	All areas are prime farmland
7290	Tomek silt loam, 0 to 2 percent slopes	All areas are prime farmland
8124	Yutan silty clay loam, terrace, 2 to 5 percent slopes, eroded	All areas are prime farmland
8130	Yutan, eroded-aksarben silty clay loams, 2 to 5 percent slopes	All areas are prime farmland
1100	Alda fine sandy loam, 0 to 2 percent slopes, occasionally flooded	Prime farmland if drained
2830	Filbert silt loam, 0 to 1 percent slopes	Prime farmland if drained
3025	Gibbon silt loam, 0 to 2 percent slopes, occasionally flooded	Prime farmland if drained
4404	Lamo silty clay loam, 0 to 2 percent slopes, occasionally flooded	Prime farmland if drained
4583	Lex loam, 0 to 2 percent slopes, occasionally flooded	Prime farmland if drained
5480	Muscotah silty clay loam, 0 to 1 percent slopes occasionally flooded	Prime farmland if drained
7920	Wann fine sandy loam, 0 to 2 percent slopes, occasionally flooded	Prime farmland if drained



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
1050	Aksarben Silty Clay Loam, 0 To 2 Percent Slopes-----	71
1100	Alda Fine Sandy Loam, 0 To 2 Percent Slopes, Occasionally Flooded-----	41
1347	Barney Silty Clay Loam, 0 To 2 Percent Slopes, Wet, Frequently Flooded---	25
1616	Boel Loamy Fine Sand, 0 To 3 Percent Slopes, Occasionally Flooded-----	29
1873	Burchard-Steinauer Clay Loams, 6 To 12 Percent Slopes, Eroded-----	56
1879	Burchard-Steinauer Clay Loams, 12 To 18 Percent Slopes, Eroded-----	49
2420	Deroin Silty Clay Loam, 5 To 11 Percent Slopes, Eroded-----	69
2830	Filbert Silt Loam, 0 To 1 Percent Slopes-----	56
2844	Fillmore Silt Loam, Terrace, 0 To 1 Percent Slopes-----	44
2863	Fluvaquents, Silty, Frequently Flooded-----	7
3025	Gibbon Silt Loam, 0 To 2 Percent Slopes, Occasionally Flooded-----	57
3038	Gibbon-Saltine Loams, 0 To 2 Percent Slopes, Occasionally Flooded-----	48
3421	Hedville Cobbly Loam, 6 To 30 Percent Slopes-----	6
3830	Ida-Steinauer Complex, 17 To 60 Percent Slopes-----	10
3890	Inglewood Loamy Fine Sand, 0 To 3 Percent Slopes, Rarely Flooded-----	41
4104	Judson Silt Loam, 0 To 2 Percent Slopes-----	78
4106	Judson Silt Loam, 2 To 5 Percent Slopes-----	79
4250	Kenridge Silty Clay Loam, 0 To 2 Percent Slopes, Occasionally Flooded----	69
4404	Lamo Silty Clay Loam, 0 To 2 Percent Slopes, Occasionally Flooded-----	55
4583	Lex Loam, 0 To 2 Percent Slopes, Occasionally Flooded-----	47
4853	Malcolm Silt Loam, 5 To 11 Percent Slopes, Moderately Eroded-----	69
4860	Malmö Clay Loam, 6 To 12 Percent Slopes, Eroded-----	52
5388	Morrill Clay Loam, 6 To 12 Percent Slopes, Moderately Eroded-----	53
5480	Muscotah Silty Clay Loam, 0 To 1 Percent Slopes Occasionally Flooded-----	69
5540	Nodaway Silt Loam, 0 To 2 Percent Slopes, Occasionally Flooded-----	73
5541	Nodaway Silt Loam, 0 To 2 Percent Slopes, Channeled, Frequently Flooded---	60
5736	Obert Silty Clay Loam, 0 To 2 Percent Slopes, Wet, Frequently Flooded----	35
5742	Obert Silty Clay Loam, 0 To 2 Percent Slopes, Occasionally Flooded-----	48
5780	Olmitz Loam, 2 To 5 Percent Slopes-----	71
6046	Pawnee Clay Loam, 6 To 12 Percent Slopes, Moderately Eroded-----	51
6130	Platte Fine Sandy Loam, 0 To 2 Percent Slopes Occasionally Flooded-----	30
6138	Platte-Barney Complex, 0 To 2 Percent Slopes, Channeled-----	25
6160	Pohocco Silty Clay Loam, 5 To 11 Percent Slopes, Eroded-----	66
6162	Pohocco Silty Clay Loam, 11 To 17 Percent Slopes, Eroded-----	58
6170	Pohocco-Pahuk Complex, 5 To 11 Percent Slopes, Eroded-----	48
6172	Pohocco-Pahuk Complex, 11 To 17 Percent Slopes, Eroded-----	46
6520	Saltillo Silt Loam, 0 To 2 Percent Slopes, Occasionally Flooded-----	9
6791	Scott Silt Loam, Terrace, 0 To 1 Percent Slopes-----	7
7069	Steinauer Clay Loam, 12 To 30 Percent Slopes-----	34
7290	Tomek Silt Loam, 0 To 2 Percent Slopes-----	73
7920	Wann Fine Sandy Loam, 0 To 2 Percent Slopes, Occasionally Flooded-----	43
8120	Yutan Silty Clay Loam, 11 To 17 Percent Slopes, Eroded-----	61
8124	Yutan Silty Clay Loam, Terrace, 2 To 5 Percent Slopes, Eroded-----	73
8130	Yutan, Eroded-Aksarben Silty Clay Loams, 2 To 5 Percent Slopes-----	72
8134	Yutan, Eroded-Judson Complex, 5 To 11 Percent Slopes-----	69
9900	Arents, Earthen Dam-----	0
9985	Gravel Pits-----	18
9998	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		
1050:AKSARBEN---	98	1-3	1	All areas are prime farmland	B	Silty - Veg. Zone 4	3	.32	.32	5	7	38
1100:ALDA-----	85	3w-	3w	Prime farmland if drained	C	Subirrigated - Veg. Zone 4		.28	.28	4	5	56
1347:BARNEY-----	87	N/A	5w	Not prime farmland	D	Wet Land - Veg. Zone 3		.28	.28	5	4L	86
1616:BOEL-----	85	4w-	4w	Not prime farmland	A	Subirrigated - Veg. Zone 4		.17	.17	5	2	134
1873:BURCHARD---	50	N/A	4e	Not prime farmland	B	Silty - Veg. Zone 4	3	.28	.28	5	6	48
1873:STEINAUER--	35	N/A	4e	Not prime farmland	B	Limy Upland - Veg. Zone 4	8	.32	.32	5	4L	86
1879:BURCHARD---	45	N/A	6e	Not prime farmland	B	Silty - Veg. Zone 4	3	.28	.28	5	6	48
1879:STEINAUER--	40	N/A	6e	Not prime farmland	B	Limy Upland - Veg. Zone 4	8	.32	.32	5	4L	86
2420:DEROIN-----	90	4e-	4e	Not prime farmland	B	Silty - Veg. Zone 4	3	.37	.37	4	7	38
2830:FILBERT----	90	2w-	2w	Prime farmland if drained	D	Clayey - Veg. Zone 4		.37	.37	3	6	48
2844:FILLMORE---	90	4w-	3w	Not prime farmland	D	Clayey Overflow - Veg. Zone 4		.37	.37	3	6	48
2863:FLUVAQUENTS	95	N/A	8w	Not prime farmland	D	Unspecified	10	.32	.32	5	8	0
3025:GIBBON-----	95	2w-	2w	Prime farmland if drained	B	Subirrigated - Veg. Zone 4		.32	.32	5	4L	86
3038:GIBBON-----	50	2w-	2w	Not prime farmland	B	Subirrigated - Veg. Zone 4		.32	.32	5	4L	86
3038:SALTINE----	38	N/A	6s	Not prime farmland	C	Saline Subirrigated - Veg. Zone 4		.37	.37	5	4L	86
3421:HEDVILLE---	80	N/A	6s	Not prime farmland	D	Shallow Sandy - Veg. Zone 4	10	.20	.20	2	5	56
3830:IDA-----	60	N/A	7e	Not prime farmland	B	Thin Loess - Veg. Zone 4		.32	.32	5	4L	86
3830:STEINAUER--	30	N/A	7e	Not prime farmland	B	Limy Upland - Veg. Zone 4	10	.32	.32	5	4L	86
3890:INGLEWOOD---	85	3e-	4e	Not prime farmland	A	Sandy Lowland - Veg. Zone 4		.17	.17	5	2	134

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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		
4104:JUDSON-----	85	1-	1	All areas are prime farmland	B	Silty - Veg. Zone 4	3	.28	.28	5	6	48
4106:JUDSON-----	90	3e-	2e	All areas are prime farmland	B	Silty - Veg. Zone 4	3	.28	.28	5	6	48
4250:KENRIDGE---	92	2w-	2w	All areas are prime farmland	C	Silty Lowland - Veg. Zone 4		.28	.28	5	7	38
4404:LAMO-----	96	2w-	2w	Prime farmland if drained	C	Subirrigated - Veg. Zone 4		.32	.32	5	4L	86
4583:LEX-----	94	3w-	3w	Prime farmland if drained	B	Subirrigated - Veg. Zone 4		.28	.28	4	4L	86
4853:MALCOLM----	85	4e-	4e	Not prime farmland	B	Silty - Veg. Zone 4	3	.32	.32	5	5	56
4860:MALMO-----	85	N/A	4e	Not prime farmland	D	Clayey - Veg. Zone 4	4C	.37	.37	4	4	86
5388:MORRILL----	89	N/A	4e	Not prime farmland	B	Silty - Veg. Zone 4	3	.28	.28	5	6	48
5480:MUSCOTAH---	90	2w-	2w	Prime farmland if drained	D	Clayey Overflow Veg. Zone 4	2	.37	.37	5	7	38
5540:NODAWAY----	90	2w-	2w	All areas are prime farmland	B	Silty Overflow - Veg. Zone 4	1	.32	.32	5	6	48
5541:NODAWAY----	85	N/A	6w	Not prime farmland	B	Silty Overflow - Veg. Zone 4	10	.32	.32	5	6	48
5736:OBERT-----	80	N/A	6w	Not prime farmland	D	Wet Land - Veg. Zone 4		.28	.28	5	8	0
5742:OBERT-----	86	N/A	6w	Not prime farmland	D	Wet Land - Veg. Zone 4		.28	.28	5	8	0
5780:OLMITZ-----	85	3e-	2e	All areas are prime farmland	B	Unspecified		.24	.24	5	6	48
6046:PAWNEE-----	80	4e-	4e	Not prime farmland	D	Clayey - Veg. Zone 4	4C	.37	.37	5	6	48
6130:PLATTE-----	80	4w-	4w	Not prime farmland	B	Unspecified		.20	.20	3	3	86
6138:PLATTE-----	50	4w-	4w	Not prime farmland	B	Unspecified		.20	.20	3	3	86
6138:BARNEY-----	46	N/A	6w	Not prime farmland	D	Wet Land - Veg. Zone 3		.28	.28	5	4L	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		
6160:POHOCCO----	80	4e-	3e	Not prime farmland	B	Silty - Veg. Zone 4	3	.37	.37	5	7	38
6162:POHOCCO----	80	N/A	4e	Not prime farmland	B	Silty - Veg. Zone 4	3	.37	.37	5	7	38
6170:POHOCCO----	52	4e-	3e	Not prime farmland	B	Silty - Veg. Zone 4	3	.37	.37	5	7	38
6170:PAHUK-----	45	4e-	6e	Not prime farmland	A	Sandy - Veg. Zone 4		.17	.17	5	2	134
6172:POHOCCO----	59	N/A	4e	Not prime farmland	B	Silty - Veg. Zone 4	3	.37	.37	5	7	38
6172:PAHUK-----	35	N/A	6e	Not prime farmland	A	Sandy - Veg. Zone 4		.17	.17	5	2	134
6520:SALTILLO---	85	N/A	6s	Not prime farmland	C	Saline Subirrigated - Veg. Zone 4		.37	.37	5	8	0
6791:SCOTT-----	100	N/A	5w	Not prime farmland	D	Unspecified		.37	.37	3	6	48
7069:STEINAUER--	85	N/A	6e	Not prime farmland	B	Limy Upland - Veg. Zone 4	10	.32	.32	5	4L	86
7290:TOMEK-----	86	1-	1	All areas are prime farmland	B	Silty - Veg. Zone 4		.32	.32	5	6	48
7920:WANN-----	92	2w-	2w	Prime farmland if drained	B	Subirrigated - Veg. Zone 4		.20	.20	5	3	86
8120:YUTAN-----	88	N/A	4e	Not prime farmland	B	Silty - Veg. Zone 4		.37	.37	5	4	86
8124:YUTAN-----	92	3e-	2e	All areas are prime farmland	B	Silty - Veg. Zone 4		.37	.37	5	4	86
8130:YUTAN-----	65	3e-	2e	All areas are prime farmland	B	Silty - Veg. Zone 4		.37	.37	5	4	86
8130:AKSARBEN---	33	3e-	2e	All areas are prime farmland	B	Silty - Veg. Zone 4	3	.32	.32	5	7	38
8134:YUTAN-----	64	4e-	3e	Not prime farmland	B	Silty - Veg. Zone 4		.37	.37	5	4	86
8134:JUDSON-----	25	4e-	3e	Not prime farmland	B	Silty - Veg. Zone 4	3	.28	.28	5	6	48
9900:ARENTS, EARTHEN DAM----	100	N/A	8	Not prime farmland		Unspecified		---	---	-	---	---
9985:PITS-----	100	N/A	8s	Not prime farmland	A	Unspecified		.10	.17	2	8	0

Saunders County, Nebraska: Update  
 Field Office Thunderbook: Soils Properties for Conservation Planning

(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		
9998:WATER-----	100	N/A	N/A	Not prime farmland		Unspecified		---	---	-	---	0



RANGELAND PRODUCTIVITY  
Saunders County, 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

Saunders County, 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
1050: Aksarben-----	Silty - Veg. Zone 4	4,500	4,000	3,500
1100: Alda, OCCASIONALLY FLOODED-----	Subirrigated - Veg. Zone 4	5,900	5,500	5,100
1347: Barney, FREQUENTLY FLOODED-----	Wet Land - Veg. Zone 3	5,500	5,200	5,000
1616: Boel, OCCASIONALLY FLOODED-----	Subirrigated - Veg. Zone 4	5,900	5,500	5,100
1873: Burchard-----	Silty - Veg. Zone 4	4,750	4,000	3,000
Steinauer-----	Limy Upland - Veg. Zone 4	4,000	3,000	2,500
1879: Burchard-----	Silty - Veg. Zone 4	4,750	4,000	3,000
Steinauer-----	Limy Upland - Veg. Zone 4	4,000	3,000	2,500
2420: Deroin, SEVERELY ERODED-----	Silty - Veg. Zone 4	4,750	4,000	3,000
2830: Filbert-----	Clayey - Veg. Zone 4	4,500	4,100	3,700
2844: Fillmore-----	Clayey Overflow - Veg. Zone 4	3,800	3,300	2,800
2863: Fluvaquents-----	---	---	---	---
3025: Gibbon, OCCASIONALLY FLOODED-----	Subirrigated - Veg. Zone 4	6,300	5,900	5,500
3038: Gibbon, OCCASIONALLY FLOODED-----	Subirrigated - Veg. Zone 4	6,300	5,900	5,500
Saltine, OCCASIONALLY FLOODED-----	Saline Subirrigated - Veg. Zone 4	4,300	3,900	3,500
3421: Hedville-----	Shallow Sandy - Veg. Zone 4	2,500	2,000	1,500
3830: Ida, 30-60% slopes-----	Thin Loess - Veg. Zone 4	3,500	3,300	3,000
Steinauer-----	Limy Upland - Veg. Zone 4	4,000	3,000	2,500
3890: Inglewood, RARELY FLOODED-----	Sandy Lowland - Veg. Zone 4	4,300	3,500	2,700
4104: Judson-----	Silty - Veg. Zone 4	4,750	4,000	3,000
4106: Judson-----	Silty - Veg. Zone 4	4,750	4,000	3,000
4250: Kenridge, OCCASIONALLY FLOODED----	Silty Lowland - Veg. Zone 4	4,000	3,500	2,700
4404: Lamo, OCCASIONALLY FLOODED-----	Subirrigated - Veg. Zone 4	6,300	5,500	4,700
4583: Lex, OCCASIONALLY FLOODED-----	Subirrigated - Veg. Zone 4	5,200	4,900	4,600
4853: Malcolm-----	Silty - Veg. Zone 4	4,400	3,900	3,500
4860: Malmo, SEVERELY ERODED-----	Clayey - Veg. Zone 4	4,500	3,750	2,750
5388: Morrill-----	Silty - Veg. Zone 4	4,750	4,000	3,000
5480: Muscotah, OCCASIONALLY FLOODED----	Clayey Overflow Veg. Zone 4	4,000	3,000	2,500
5540: Nodaway, OCCASIONALLY FLOODED----	Silty Overflow - Veg. Zone 4	4,000	3,300	2,750
5541: Nodaway, CHANNELED-----	Silty Overflow - Veg. Zone 4	4,000	3,300	2,750
5736: Obert, FREQUENTLY FLOODED-----	Wet Land - Veg. Zone 4	6,500	6,000	5,500
5742: Obert, OCCASIONALLY FLOODED-----	Wet Land - Veg. Zone 4	6,300	5,700	5,200
5780: Olmitz-----	---	---	---	---
6046: Pawnee-----	Clayey - Veg. Zone 4	4,500	3,750	2,750
6130: Platte, OCCASIONALLY FLOODED-----	---	5,500	5,100	4,700
6138: Platte, FREQUENTLY FLOODED-----	---	5,500	5,100	4,700
Barney, FREQUENTLY FLOODED, CHANNELED-----	Wet Land - Veg. Zone 3	5,500	5,200	5,000
6160: Pohocco-----	Silty - Veg. Zone 4	4,200	3,600	3,000
6162: Pohocco-----	Silty - Veg. Zone 4	4,200	3,600	3,000
6170: Pohocco-----	Silty - Veg. Zone 4	4,200	3,600	3,000
Pahuk-----	Sandy - Veg. Zone 4	4,000	3,200	2,500
6172: Pohocco-----	Silty - Veg. Zone 4	4,200	3,600	3,000
Pahuk-----	Sandy - Veg. Zone 4	4,000	3,200	2,500
6520: Saltillo, OCCASIONALLY FLOODED----	Saline Subirrigated - Veg. Zone 4	4,300	3,900	3,500
6791:				

RANGELAND PRODUCTIVITY--Continued  
Saunders County, 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
Scott----- 7069: Steinauer----- 7290: Tomek----- 7920: Wann, OCCASIONALLY FLOODED----- 8120: Yutan----- 8124: Yutan----- 8130: Yutan----- Aksarben----- 8134: Yutan----- Judson----- 9900: Arents, Earthen Dam----- 9985: Pits----- 9998: Water-----	--- Limy Upland - Veg. Zone 4 Silty - Veg. Zone 4 Subirrigated - Veg. Zone 4 Silty - Veg. Zone 4 ---	--- 4,000 4,800 6,300 4,400 4,400 4,400 4,500 4,400 4,750 ---	--- 3,000 3,900 5,900 3,900 3,900 4,000 3,900 4,000 ---	--- 2,500 3,000 5,500 3,400 3,400 3,500 3,400 3,000 ---



BUILDING SITE DEVELOPMENT  
Saunders County, 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  
Saunders County, 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
1050: Aksarben-----	98	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
1100: Alda, OCCASIONALLY FLOODED-----	85	Very limited Flooding Depth to saturated zone	1.00 0.07	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.07
1347: Barney, FREQUENTLY FLOODED-----	87	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
1616: Boel, OCCASIONALLY FLOODED-----	85	Very limited Flooding Depth to saturated zone	1.00 0.07	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.07
1873: Burchard-----	50	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Shrink-swell Slope	0.50 0.04	Very limited Slope Shrink-swell	1.00 0.50
Steinauer-----	35	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Shrink-swell Slope	0.50 0.04	Very limited Slope Shrink-swell	1.00 0.50
1879: Burchard-----	45	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Steinauer-----	40	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Slope Shrink-swell	1.00 0.50
2420: Deroin, SEVERELY ERODED-----	90	Somewhat limited Shrink-swell Slope	0.50 0.00	Somewhat limited Shrink-swell Slope	0.50 0.00	Very limited Slope Shrink-swell	1.00 0.50
2830: Filbert-----	90	Very limited Shrink-swell Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to saturated zone	1.00 1.00
2844: Fillmore-----	90	Very limited Ponding Shrink-swell Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Shrink-swell Depth to saturated zone	1.00 1.00 1.00
2863: Fluvaquents-----	95	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
3025: Gibbon, OCCASIONALLY FLOODED-----	95	Very limited Flooding Depth to saturated zone	1.00 0.07	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.07
3038: Gibbon, OCCASIONALLY FLOODED-----	50	Very limited Flooding Depth to saturated zone	1.00 0.07	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.07
Saltine, OCCASIONALLY FLOODED-----	38	Very limited Flooding Shrink-swell Depth to saturated zone	1.00 0.50 0.07	Very limited Flooding Shrink-swell Depth to saturated zone	1.00 1.00 1.00	Very limited Flooding Shrink-swell Depth to saturated zone	1.00 0.50 0.07

BUILDING SITE DEVELOPMENT--Continued  
Saunders County, 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
3421: Hedville-----	80	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope	1.00 1.00
3830: Ida, 30-60% slopes-- Steinauer-----	60 30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
3890: Inglewood, RARELY FLOODED-----	85	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.35	Very limited Flooding	1.00
4104: Judson-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
4106: Judson-----	90	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
4250: Kenridge, OCCASIONALLY FLOODED-----	92	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell Depth to saturated zone	1.00 0.50 0.35	Very limited Flooding Shrink-swell	1.00 0.50
4404: Lamo, OCCASIONALLY FLOODED-----	96	Very limited Flooding Shrink-swell Depth to saturated zone	1.00 0.50 0.39	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Shrink-swell Depth to saturated zone	1.00 0.50 0.39
4583: Lex, OCCASIONALLY FLOODED-----	94	Very limited Flooding Depth to saturated zone	1.00 0.39	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.39
4853: Malcolm-----	85	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Very limited Slope	1.00
4860: Malmo, SEVERELY ERODED-----	85	Very limited Shrink-swell Depth to saturated zone Slope	1.00 0.39 0.04	Very limited Depth to saturated zone Shrink-swell Slope	1.00 0.50 0.04	Very limited Shrink-swell Slope Depth to saturated zone	1.00 1.00 0.39
5388: Morrill-----	89	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Slope	0.04	Very limited Slope Shrink-swell	1.00 0.50
5480: Muscotah, OCCASIONALLY FLOODED-----	90	Very limited Flooding Shrink-swell Depth to saturated zone	1.00 1.00 0.07	Very limited Flooding Shrink-swell Depth to saturated zone	1.00 1.00 1.00	Very limited Flooding Shrink-swell Depth to saturated zone	1.00 1.00 0.07
5540: Nodaway, OCCASIONALLY FLOODED-----	90	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.61 0.50	Very limited Flooding Shrink-swell	1.00 0.50

BUILDING SITE DEVELOPMENT--Continued  
Saunders County, 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
5541: Nodaway, CHANNELED--	85	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.61 0.50	Very limited Flooding Shrink-swell	1.00 0.50
5736: Obert, FREQUENTLY FLOODED-----	80	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50
5742: Obert, OCCASIONALLY FLOODED-----	86	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50
5780: Olmitz-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
6046: Pawnee-----	80	Very limited Shrink-swell Depth to saturated zone Slope	1.00 0.39 0.04	Very limited Shrink-swell Depth to saturated zone Slope	1.00 1.00 0.04	Very limited Shrink-swell Slope Depth to saturated zone	1.00 1.00 0.39
6130: Platte, OCCASIONALLY FLOODED-----	80	Very limited Flooding Depth to saturated zone	1.00 0.39	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.39
6138: Platte, FREQUENTLY FLOODED-----	50	Very limited Flooding Depth to saturated zone	1.00 0.39	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.39
Barney, FREQUENTLY FLOODED, CHANNELED--	46	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
6160: Pohocco-----	80	Somewhat limited Shrink-swell Slope	0.50 0.00	Somewhat limited Shrink-swell Slope	0.50 0.00	Very limited Slope Shrink-swell	1.00 0.50
6162: Pohocco-----	80	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Slope Shrink-swell	1.00 0.50
6170: Pohocco-----	52	Somewhat limited Shrink-swell Slope	0.50 0.00	Somewhat limited Shrink-swell Slope	0.50 0.00	Very limited Slope Shrink-swell	1.00 0.50
Pahuk-----	45	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Very limited Slope	1.00
6172: Pohocco-----	59	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Slope Shrink-swell	1.00 0.50
Pahuk-----	35	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
6520: Saltillo, OCCASIONALLY FLOODED-----	85	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50

BUILDING SITE DEVELOPMENT--Continued  
Saunders County, 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
6791: Scott-----	100	Very limited Ponding Shrink-swell  Depth to saturated zone	1.00 1.00  1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Shrink-swell  Depth to saturated zone	1.00 1.00  1.00
7069: Steinauer-----	85	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
7290: Tomek-----	86	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
7920: Wann, OCCASIONALLY FLOODED-----	92	Very limited  Flooding	  1.00	Very limited  Flooding Depth to saturated zone	  1.00 1.00	Very limited  Flooding	  1.00
8120: Yutan-----	88	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Slope Shrink-swell	1.00 0.50
8124: Yutan-----	92	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.00
8130: Yutan-----	65	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.00
Aksarben-----	33	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.00
8134: Yutan-----	64	Somewhat limited Shrink-swell Slope	0.50 0.00	Somewhat limited Shrink-swell Slope	0.50 0.00	Very limited Slope Shrink-swell	1.00 0.50
Judson-----	25	Somewhat limited Shrink-swell Slope	0.50 0.00	Somewhat limited Shrink-swell Slope	0.50 0.00	Very limited Slope Shrink-swell	1.00 0.50
9900: Arents, Earthen Dam-	100	Not rated		Not rated		Not rated	
9985: Pits-----	100	Not rated		Not rated		Not rated	
9998: Water-----	100	Not rated		Not rated		Not rated	

BUILDING SITE DEVELOPMENT--Continued  
Saunders County, 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
1050: Aksarben-----	98	Very limited Frost action Shrink-swell	1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
1100: Alda, OCCASIONALLY FLOODED-----	85	Very limited Frost action Flooding Depth to saturated zone	1.00 1.00 0.03	Very limited Cutbanks cave Depth to saturated zone Flooding	1.00 1.00 0.60	Somewhat limited Flooding Depth to saturated zone	0.60 0.03
1347: Barney, FREQUENTLY FLOODED-----	87	Very limited Flooding Depth to saturated zone Frost action	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave Flooding Depth to dense layer	1.00 1.00 1.00 0.80 0.50	Very limited Flooding Depth to saturated zone Droughty	1.00 1.00 0.42
1616: Boel, OCCASIONALLY FLOODED-----	85	Very limited Flooding Frost action Depth to saturated zone	1.00 0.50 0.03	Very limited Cutbanks cave Depth to saturated zone Flooding	1.00 1.00 0.60	Somewhat limited Flooding Droughty Depth to saturated zone	0.60 0.12 0.03
1873: Burchard-----	50	Very limited Low strength Shrink-swell Frost action Slope	1.00 0.50 0.50 0.04	Somewhat limited Cutbanks cave Slope	0.10 0.04	Somewhat limited Slope	0.04
Steinauer-----	35	Very limited Low strength Shrink-swell Frost action Slope	1.00 0.50 0.50 0.04	Somewhat limited Cutbanks cave Slope	0.10 0.04	Somewhat limited Slope	0.04
1879: Burchard-----	45	Very limited Low strength Slope Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Steinauer-----	40	Very limited Low strength Slope Shrink-swell Frost action	1.00 0.96 0.50 0.50	Somewhat limited Slope Cutbanks cave	0.96 0.10	Somewhat limited Slope	0.96
2420: Deroin, SEVERELY ERODED-----	90	Very limited Frost action Low strength Shrink-swell Slope	1.00 1.00 0.50 0.00	Somewhat limited Cutbanks cave Slope	0.10 0.00	Somewhat limited Slope	0.00
2830: Filbert-----	90	Very limited Frost action Shrink-swell Depth to saturated zone	1.00 1.00 1.00	Very limited Depth to saturated zone Too clayey Cutbanks cave	1.00 0.50 0.10	Very limited Depth to saturated zone	1.00
2844: Fillmore-----	90	Very limited Ponding Frost action Low strength Shrink-swell Depth to saturated zone	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey Cutbanks cave	1.00 1.00 0.50 0.10	Very limited Ponding Depth to saturated zone	1.00 1.00

BUILDING SITE DEVELOPMENT--Continued  
Saunders County, 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
2863: Fluvaquents-----	95	Very limited Ponding Depth to saturated zone Flooding Frost action	1.00 1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Flooding Cutbanks cave Too clayey	1.00 1.00 0.80 0.10 0.02	Very limited Ponding Flooding Depth to saturated zone Too clayey	1.00 1.00 1.00 1.00
3025: Gibbon, OCCASIONALLY FLOODED-----	95	Very limited Frost action Flooding Depth to saturated zone	1.00 1.00 1.00 0.03	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10	Somewhat limited Flooding Depth to saturated zone	0.60 0.03
3038: Gibbon, OCCASIONALLY FLOODED-----	50	Very limited Frost action Flooding Depth to saturated zone	1.00 1.00 1.00 0.03	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10	Somewhat limited Flooding Depth to saturated zone	0.60 0.03
Saltine, OCCASIONALLY FLOODED-----	38	Very limited Frost action Flooding Low strength Shrink-swell Depth to saturated zone	1.00 1.00 1.00 0.50 0.03	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10	Very limited Sodium content Flooding Depth to saturated zone Salinity	1.00 0.60 0.03 0.00
3421: Hedville-----	80	Very limited Depth to hard bedrock Slope Frost action	1.00 1.00 1.00 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 1.00 0.10	Very limited Depth to bedrock Droughty Slope Content of large stones	1.00 1.00 1.00 0.68
3830: Ida, 30-60% slopes--	60	Very limited Slope Frost action Low strength	1.00 1.00 1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Steinauer-----	30	Very limited Slope Low strength Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
3890: Inglewood, RARELY FLOODED-----	85	Somewhat limited Frost action Flooding	0.50 0.40	Very limited Cutbanks cave Depth to saturated zone	1.00 0.35	Not limited	
4104: Judson-----	85	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
4106: Judson-----	90	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	

BUILDING SITE DEVELOPMENT--Continued  
Saunders County, 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
4250: Kenridge, OCCASIONALLY FLOODED-----	92	Very limited		Somewhat limited		Somewhat limited	
		Frost action	1.00	Flooding	0.60	Flooding	0.60
		Flooding	1.00	Depth to saturated zone	0.35		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
4404: Lamo, OCCASIONALLY FLOODED-----	96	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Flooding	0.60
		Flooding	1.00	Flooding	0.60	Depth to saturated zone	0.19
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
		Depth to saturated zone	0.19				
4583: Lex, OCCASIONALLY FLOODED-----	94	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Cutbanks cave	1.00	Flooding	0.60
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Depth to saturated zone	0.19	Flooding	0.60		
4853: Malcolm-----	85	Very limited		Somewhat limited		Somewhat limited	
		Frost action	1.00	Cutbanks cave	0.10	Slope	0.00
		Flooding	0.22	Slope	0.00		
		Low strength	0.00				
		Slope					
4860: Malmo, SEVERELY ERODED-----	85	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Cutbanks cave	1.00	Depth to saturated zone	0.19
		Low strength	1.00	Depth to saturated zone	1.00	Slope	0.04
		Shrink-swell	1.00	Too clayey	0.18		
		Depth to saturated zone	0.19	Slope	0.04		
		Slope	0.04				
5388: Morrill-----	89	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Cutbanks cave	1.00	Slope	0.04
		Frost action	0.50	Slope	0.04		
		Slope	0.04				
5480: Muscotah, OCCASIONALLY FLOODED-----	90	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	0.60
		Low strength	1.00	Flooding	0.60	Depth to saturated zone	0.03
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Frost action	0.50	Too clayey	0.02		
		Depth to saturated zone	0.03				
5540: Nodaway, OCCASIONALLY FLOODED-----	90	Very limited		Somewhat limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	0.61	Flooding	0.60
		Flooding	1.00	Flooding	0.60		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
5541: Nodaway, CHANNELED--	85	Very limited		Somewhat limited		Very limited	
		Frost action	1.00	Flooding	0.80	Flooding	1.00
		Flooding	1.00	Depth to saturated zone	0.61		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				

BUILDING SITE DEVELOPMENT--Continued  
Saunders County, 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
5736: Obert, FREQUENTLY FLOODED-----	80	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
5742: Obert, OCCASIONALLY FLOODED-----	86	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.60	Flooding	0.60
		Depth to saturated zone	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
5780: Olmitz-----	85	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
		Frost action	0.50				
6046: Pawnee-----	80	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Low strength	1.00	Too clayey	0.18	Slope	0.04
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.19	Slope	0.04		
		Slope	0.04				
6130: Platte, OCCASIONALLY FLOODED-----	80	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
		Frost action	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Depth to saturated zone	0.19	Flooding	0.60	Droughty	0.17
6138: Platte, FREQUENTLY FLOODED-----	50	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
		Frost action	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Depth to saturated zone	0.19	Flooding	0.80	Droughty	0.17
Barney, FREQUENTLY FLOODED, CHANNELED-	46	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
		Frost action	0.50	Flooding	0.80	Droughty	0.42
				Depth to dense layer	0.50		
6160: Pohocco-----	80	Very limited		Somewhat limited		Somewhat limited	
		Frost action	1.00	Cutbanks cave	0.10	Slope	0.00
		Low strength	1.00	Slope	0.00		
		Shrink-swell	0.50				
		Slope	0.00				
6162: Pohocco-----	80	Very limited		Somewhat limited		Somewhat limited	
		Frost action	1.00	Slope	0.96	Slope	0.96
		Low strength	1.00	Cutbanks cave	0.10		
		Slope	0.96				
		Shrink-swell	0.50				

BUILDING SITE DEVELOPMENT--Continued  
Saunders County, 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
6170: Pohocco-----	52	Very limited Frost action Low strength Shrink-swell Slope	1.00 1.00 0.50 0.00	Somewhat limited Cutbanks cave Slope	0.10 0.00	Somewhat limited Slope	0.00
Pahuk-----	45	Somewhat limited Slope	0.00	Very limited Cutbanks cave Slope	1.00 0.00	Somewhat limited Droughty Slope	0.64 0.00
6172: Pohocco-----	59	Very limited Frost action Low strength Slope Shrink-swell	1.00 1.00 0.96 0.50	Somewhat limited Slope Cutbanks cave	0.96 0.10	Somewhat limited Slope	0.96
Pahuk-----	35	Somewhat limited Slope	0.96	Very limited Cutbanks cave Slope	1.00 0.96	Somewhat limited Slope Droughty	0.96 0.64
6520: Saltillo, OCCASIONALLY FLOODED-----	85	Very limited  Frost action Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited  Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10	Very limited  Sodium content Depth to saturated zone Salinity Flooding	1.00 1.00 1.00 0.60
6791: Scott-----	100	Very limited Ponding Frost action  Shrink-swell Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey Cutbanks cave	1.00 1.00 0.32 0.10	Very limited Ponding Depth to saturated zone	1.00 1.00
7069: Steinauer-----	85	Very limited Slope Low strength Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
7290: Tomek-----	86	Very limited Shrink-swell Frost action	1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
7920: Wann, OCCASIONALLY FLOODED-----	92	Very limited  Frost action Flooding	1.00 1.00	Very limited  Cutbanks cave Depth to saturated zone Flooding	1.00 1.00 0.60	Somewhat limited  Flooding	0.60
8120: Yutan-----	88	Very limited Frost action Low strength Slope Shrink-swell	1.00 1.00 0.96 0.50	Somewhat limited Slope Cutbanks cave	0.96 0.10	Somewhat limited Slope	0.96
8124: Yutan-----	92	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
8130: Yutan-----	65	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Aksarben-----	33	Very limited Frost action Shrink-swell	1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	

BUILDING SITE DEVELOPMENT--Continued  
Saunders County, 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
8134: Yutan-----	64	Very limited Frost action Low strength Shrink-swell Slope	1.00 1.00 0.50 0.00	Somewhat limited Cutbanks cave Slope	0.10 0.00	Somewhat limited Slope	0.00
Judson-----	25	Very limited Frost action Low strength Shrink-swell Slope	1.00 1.00 0.50 0.00	Somewhat limited Cutbanks cave Slope	0.10 0.00	Somewhat limited Slope	0.00
9900: Arents, Earthen Dam-	100	Not rated		Not rated		Not rated	
9985: Pits-----	100	Not rated		Not rated		Not rated	
9998: Water-----	100	Not rated		Not rated		Not rated	



CONSTRUCTION MATERIALS  
Saunders County, 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  
Saunders County, 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
1050: Aksarben-----	98	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
1100: Alda, OCCASIONALLY FLOODED-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.09 0.14
1347: Barney, FREQUENTLY FLOODED-----	87	Poor Bottom layer Thickest layer	0.00 0.00	Good Bottom layer	0.93
1616: Boel, OCCASIONALLY FLOODED-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.18 0.72
1873: Burchard-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Steinauer-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
1879: Burchard-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Steinauer-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
2420: Deroin, SEVERELY ERODED-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
2830: Filbert-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
2844: Fillmore-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
2863: Fluvaquents-----	95	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
3025: Gibbon, OCCASIONALLY FLOODED-----	95	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
3038: Gibbon, OCCASIONALLY FLOODED-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Saltine, OCCASIONALLY FLOODED-----	38	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

CONSTRUCTION MATERIALS--Continued  
Saunders County, 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
3421: Hedville-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
3830: Ida, 30-60% slopes--	60	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Steinauer-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
3890: Inglewood, RARELY FLOODED-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Good Thickest layer	0.10
4104: Judson-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
4106: Judson-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
4250: Kenridge, OCCASIONALLY FLOODED-----	92	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
4404: Lamo, OCCASIONALLY FLOODED-----	96	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
4583: Lex, OCCASIONALLY FLOODED-----	94	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.96
4853: Malcolm-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
4860: Malmo, SEVERELY ERODED-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
5388: Morrill-----	89	Poor Bottom layer Thickest layer	0.00 0.00	Good Thickest layer	0.07
5480: Muscotah, OCCASIONALLY FLOODED-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
5540: Nodaway, OCCASIONALLY FLOODED-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

CONSTRUCTION MATERIALS--Continued  
Saunders County, 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
5541: Nodaway, CHANNELED--	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
5736: Obert, FREQUENTLY FLOODED-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
5742: Obert, OCCASIONALLY FLOODED-----	86	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
5780: Olmitz-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
6046: Pawnee-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
6130: Platte, OCCASIONALLY FLOODED-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.08 0.16
6138: Platte, FREQUENTLY FLOODED-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.08 0.16
Barney, FREQUENTLY FLOODED, CHANNELED--	46	Poor Bottom layer Thickest layer	0.00 0.00	Good Bottom layer	0.93
6160: Pohocco-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
6162: Pohocco-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
6170: Pohocco-----	52	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Pahuk-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Good	
6172: Pohocco-----	59	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Pahuk-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Good	
6520: Saltillo, OCCASIONALLY FLOODED-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

CONSTRUCTION MATERIALS--Continued  
Saunders County, 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
6791: Scott-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
7069: Steinauer-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
7290: Tomek-----	86	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
7920: Wann, OCCASIONALLY FLOODED-----	92	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.08 0.10
8120: Yutan-----	88	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
8124: Yutan-----	92	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
8130: Yutan-----	65	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Aksarben-----	33	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
8134: Yutan-----	64	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Judson-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
9900: Arents, Earthen Dam-	100	Not rated		Not rated	
9985: Pits-----	100	Not rated		Not rated	
9998: Water-----	100	Not rated		Not rated	

CONSTRUCTION MATERIALS--Continued  
Saunders County, 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
1050: Aksarben-----	98	Fair Too clayey Too acid Low content of organic matter Water erosion	0.08 0.84 0.88 0.90	Fair Shrink-swell	0.87	Fair Too Clayey	0.07
1100: Alda, OCCASIONALLY FLOODED-----	85	Fair Low content of organic matter	0.12	Fair Depth to saturated zone	0.76	Fair Depth to saturated zone	0.76
1347: Barney, FREQUENTLY FLOODED-----	87	Poor Too sandy Low content of organic matter Droughty	0.00 0.12 0.40	Poor Depth to saturated zone	0.00	Poor Hard to reclaim Too sandy Depth to saturated zone	0.00 0.00 0.00
1616: Boel, OCCASIONALLY FLOODED-----	85	Poor Too sandy Wind erosion Low content of organic matter Droughty	0.00 0.00 0.12 0.86	Fair Depth to saturated zone	0.76	Poor Too sandy Depth to saturated zone	0.00 0.76
1873: Burchard-----	50	Fair Low content of organic matter Water erosion	0.12 0.99	Poor Low strength Shrink-swell	0.00 0.87	Fair Slope	0.96
Steinauer-----	35	Fair Low content of organic matter Water erosion	0.12 0.99	Poor Low strength Shrink-swell	0.00 0.87	Fair Slope	0.96
1879: Burchard-----	45	Fair Low content of organic matter Water erosion	0.12 0.99	Poor Low strength Shrink-swell	0.00 0.87	Poor Slope	0.00
Steinauer-----	40	Fair Low content of organic matter Water erosion	0.12 0.99	Poor Low strength Shrink-swell	0.00 0.87	Fair Slope	0.04
2420: Deroin, SEVERELY ERODED-----	90	Fair Low content of organic matter Too clayey Too acid Water erosion	0.50 0.68 0.88 0.90	Poor Low strength Shrink-swell	0.00 0.87	Fair Too Clayey	0.44
2830: Filbert-----	90	Poor Too clayey Too acid Low content of organic matter Water erosion	0.00 0.54 0.88 0.99	Poor Depth to saturated zone Shrink-swell	0.00 0.18	Poor Too Clayey Depth to saturated zone	0.00 0.00

CONSTRUCTION MATERIALS--Continued  
Saunders County, 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
2844: Fillmore-----	90	Poor Too clayey Too acid  Water erosion	0.00 0.84  0.99	Poor Low strength Depth to saturated zone Shrink-swell	0.00 0.00  0.49	Poor Too Clayey Depth to saturated zone	0.00 0.00
2863: Fluvaquents-----	95	Poor Low content of organic matter Too clayey	0.00 0.00	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Too Clayey	0.00 0.00
3025: Gibbon, OCCASIONALLY FLOODED-----	95	Fair Low content of organic matter	0.88	Fair Depth to saturated zone	0.76	Fair Depth to saturated zone	0.76
3038: Gibbon, OCCASIONALLY FLOODED-----	50	Fair Low content of organic matter	0.88	Fair Depth to saturated zone	0.76	Fair Depth to saturated zone	0.76
Saltine, OCCASIONALLY FLOODED-----	38	Poor Sodium content Too alkaline Low content of organic matter Salinity Water erosion	0.00 0.00 0.12 0.88 0.90	Poor Low strength Shrink-swell Depth to saturated zone	0.00 0.62 0.76	Poor Sodium content Salinity Depth to saturated zone	0.00 0.00 0.76
3421: Hedville-----	80	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 0.12
3830: Ida, 30-60% slopes--	60	Fair Low content of organic matter Water erosion Carbonate content	0.12 0.90 0.97	Poor Slope  Low strength	0.00 0.00	Poor Slope  Carbonate content	0.00 0.97
Steinauer-----	30	Fair Low content of organic matter Water erosion	0.12 0.99	Poor Low strength  Slope Shrink-swell	0.00 0.00 0.87	Poor Slope	0.00
3890: Inglewood, RARELY FLOODED-----	85	Poor Wind erosion Low content of organic matter	0.00 0.12	Good		Good	
4104: Judson-----	85	Fair Water erosion	0.90	Poor Low strength Shrink-swell	0.00 0.87	Good	
4106: Judson-----	90	Fair Water erosion	0.90	Poor Low strength Shrink-swell	0.00 0.87	Good	
4250: Kenridge, OCCASIONALLY FLOODED-----	92	Fair Too clayey Too acid	0.92 0.95	Poor Low strength Shrink-swell	0.00 0.87	Fair Too Clayey	0.91

CONSTRUCTION MATERIALS--Continued  
Saunders County, 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
4404: Lamo, OCCASIONALLY FLOODED-----	96	Fair Water erosion	0.90	Poor Low strength Depth to saturated zone Shrink-swell	0.00 0.53 0.87	Fair Depth to saturated zone	0.53
4583: Lex, OCCASIONALLY FLOODED-----	94	Poor Too sandy Low content of organic matter Water erosion	0.00 0.12 0.99	Fair Depth to saturated zone	0.53	Poor Too sandy Rock fragments Depth to saturated zone Hard to reclaim	0.00 0.03 0.53 0.98
4853: Malcolm-----	85	Fair Low content of organic matter Water erosion Too acid	0.12 0.90 0.95	Fair Low strength	0.78	Good	
4860: Malmo, SEVERELY ERODED-----	85	Poor Too clayey Low content of organic matter Too acid Water erosion	0.00 0.18 0.95 0.99	Poor Low strength Shrink-swell Depth to saturated zone	0.00 0.34 0.53	Poor Too Clayey Depth to saturated zone Slope	0.00 0.53 0.96
5388: Morrill-----	89	Fair Low content of organic matter Too acid	0.12 0.32	Fair Shrink-swell	0.99	Fair Rock fragments Slope	0.88 0.96
5480: Muscotah, OCCASIONALLY FLOODED-----	90	Poor Too clayey Water erosion	0.00 0.99	Poor Low strength Shrink-swell Depth to saturated zone	0.00 0.29 0.76	Poor Too Clayey Depth to saturated zone	0.00 0.76
5540: Nodaway, OCCASIONALLY FLOODED-----	90	Fair Low content of organic matter Water erosion	0.12 0.90	Poor Low strength Shrink-swell	0.00 0.87	Good	
5541: Nodaway, CHanneled--	85	Fair Low content of organic matter Water erosion	0.12 0.90	Poor Low strength Shrink-swell	0.00 0.87	Good	
5736: Obert, FREQUENTLY FLOODED-----	80	Fair Low content of organic matter Water erosion	0.88 0.90	Poor Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.69	Poor Depth to saturated zone	0.00

CONSTRUCTION MATERIALS--Continued  
Saunders County, 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
5742: Obert, OCCASIONALLY FLOODED-----	86	Fair Low content of organic matter Water erosion	0.88 0.90	Poor Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.69	Poor Depth to saturated zone	0.00
5780: Olmitz-----	85	Good		Poor Low strength Shrink-swell	0.00 0.87	Good	
6046: Pawnee-----	80	Poor Too clayey Low content of organic matter Water erosion	0.00 0.12 0.99	Poor Low strength Shrink-swell Depth to saturated zone	0.00 0.17 0.53	Poor Too Clayey Depth to saturated zone Slope	0.00 0.53 0.96
6130: Platte, OCCASIONALLY FLOODED-----	80	Fair Low content of organic matter Too sandy Droughty	0.12 0.50 0.61	Fair Depth to saturated zone	0.53	Fair Rock fragments Too sandy Depth to saturated zone Hard to reclaim	0.03 0.50 0.53 0.98
6138: Platte, FREQUENTLY FLOODED-----	50	Fair Low content of organic matter Too sandy Droughty	0.12 0.50 0.61	Fair Depth to saturated zone	0.53	Fair Rock fragments Too sandy Depth to saturated zone Hard to reclaim	0.03 0.50 0.53 0.98
Barney, FREQUENTLY FLOODED, CHANNLED--	46	Poor Too sandy Low content of organic matter Droughty	0.00 0.12 0.40	Poor Depth to saturated zone	0.00	Poor Hard to reclaim Too sandy Depth to saturated zone	0.00 0.00 0.00
6160: Pohocco-----	80	Fair Low content of organic matter Water erosion	0.12 0.90	Poor Low strength Shrink-swell	0.00 0.87	Good	
6162: Pohocco-----	80	Fair Low content of organic matter Water erosion	0.12 0.90	Poor Low strength Shrink-swell	0.00 0.87	Fair Slope	0.04
6170: Pohocco-----	52	Fair Low content of organic matter Water erosion	0.12 0.90	Poor Low strength Shrink-swell	0.00 0.87	Good	
Pahuk-----	45	Poor Too sandy Wind erosion Low content of organic matter Droughty	0.00 0.00 0.12 0.90	Good		Poor Too sandy	0.00
6172: Pohocco-----	59	Fair Low content of organic matter Water erosion	0.12 0.90	Poor Low strength Shrink-swell	0.00 0.87	Fair Slope	0.04

CONSTRUCTION MATERIALS--Continued  
Saunders County, 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
Pahuk-----	35	Poor Too sandy Wind erosion Low content of organic matter Droughty	0.00 0.00 0.12 0.90	Good		Poor Too sandy Slope	0.00 0.04
6520: Saltillo, OCCASIONALLY FLOODED-----	85	Poor Sodium content Salinity Low content of organic matter Water erosion	0.00 0.00 0.12 0.90	Poor Depth to saturated zone Shrink-swell	0.00 0.87	Poor Sodium content Depth to saturated zone Salinity	0.00 0.00 0.00
6791: Scott-----	100	Fair Too acid Water erosion	0.84 0.99	Poor Depth to saturated zone Shrink-swell	0.00 0.35	Poor Depth to saturated zone	0.00
7069: Steinauer-----	85	Fair Low content of organic matter Water erosion	0.12 0.99	Poor Low strength Slope Shrink-swell	0.00 0.50 0.87	Poor Slope	0.00
7290: Tomek-----	86	Fair Too clayey Water erosion	0.18 0.90	Fair Shrink-swell	0.31	Fair Too Clayey	0.17
7920: Wann, OCCASIONALLY FLOODED-----	92	Fair Low content of organic matter Sodium content	0.88 0.97	Fair Depth to saturated zone	0.91	Fair Depth to saturated zone Rock fragments Sodium content	0.91 0.97 0.98
8120: Yutan-----	88	Fair Low content of organic matter Too acid Water erosion	0.12 0.84 0.90	Poor Low strength Shrink-swell	0.00 0.87	Fair Slope	0.04
8124: Yutan-----	92	Fair Low content of organic matter Too acid Water erosion	0.12 0.84 0.90	Poor Low strength Shrink-swell	0.00 0.87	Good	
8130: Yutan-----	65	Fair Low content of organic matter Too acid Water erosion	0.12 0.84 0.90	Poor Low strength Shrink-swell	0.00 0.87	Good	
Aksarben-----	33	Fair Too clayey Too acid Low content of organic matter Water erosion	0.08 0.84 0.88 0.90	Fair Shrink-swell	0.87	Fair Too Clayey	0.07
8134: Yutan-----	64	Fair Low content of organic matter Too acid Water erosion	0.12 0.84 0.90	Poor Low strength Shrink-swell	0.00 0.87	Good	

CONSTRUCTION MATERIALS--Continued  
Saunders County, 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
Judson-----	25	Fair Water erosion	0.90	Poor Low strength Shrink-swell	0.00 0.87	Good	
9900: Arents, Earthen Dam-	100	Not rated		Not rated		Not rated	
9985: Pits-----	100	Not rated		Not rated		Not rated	
9998: Water-----	100	Not rated		Not rated		Not rated	



RECREATIONAL INTERPRETATIONS  
Saunders County, 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  
Saunders County, 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
1050: Aksarben-----	98	Somewhat limited Restricted permeability	0.15	Somewhat limited Restricted permeability	0.15	Somewhat limited Restricted permeability	0.15
1100: Alda, OCCASIONALLY FLOODED-----	85	Very limited Flooding	1.00	Somewhat limited Depth to saturated zone	0.03	Somewhat limited Flooding	0.60
		Depth to saturated zone	0.07			Depth to saturated zone	0.07
1347: Barney, FREQUENTLY FLOODED-----	87	Very limited Flooding	1.00	Very limited Depth to saturated zone	1.00	Very limited Flooding	1.00
		Depth to saturated zone	1.00	Flooding	0.40	Depth to saturated zone	1.00
1616: Boel, OCCASIONALLY FLOODED-----	85	Very limited Flooding Too sandy	1.00 0.37	Somewhat limited Too sandy Depth to saturated zone	0.37 0.03	Somewhat limited Flooding Too sandy	0.60 0.37
		Depth to saturated zone	0.07			Depth to saturated zone	0.07
1873: Burchard-----	50	Somewhat limited Restricted permeability Slope	0.15 0.04	Somewhat limited Restricted permeability Slope	0.15 0.04	Very limited Slope	1.00
						Restricted permeability	0.15
Steinauer-----	35	Somewhat limited Restricted permeability Slope	0.15 0.04	Somewhat limited Restricted permeability Slope	0.15 0.04	Very limited Slope	1.00
						Restricted permeability	0.15
1879: Burchard-----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Restricted permeability	0.15	Restricted permeability	0.15	Restricted permeability	0.15
Steinauer-----	40	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
		Restricted permeability	0.15	Restricted permeability	0.15	Restricted permeability	0.15
2420: Deroin, SEVERELY ERODED-----	90	Somewhat limited Restricted permeability Slope	0.21 0.00	Somewhat limited Restricted permeability Slope	0.21 0.00	Very limited Slope	1.00
						Restricted permeability	0.21
2830: Filbert-----	90	Very limited Restricted permeability Depth to saturated zone	1.00 1.00	Very limited Restricted permeability Depth to saturated zone	1.00 1.00	Very limited Restricted permeability Depth to saturated zone	1.00 1.00
2844: Fillmore-----	90	Very limited Ponding Restricted permeability Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Restricted permeability Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Restricted permeability Depth to saturated zone	1.00 1.00 1.00
2863: Fluvaquents-----	95	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Flooding	1.00 1.00
		Ponding	1.00	Too clayey	1.00	Ponding	1.00
		Too clayey	1.00	Restricted permeability	0.94	Too clayey	1.00
		Restricted permeability	0.94	Flooding	0.40	Restricted permeability	0.94
3025: Gibbon, OCCASIONALLY FLOODED-----	95	Very limited Flooding	1.00	Somewhat limited Depth to saturated zone	0.03	Somewhat limited Flooding	0.60

RECREATIONAL INTERPRETATIONS--Continued  
Saunders County, 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
3038: Gibbon, OCCASIONALLY FLOODED-----	50	Depth to saturated zone	0.07			Depth to saturated zone	0.07
		Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.03	Flooding	0.60
Saltine, OCCASIONALLY FLOODED-----	38	Depth to saturated zone	0.07			Depth to saturated zone	0.07
		Very limited		Very limited		Very limited	
		Flooding	1.00	Sodium content	1.00	Sodium content	1.00
		Sodium content	1.00	Restricted permeability	0.15	Flooding	0.60
		Restricted permeability	0.15	Depth to saturated zone	0.03	Restricted permeability	0.15
3421: Hedville-----	80	Depth to saturated zone	0.07	Salinity	0.00	Depth to saturated zone	0.07
		Salinity	0.00			Salinity	0.00
		Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
3830: Ida, 30-60% slopes--	60	Slope	1.00	Slope	1.00	Slope	1.00
		Very limited		Very limited		Very limited	
Steinauer-----	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.15	Restricted permeability	0.15	Restricted permeability	0.15
3890: Inglewood, RARELY FLOODED-----	85	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Too sandy	0.37	Too sandy	0.37
4104: Judson-----	85	Too sandy	0.37			Slope	0.00
4106: Judson-----	90	Not limited		Not limited		Not limited	
		Not limited		Not limited		Somewhat limited	0.13
4250: Kenridge, OCCASIONALLY FLOODED-----	92	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Restricted permeability	0.15	Flooding	0.60
		Restricted permeability	0.15			Restricted permeability	0.15
4404: Lamo, OCCASIONALLY FLOODED-----	96	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.19	Flooding	0.60
		Depth to saturated zone	0.39	Restricted permeability	0.15	Depth to saturated zone	0.39
		Restricted permeability	0.15			Restricted permeability	0.15
4583: Lex, OCCASIONALLY FLOODED-----	94	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.19	Flooding	0.60
		Depth to saturated zone	0.39			Depth to saturated zone	0.39
4853: Malcolm-----	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.00	Slope	0.00	Slope	1.00
4860: Malmo, SEVERELY ERODED-----	85	Very limited		Very limited		Very limited	
		Restricted permeability	1.00	Restricted permeability	1.00	Slope	1.00
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Restricted permeability	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.39
5388: Morrill-----	89	Somewhat limited		Somewhat limited		Very limited	

RECREATIONAL INTERPRETATIONS--Continued  
Saunders County, 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
5480: Muscotah, OCCASIONALLY FLOODED-----	90	Restricted permeability	0.26	Restricted permeability	0.26	Slope	1.00
		Slope	0.04	Slope	0.04	Restricted permeability	0.26
		Very limited		Somewhat limited		Gravel content	0.06
						Somewhat limited	
5540: Nodaway, OCCASIONALLY FLOODED-----	90	Flooding	1.00	Restricted permeability	0.94	Restricted permeability	0.94
		Restricted permeability	0.94	Depth to saturated zone	0.03	Flooding	0.60
		Depth to saturated zone	0.07			Depth to saturated zone	0.07
		Very limited		Not limited		Somewhat limited	
5541: Nodaway, CHanneled--	85	Flooding	1.00			Flooding	0.60
5736: Obert, FREQUENTLY FLOODED-----	80	Very limited		Somewhat limited	0.40	Very limited	1.00
5742: Obert, OCCASIONALLY FLOODED-----	86	Flooding	1.00	Flooding	1.00	Flooding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Flooding	0.40	Depth to saturated zone	1.00
		Restricted permeability	0.15	Restricted permeability	0.15	Restricted permeability	0.15
5780: Olmitz-----	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Restricted permeability	0.15	Flooding	0.60
		Restricted permeability	0.15			Restricted permeability	0.15
6046: Pawnee-----	80	Not limited		Not limited		Somewhat limited	0.13
6130: Platte, OCCASIONALLY FLOODED-----	80	Very limited		Very limited		Very limited	
		Restricted permeability	1.00	Restricted permeability	1.00	Slope	1.00
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Restricted permeability	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.39
6138: Platte, FREQUENTLY FLOODED-----	50	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.19	Flooding	0.60
		Depth to saturated zone	0.39			Depth to saturated zone	0.39
Barney, FREQUENTLY FLOODED, CHanneled--	46	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.19	Depth to saturated zone	0.39
6160: Pohocco-----	80	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Flooding	0.40	Depth to saturated zone	1.00
6162: Pohocco-----	80	Somewhat limited	0.00	Somewhat limited	0.00	Very limited	1.00
6170: Pahuk-----	52	Somewhat limited	0.96	Somewhat limited	0.96	Very limited	1.00
		Slope		Slope		Slope	
	45	Somewhat limited	0.00	Somewhat limited	0.00	Very limited	1.00
		Somewhat limited		Somewhat limited		Very limited	

RECREATIONAL INTERPRETATIONS--Continued  
Saunders County, 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
6172: Pohocco-----	59	Too sandy Slope	0.96 0.00	Too sandy Slope	0.96 0.00	Slope Too sandy	1.00 0.96
Pahuk-----	35	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
6520: Saltillo, OCCASIONALLY FLOODED-----	85	Somewhat limited Too sandy Slope	0.96 0.96	Somewhat limited Too sandy Slope	0.96 0.96	Very limited Slope Too sandy	1.00 0.96
		Very limited		Very limited		Very limited	
		Sodium content Flooding	1.00 1.00	Sodium content Depth to saturated zone	1.00 1.00	Sodium content Depth to saturated zone	1.00 1.00
		Depth to saturated zone Salinity	1.00	Salinity	1.00	Salinity Flooding	1.00 0.60
6791: Scott-----	100	Very limited Ponding Restricted permeability Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Restricted permeability Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Restricted permeability Depth to saturated zone	1.00 1.00 1.00
7069: Steinauer-----	85	Very limited Slope Restricted permeability	1.00 0.15	Very limited Slope Restricted permeability	1.00 0.15	Very limited Slope Restricted permeability	1.00 0.15
7290: Tomek-----	86	Somewhat limited Restricted permeability	0.21	Somewhat limited Restricted permeability	0.21	Somewhat limited Restricted permeability	0.21
7920: Wann, OCCASIONALLY FLOODED-----	92	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
8120: Yutan-----	88	Somewhat limited Slope Restricted permeability	0.96 0.15	Somewhat limited Slope Restricted permeability	0.96 0.15	Very limited Slope Restricted permeability	1.00 0.15
8124: Yutan-----	92	Somewhat limited Restricted permeability	0.15	Somewhat limited Restricted permeability	0.15	Somewhat limited Slope Restricted permeability	0.50 0.15
8130: Yutan-----	65	Somewhat limited Restricted permeability	0.15	Somewhat limited Restricted permeability	0.15	Somewhat limited Slope Restricted permeability	0.50 0.15
Aksarben-----	33	Somewhat limited Restricted permeability	0.15	Somewhat limited Restricted permeability	0.15	Somewhat limited Slope Restricted permeability	0.50 0.15
8134: Yutan-----	64	Somewhat limited Restricted permeability Slope	0.15 0.00	Somewhat limited Restricted permeability Slope	0.15 0.00	Very limited Slope Restricted permeability	1.00 0.15
Judson-----	25	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Very limited Slope	1.00
9900: Arents, Earthen Dam-	100	Not rated		Not rated		Not rated	
9985: Pits-----	100	Not rated		Not rated		Not rated	
9998: Water-----	100	Not rated		Not rated		Not rated	

RECREATIONAL INTERPRETATIONS--Continued  
Saunders County, Nebraska

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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
1050: Aksarben-----	98	Not limited		Not limited	
1100: Alda, OCCASIONALLY FLOODED-----	85	Not limited		Somewhat limited	
				Flooding	0.60
				Depth to saturated zone	0.03
1347: Barney, FREQUENTLY FLOODED-----	87	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Depth to saturated zone	1.00
				Droughty	0.42
1616: Boel, OCCASIONALLY FLOODED-----	85	Somewhat limited		Somewhat limited	
		Too sandy	0.37	Flooding	0.60
				Droughty	0.12
				Depth to saturated zone	0.03
1873: Burchard-----	50	Not limited		Somewhat limited	
				Slope	0.04
Steinauer-----	35	Not limited		Somewhat limited	
				Slope	0.04
1879: Burchard-----	45	Somewhat limited		Very limited	
		Slope	0.00	Slope	1.00
Steinauer-----	40	Not limited		Somewhat limited	
				Slope	0.96
2420: Deroin, SEVERELY ERODED-----	90	Not limited		Somewhat limited	
				Slope	0.00
2830: Filbert-----	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
2844: Fillmore-----	90	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
2863: Fluvaquents-----	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Too clayey	1.00	Depth to saturated zone	1.00
		Flooding	0.40	Too clayey	1.00
3025: Gibbon, OCCASIONALLY FLOODED-----	95	Not limited		Somewhat limited	
				Flooding	0.60
				Depth to saturated zone	0.03
3038: Gibbon, OCCASIONALLY FLOODED-----	50	Not limited		Somewhat limited	
				Flooding	0.60
				Depth to saturated zone	0.03
Saltine, OCCASIONALLY FLOODED-----	38	Not limited		Very limited	
				Sodium content	1.00
				Flooding	0.60
				Depth to saturated zone	0.03
				Salinity	0.00
3421: Hedville-----	80	Somewhat limited		Very limited	
		Slope	0.18	Depth to bedrock	1.00
				Droughty	1.00
				Slope	1.00
				Content of large stones	0.68

RECREATIONAL INTERPRETATIONS--Continued  
Saunders County, Nebraska

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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
3830: Ida, 30-60% slopes--	60	Very limited Slope	1.00	Very limited Slope	1.00
Steinauer-----	30	Very limited Slope	1.00	Very limited Slope	1.00
3890: Inglewood, RARELY FLOODED-----	85	Somewhat limited Too sandy	0.37	Not limited	
4104: Judson-----	85	Not limited		Not limited	
4106: Judson-----	90	Not limited		Not limited	
4250: Kenridge, OCCASIONALLY FLOODED-----	92	Not limited		Somewhat limited Flooding	0.60
4404: Lamo, OCCASIONALLY FLOODED-----	96	Not limited		Somewhat limited Flooding Depth to saturated zone	0.60 0.19
4583: Lex, OCCASIONALLY FLOODED-----	94	Not limited		Somewhat limited Flooding Depth to saturated zone	0.60 0.19
4853: Malcolm-----	85	Not limited		Somewhat limited Slope	0.00
4860: Malmo, SEVERELY ERODED-----	85	Not limited		Somewhat limited Depth to saturated zone Slope	0.19 0.04
5388: Morrill-----	89	Not limited		Somewhat limited Slope	0.04
5480: Muscotah, OCCASIONALLY FLOODED-----	90	Not limited		Somewhat limited Flooding Depth to saturated zone	0.60 0.03
5540: Nodaway, OCCASIONALLY FLOODED-----	90	Not limited		Somewhat limited Flooding	0.60
5541: Nodaway, CHanneled--	85	Somewhat limited Flooding	0.40	Very limited Flooding	1.00
5736: Obert, FREQUENTLY FLOODED-----	80	Very limited Ponding Depth to saturated zone Flooding	1.00 1.00 0.40	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
5742: Obert, OCCASIONALLY FLOODED-----	86	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
5780: Olmitz-----	85	Not limited		Not limited	
6046: Pawnee-----	80	Not limited		Somewhat limited Depth to saturated zone Slope	0.19 0.04
6130: Platte, OCCASIONALLY FLOODED-----	80	Not limited		Somewhat limited	

RECREATIONAL INTERPRETATIONS--Continued  
Saunders County, Nebraska

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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
6138: Platte, FREQUENTLY FLOODED-----	50	Somewhat limited	0.40	Flooding	0.60
				Depth to saturated zone	0.19
				Droughty	0.17
				Very limited	
Barney, FREQUENTLY FLOODED, CHANNELED--	46	Very limited	1.00	Flooding	1.00
				Depth to saturated zone	0.19
				Flooding	0.17
				Very limited	
6160: Pohocco-----	80	Not limited	0.40	Flooding	1.00
				Depth to saturated zone	1.00
6162: Pohocco-----	80	Not limited	0.40	Droughty	0.42
				Very limited	
6170: Pohocco-----	52	Not limited	0.96	Somewhat limited	0.00
				Slope	0.00
Pahuk-----	45	Somewhat limited	0.96	Somewhat limited	0.64
				Too sandy	0.00
6172: Pohocco-----	59	Not limited	0.96	Slope	0.96
				Somewhat limited	0.96
Pahuk-----	35	Somewhat limited	0.96	Slope	0.96
				Too sandy	0.64
6520: Saltillo, OCCASIONALLY FLOODED-----	85	Very limited	1.00	Sodium content	1.00
				Depth to saturated zone	1.00
				Depth to saturated zone	1.00
				Salinity	1.00
6791: Scott-----	100	Very limited	1.00	Flooding	0.60
				Ponding	1.00
7069: Steinauer-----	85	Somewhat limited	0.50	Depth to saturated zone	1.00
				Slope	1.00
7290: Tomek-----	86	Not limited		Very limited	1.00
				Slope	1.00
7920: Wann, OCCASIONALLY FLOODED-----	92	Not limited		Very limited	
				Slope	0.60
8120: Yutan-----	88	Not limited		Flooding	0.60
				Somewhat limited	0.96
8124: Yutan-----	92	Not limited		Slope	0.96
				Very limited	
8130: Yutan-----	65	Not limited		Not limited	
				Not limited	
Aksarben-----	33	Not limited		Not limited	
				Not limited	
8134: Yutan-----	64	Not limited		Somewhat limited	0.00
				Slope	0.00
Judson-----	25	Not limited		Somewhat limited	0.00
				Slope	0.00
9900: Arents, Earthen Dam-	100	Not rated		Not rated	
				Not rated	
9985: Pits-----	100	Not rated		Not rated	
				Not rated	

RECREATIONAL INTERPRETATIONS--Continued  
Saunders County, Nebraska

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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
9998: Water-----	100	Not rated		Not rated	



WILDLIFE INTERPRETATIONS  
Saunders County, 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  
Saunders County, 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
1050: AKSARBEN-----	Good	Good	Good	Good	Good	---	Poor	Poor	Good	Good	Poor	---
1100: ALDA-----	Fair	Fair	Fair	Good	Good	Good	Fair	Fair	Fair	Good	Fair	Good
1347: BARNEY-----	Very poor	Poor	Fair	Poor	Poor	Fair	Good	Good	Poor	Poor	Good	Fair
1616: BOEL-----	Fair	Fair	Good	Good	Good	Good	Fair	Fair	Fair	Good	Poor	Fair
1873: BURCHARD-----	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor	Good
STEINAUER-----	Poor	Fair	Good	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor	Good
1879: BURCHARD-----	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor	Good
STEINAUER-----	Poor	Fair	Good	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor	Good
2420: DEROIN-----	Fair	Good	Good	Good	Good	---	Poor	Poor	Good	Good	Poor	---
2830: FILBERT-----	Good	Good	Good	---	Good	Good	Fair	Fair	Good	---	Fair	Good
2844: FILLMORE-----	Fair	Good	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Good	Fair
2863: FLUVAQUENTS-----	Very poor	Very poor	Poor	Very poor	Very poor	Very poor	Good	Good	Very poor	Very poor	Good	Very poor
3025: GIBBON-----	Good	Good	Good	Good	Fair	Good	Fair	Good	Good	Good	Fair	Good
3038: GIBBON-----	Good	Good	Good	Good	Fair	Good	Fair	Good	Good	Good	Fair	Good
SALTINE-----	Poor	Poor	Good	Poor	Poor	Poor	Good	Good	Poor	Poor	Good	Poor
3421: HEDVILLE-----	Very poor	Poor	Poor	---	---	Poor	Very poor	Very poor	Poor	---	Very poor	Poor
3830: IDA-----	Very poor	Very poor	Good	Poor	Poor	---	Very poor	Very poor	Poor	Poor	Very poor	---
STEINAUER-----	Poor	Fair	Good	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor	Good
3890: INGLEWOOD-----	Poor	Fair	Good	Fair	Fair	Good	Poor	Very poor	Fair	Poor	Very poor	Good
4104: JUDSON-----	Good	Good	Good	Good	Good	---	Poor	Poor	Good	Good	Poor	---
4106: JUDSON-----	Good	Good	Good	Good	Good	---	Poor	Poor	Good	Good	Poor	---
4250: KENRIDGE-----	Good	Good	Good	Good	Good	Fair	Poor	Poor	Good	Good	Poor	Fair
4404: LAMO-----	Good	Good	Good	Good	Good	Good	Fair	Fair	Good	Fair	Fair	Good
4583: LEX-----	Fair	Fair	Good	Fair	Good	Good	Fair	Fair	Fair	Fair	Fair	Good
4853: MALCOLM-----	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor	Good

WILDLIFE INTERPRETATIONS--Continued  
Saunders County, 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
4860: MALMO-----	Fair	Good	Good	Good	Good	Fair	Very poor	Very poor	Good	Good	Very poor	Fair
5388: MORRILL-----	Fair	Good	Good	Fair	Fair	Good	Very poor	Very poor	Good	Fair	Very poor	Good
5480: MUSCOTAH-----	Fair	Good	Good	Poor	Good	Good	Fair	Fair	Good	Good	Fair	---
5540: NODAWAY-----	Good	Good	Good	Good	Fair	---	Fair	Poor	Fair	Good	Fair	---
5541: NODAWAY-----	Poor	Fair	Fair	Fair	Poor	---	Fair	Fair	Fair	Fair	Poor	---
5736: OBERT-----	Very poor	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good	Poor
5742: OBERT-----	Very poor	Poor	Fair	Fair	Fair	Fair	Good	Good	Poor	Fair	Good	Fair
5780: OLMITZ-----	Good	Good	Fair	Good	Good	---	Poor	Poor	Good	Good	Poor	---
6046: PAWNEE-----	Fair	Good	Good	---	Fair	Fair	Very poor	Very poor	Good	Good	Very poor	Fair
6130: PLATTE-----	Fair	Good	Fair	Poor	Fair	Good	Fair	Good	Fair	Poor	Good	Fair
6138: PLATTE-----	Fair	Good	Fair	Poor	Fair	Good	Fair	Good	Fair	Poor	Good	Fair
BARNEY-----	Very poor	Poor	Fair	Poor	Poor	Fair	Good	Good	Poor	Poor	Good	Fair
6160: POHOCCO-----	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor	Good
6162: POHOCCO-----	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor	Good
6170: POHOCCO-----	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor	Good
PAHUK-----	Poor	Poor	Fair	Poor	Poor	Good	Very poor	Very poor	Poor	Very poor	Very poor	Fair
6172: POHOCCO-----	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor	Good
PAHUK-----	Poor	Poor	Fair	Poor	Poor	Good	Very poor	Very poor	Poor	Very poor	Very poor	Fair
6520: SALTILLO-----	Poor	Poor	Good	Poor	Poor	Poor	Good	Good	Poor	Poor	Good	Poor
6791: SCOTT-----	Very poor	Poor	Poor	Poor	Very poor	Poor	Good	Good	Poor	Poor	Good	Poor
7069: STEINAUER-----	Poor	Fair	Good	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor	Good
7290: TOMEK-----	Good	Good	Good	Good	Good	---	Poor	Poor	Good	Good	Poor	---
7920: WANN-----	Good	Good	Good	Good	Fair	Good	Poor	Fair	Good	Good	Fair	Good
8120: YUTAN-----	Fair	Good	Good	Good	Good	---	Poor	Poor	Good	Good	Poor	---

WILDLIFE INTERPRETATIONS--Continued  
Saunders County, 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
8124: YUTAN-----	Fair	Good	Good	Good	Good	---	Poor	Poor	Good	Good	Poor	---
8130: YUTAN-----	Fair	Good	Good	Good	Good	---	Poor	Poor	Good	Good	Poor	---
AKSARBEN-----	Good	Good	Good	Good	Good	---	Poor	Poor	Good	Good	Poor	---
8134: YUTAN-----	Fair	Good	Good	Good	Good	---	Poor	Poor	Good	Good	Poor	---
JUDSON-----	Good	Good	Good	Good	Good	---	Poor	Poor	Good	Good	Poor	---
9900: ARENTS, EARTHEN DAM-----	---	---	---	---	---	---	---	---	---	---	---	---
9985: PITS-----	Very poor	Very poor	Poor	Poor	Poor	Poor	Very poor	Fair	Very poor	Very poor	Poor	Poor
9998: WATER-----	---	---	---	---	---	---	---	---	---	---	---	---



YIELDS PER ACRE OF PASTURE AND HAYLAND  
Saunders County, 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. One 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		Brome-grass-alfalfa		Cool-season grasses		Smooth brome-grass	
	N	I	N	I	N	I	N	I	N	I
			Tons	Tons			AUM	AUM	AUM	AUM
1050: Aksarben-----	1	1	---	---	---	---	---	---	---	---
1100: Alda, OCCASIONALLY FLOODE	3w	3w	2.30	25.00	---	---	---	---	---	---
1347: Barney, FREQUENTLY FLOODE	5w	---	---	---	---	---	---	---	---	---
1616: Boel, OCCASIONALLY FLOODE	4w	4w	2.00	3.50	---	---	---	---	---	---
1873: Burchard-----	4e	---	3.50	5.80	---	---	---	---	---	---
Steinauer-----	4e	---	3.00	5.30	---	---	---	---	---	---
1879: Burchard-----	6e	---	2.50	---	---	---	---	---	---	---
Steinauer-----	6e	---	2.00	---	---	---	---	---	---	---
2420: Deroin, SEVERELY ERODED--	4e	4e	3.50	5.75	---	---	---	---	---	---
2830: Filbert-----	2w	2w	3.10	5.50	---	---	---	---	---	---
2844: Fillmore-----	3w	4w	1.80	---	---	---	---	---	---	---
2863: Fluvaquents-----	8w	---	---	---	---	---	---	---	---	---
3025: Gibbon, OCCASIONALLY FLOODED-----	2w	2w	4.20	5.80	---	---	---	---	---	---
3038: Gibbon, OCCASIONALLY FLOODED-----	2w	2w	4.20	5.80	---	---	---	---	---	---
Saltine, OCCASIONALLY FLOODED-----	6s	---	3.20	4.50	---	---	---	---	---	---
3421: Hedville-----	6s	---	---	---	---	---	---	---	---	---
3830: Ida, 30-60% slopes-----	7e	---	---	---	---	---	---	---	---	---
Steinauer-----	7e	---	2.00	---	---	---	---	---	---	---
3890: Inglewood, RARELY FLOODED	4e	3e	1.80	5.00	---	---	---	---	---	---
4104: Judson-----	1	1	4.80	6.80	---	---	---	---	---	---
4106: Judson-----	2e	3e	4.80	6.80	---	---	---	---	---	---
4250: Kenridge, OCCASIONALLY FLOODED-----	2w	2w	4.50	6.00	---	---	---	---	---	---
4404: Lamo, OCCASIONALLY FLOODE	2w	2w	4.00	6.00	---	---	---	---	---	---
4583: Lex, OCCASIONALLY FLOODED	3w	3w	3.40	5.50	---	---	---	---	---	---
4853: Malcolm-----	4e	4e	3.60	---	---	---	4.50	---	---	---
4860: Malmo, SEVERELY ERODED---	4e	---	2.80	5.70	---	---	---	---	---	---
5388: Morrill-----	4e	---	3.00	---	---	---	---	---	---	---

(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		Bromegrass-alfalfa		Cool-season grasses		Smooth bromegrass	
	N	I	N	I	N	I	N	I	N	I
			Tons	Tons			AUM	AUM	AUM	AUM
5480: Muscotah, OCCASIONALLY FLOODED-----	2w	2w	4.50	5.50	---	---	---	---	---	---
5540: Nodaway, OCCASIONALLY FLOODED-----	2w	2w	4.50	7.00	---	---	---	---	---	---
5541: Nodaway, CHANNELED-----	6w	---	---	---	---	---	---	---	---	---
5736: Obert, FREQUENTLY FLOODED	6w	---	---	---	---	---	---	---	---	---
5742: Obert, OCCASIONALLY FLOODED-----	6w	---	---	---	---	---	---	---	---	---
5780: Olmitz-----	2e	3e	---	---	---	---	---	---	---	---
6046: Pawnee-----	4e	4e	3.50	6.00	---	---	---	---	---	---
6130: Platte, OCCASIONALLY FLOODED-----	4w	4w	2.00	4.00	---	---	---	---	---	---
6138: Platte, FREQUENTLY FLOODED	4w	4w	2.00	4.00	---	---	---	---	---	---
Barney, FREQUENTLY FLOODED, CHANNELED-----	6w	---	---	---	---	---	---	---	---	---
6160: Pohocco-----	3e	4e	---	---	---	---	---	---	---	---
6162: Pohocco-----	4e	---	---	---	---	---	---	---	---	---
6170: Pohocco-----	3e	4e	---	---	---	---	---	---	---	---
Pahuk-----	6e	4e	2.50	---	---	---	---	---	---	---
6172: Pohocco-----	4e	---	---	---	---	---	---	---	---	---
Pahuk-----	6e	---	2.50	---	---	---	---	---	---	---
6520: Saltillo, OCCASIONALLY FLOODED-----	6s	---	2.60	---	---	---	---	---	---	---
6791: Scott-----	5w	---	---	---	---	---	---	---	---	---
7069: Steinauer-----	6e	---	2.00	---	---	---	---	---	---	---
7290: Tomek-----	1	1	---	---	---	---	---	---	---	---
7920: Wann, OCCASIONALLY FLOODED	2w	2w	4.20	5.50	---	---	---	---	---	---
8120: Yutan-----	4e	---	3.20	---	---	---	---	---	---	---
8124: Yutan-----	2e	3e	3.20	---	---	---	---	---	---	---
8130: Yutan-----	2e	3e	3.20	---	---	---	---	---	---	---
Aksarben-----	2e	3e	---	---	---	---	---	---	---	---
8134: Yutan-----	3e	4e	3.20	---	---	---	---	---	---	---

(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		Bromegrass-alfalfa		Cool-season grasses		Smooth bromegrass	
	N	I	N	I	N	I	N	I	N	I
			Tons	Tons			AUM	AUM	AUM	AUM
Judson-----	3e	4e	4.80	6.80	---	---	---	---	---	---
9900: Arents, Earthen Dam-----	8	---	---	---	---	---	---	---	---	---
9985: Pits-----	8s	---	---	---	---	---	---	---	---	---
9998: Water-----	---	---	---	---	---	---	---	---	---	---



CONSERVATION TREE AND SHRUB MANAGEMENT  
Saunders County, 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  
Saunders County,  
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
1050: Aksarben-----	3	Poorly suited Stickiness	Poorly suited Stickiness	Poorly suited Stickiness	Well suited	Low
1100: Alda, OCCASIONALLY FLOODED-----		Well suited	Well suited	Well suited	Well suited	Low
1347: Barney, FREQUENTLY FLOODED-----		Well suited	Well suited	Well suited	Well suited	High Wetness
1616: Boel, OCCASIONALLY FLOODED-----		Well suited	Well suited	Well suited	Well suited	Low
1873: Burchard-----	3	Well suited	Moderately suited Slope	Well suited	Well suited	Low
Steinauer-----	8	Well suited	Moderately suited Slope	Well suited	Well suited	Moderate Soil reaction
1879: Burchard-----	3	Well suited	Moderately suited Slope	Poorly suited Slope	Poorly suited Slope	Low
Steinauer-----	8	Well suited	Moderately suited Slope	Well suited	Well suited	Moderate Soil reaction
2420: Deroin, SEVERELY ERODED-----	3	Moderately suited Stickiness	Moderately suited Slope Stickiness	Well suited	Well suited	Low
2830: Filbert-----		Well suited	Well suited	Well suited	Well suited	High Wetness
2844: Fillmore-----		Well suited	Well suited	Well suited	Well suited	High Wetness
2863: Fluvaquents-----	10	Unsuited Wetness Stickiness	Unsuited Wetness Stickiness	Unsuited Wetness	Unsuited Wetness	High Wetness
3025: Gibbon, OCCASIONALLY FLOODED-----		Well suited	Well suited	Well suited	Well suited	Moderate Soil reaction
3038: Gibbon, OCCASIONALLY FLOODED-----		Well suited	Well suited	Well suited	Well suited	Moderate Soil reaction High
Saltine, OCCASIONALLY FLOODED-----		Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	Soil reaction Salinity
3421: Hedville-----	10	Moderately suited Rock fragments	Poorly suited Slope Rock fragments	Poorly suited Slope	Poorly suited Slope	Low
3830: Ida, 30-60% slopes--		Moderately suited Slope	Unsuited Slope	Unsuited Slope	Unsuited Slope	Moderate Lime Moderate
Steinauer-----	10	Moderately suited Slope	Unsuited Slope	Unsuited Slope	Unsuited Slope	Soil reaction
3890: Inglewood, RARELY FLOODED-----		Well suited	Well suited	Well suited	Well suited	Low
4104: Judson-----	3	Well suited	Well suited	Well suited	Well suited	Low
4106: Judson-----	3	Well suited	Well suited	Well suited	Well suited	Low
4250: Kenridge, OCCASIONALLY FLOODED-----		Well suited	Well suited	Well suited	Well suited	Low

CONSERVATION TREE AND SHRUB MANAGEMENT  
Saunders County,  
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
4404: Lamo, OCCASIONALLY FLOODED-----		Well suited	Well suited	Well suited	Well suited	Moderate Soil reaction
4583: Lex, OCCASIONALLY FLOODED-----		Well suited	Well suited	Well suited	Well suited	Moderate Soil reaction
4853: Malcolm-----	3	Moderately suited Stickiness	Moderately suited Slope Stickiness	Well suited	Well suited	Low
4860: Malmo, SEVERELY ERODED-----	4C	Poorly suited Stickiness	Poorly suited Stickiness Slope	Poorly suited Stickiness	Well suited	Low
5388: Morrill-----	3	Well suited	Moderately suited Slope	Well suited	Well suited	Low
5480: Muscotah, OCCASIONALLY FLOODED-----	2	Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	Low
5540: Nodaway, OCCASIONALLY FLOODED-----	1	Well suited	Well suited	Well suited	Well suited	Low
5541: Nodaway, CHANNELED--	10	Well suited	Well suited	Well suited	Well suited	Low
5736: Obert, FREQUENTLY FLOODED-----		Unsuited Wetness Stickiness	Moderately suited Wetness Stickiness	Unsuited Wetness	Unsuited Wetness	High Wetness Soil reaction
5742: Obert, OCCASIONALLY FLOODED-----		Unsuited Wetness Stickiness	Moderately suited Wetness Stickiness	Unsuited Wetness	Unsuited Wetness	High Wetness Soil reaction
5780: Olimitz-----		Well suited	Well suited	Well suited	Well suited	Low
6046: Pawnee-----	4C	Moderately suited Stickiness	Moderately suited Slope Stickiness	Well suited	Well suited	Low
6130: Platte, OCCASIONALLY FLOODED-----		Well suited	Well suited	Well suited	Well suited	Low
6138: Platte, FREQUENTLY FLOODED-----		Well suited	Well suited	Well suited	Well suited	Low
Barney, FREQUENTLY FLOODED, CHANNELED--		Well suited	Well suited	Well suited	Well suited	High Wetness
6160: Pohocco-----	3	Well suited	Moderately suited Slope	Well suited	Well suited	Low
6162: Pohocco-----	3	Well suited	Moderately suited Slope	Well suited	Well suited	Low
6170: Pohocco-----	3	Well suited	Moderately suited Slope	Well suited	Well suited	Low
Pahuk-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
6172: Pohocco-----	3	Well suited	Moderately suited Slope	Well suited	Well suited	Low
Pahuk-----		Well suited	Moderately suited	Well suited	Well suited	Low

CONSERVATION TREE AND SHRUB MANAGEMENT  
Saunders County,  
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
6520: Salttillo, OCCASIONALLY FLOODED-----		Well suited	Slope Well suited	Well suited	Well suited	High  Wetness Salinity Soil reaction
6791: Scott-----		Well suited	Well suited	Well suited	Well suited	High Wetness
7069: Steinauer-----	10	Well suited	Poorly suited Slope	Poorly suited Slope	Poorly suited Slope	Moderate Soil reaction
7290: Tomek-----		Well suited	Well suited	Well suited	Well suited	Low
7920: Wann, OCCASIONALLY FLOODED-----		Well suited	Well suited	Well suited	Well suited	Low
8120: Yutan-----		Moderately suited Stickiness	Moderately suited Slope Stickiness	Well suited	Well suited	Low
8124: Yutan-----		Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	Low
8130: Yutan-----		Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	Low
Aksarben-----	3	Poorly suited Stickiness	Poorly suited Stickiness	Poorly suited Stickiness	Well suited	Low
8134: Yutan-----		Moderately suited Stickiness	Moderately suited Slope Stickiness	Well suited	Well suited	Low
Judson-----	3	Well suited	Moderately suited Slope	Well suited	Well suited	Low
9900: Arents, Earthen Dam-		Not rated	Not rated	Not rated	Not rated	Not rated
9985: Pits-----		Not rated	Not rated	Not rated	Not rated	Not rated
9998: Water-----		Not rated	Not rated	Not rated	Not rated	Not rated



ENGINEERING INDEX PROPERTIES  
Saunders County, 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  
Saunders County, Nebraska

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

Map symbol and soil name	Depth In	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit Pct	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
1050: Aksarben-----	0-6	Silty clay loam	CL	A-6	0	0	100	100	95-100	90-100	36-44	16-22
	6-12	Silty clay loam	CL	A-6	0	0	100	100	95-100	90-100	36-44	16-22
	12-18	Silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	90-100	51-58	29-35
	18-26	Silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	90-100	51-58	29-35
	26-34	Silty clay loam	CH, CL	A-7	0	0	100	100	95-100	90-100	51-58	29-35
	34-42	Silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	90-100	51-58	29-35
	42-60	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	90-100	43-51	23-29
	60-80	Silt loam	CL	A-6	0	0	100	100	95-100	85-95	36-51	17-29
1100: Alda, OCCASIONALLY FLOODED-----	0-11	Fine sandy loam	CL, CL-ML, ML	A-4	0	0	90-100	85-100	85-100	50-75	15-23	NP-6
	11-17	Fine sandy loam	SC-SM, SM	A-4	0	0	95-100	95-100	70-100	30-50	15-23	NP-6
	17-29	Fine sandy loam	SC-SM, SM	A-4	0	0	95-100	95-100	70-100	30-50	15-23	NP-6
	29-34	Coarse sand	SC-SM, SM, SP, SP-SM	A-2-4	0	0	70-100	65-95	30-95	2-15	12-18	NP-5
	34-80	Stratified coarse sand to gravelly sand	SC-SM, SM, SP, SP-SM	A-2-4	0	0	70-100	65-95	30-95	2-15	12-18	NP-5
1347: Barney, FREQUENTLY FLOODED-----	0-7	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	36-44	16-22
	7-10	Loam	CL	A-4	0	0	95-100	90-100	85-95	60-95	21-36	4-16
	10-30	Fine sand	SP-SC	A-1-b	0	0	90-100	90-100	30-70	3-15	0-10	NP-5
	30-80	Coarse sand	SP-SC	A-1-b	0	0	90-100	75-95	30-70	3-15	0-10	NP-5
1616: Boel, OCCASIONALLY FLOODED-----	0-11	Loamy fine sand	SC	A-2-4	0	0	100	95-100	85-95	0-35	5-21	NP-4
	11-15	Fine sandy loam	SC	A-2-4	0	0	100	95-100	85-95	0-25	5-30	NP-11
	15-60	Stratified fine sand, stratified loamy fine sand, stratified coarse sand	SC	A-2-4	0	0	100	95-100	85-95	0-25	2-20	NP-3
1873: Burchard-----	0-13	Clay loam	CL	A-6	0	0-5	95-100	95-100	85-95	60-80	36-39	15-18
	13-19	Clay loam	CL	A-7-6	0	0-5	95-100	85-100	75-95	60-80	36-44	15-22
	19-29	Clay loam	CL	A-7-6	0	0-5	95-100	85-100	75-95	60-80	34-38	14-18
	29-37	Clay loam	CL	A-7-6	0	0-5	95-100	85-100	75-95	60-80	34-39	14-18
	37-60	Clay loam	CL	A-6	0	0-5	95-100	85-100	75-95	60-80	34-39	14-18
Steinauer-----	0-6	Clay loam	CL	A-6	0	0-5	95-100	95-100	85-100	55-90	36-41	16-20
	6-15	Clay loam	CL	A-6	0	0-5	95-100	95-100	85-100	70-90	36-41	16-20
	15-41	Clay loam	CL	A-6	0	0-5	95-100	95-100	85-100	60-75	34-44	14-22
	41-60	Clay loam	CL	A-6	0	0-5	95-100	95-100	85-100	60-75	34-44	14-22
1879: Burchard-----	0-13	Clay loam	CL	A-6	0	0-5	95-100	95-100	85-95	60-80	36-39	15-18
	13-19	Clay loam	CL	A-7-6	0	0-5	95-100	85-100	75-95	60-80	36-44	15-22
	19-29	Clay loam	CL	A-7-6	0	0-5	95-100	85-100	75-95	60-80	34-39	9-22
	29-37	Clay loam	CL	A-7-6	0	0-5	95-100	85-100	75-95	60-80	24-39	14-18
	37-60	Clay loam	CL	A-6	0	0-5	95-100	85-100	75-95	60-80	34-39	14-18
Steinauer-----	0-6	Clay loam	CL	A-6	0	0-5	95-100	95-100	85-100	55-90	36-41	16-20
	6-15	Clay loam	CL	A-6	0	0-5	95-100	95-100	85-100	70-90	36-41	16-20
	15-41	Clay loam	CL	A-6	0	0-5	95-100	95-100	85-100	60-75	34-44	14-22
	41-60	Clay loam	CL	A-6	0	0-5	95-100	95-100	85-100	60-75	34-44	14-22
2420: Derooin, SEVEREL ERODED-----	0-7	Silty clay loam	CL	A-7-6	0	0	100	100	90-100	85-95	36-48	16-25
	7-12	Silty clay loam	CL	A-7-6	0	0	100	100	90-100	70-95	36-44	16-22
	12-18	Silty clay loam	CL	A-7-6	0	0	100	100	90-100	70-95	36-44	16-22
	18-40	Silty clay loam	CL	A-7-6	0	0	100	100	90-100	70-95	36-44	16-22
	40-50	Silty clay loam	CL	A-6	0	0	100	100	90-100	70-95	34-41	14-20
	50-80	Silty clay loam	CL	A-6	0	0	100	100	90-100	70-95	34-41	14-20
2830: Filbert-----	0-5	Silt loam	CL	A-6	0	0	100	100	100	95-100	28-36	9-16
	5-7	Silt loam	CL	A-6	0	0	100	100	100	95-100	28-36	9-16
	7-12	Silt loam	CL	A-4	0	0	100	100	100	95-100	25-30	7-11
	12-15	Silt loam	CL	A-4	0	0	100	100	100	95-100	25-30	7-11
	15-25	Silty clay	CH	A-7-6	0	0	100	100	100	95-100	61-71	37-45
	25-36	Silty clay	CH	A-7-6	0	0	100	100	100	95-100	61-71	37-45
	36-43	Silty clay	CH	A-7-6	0	0	100	100	100	95-100	61-71	37-45
	43-53	Silty clay	CH	A-7-6	0	0	100	100	100	95-100	61-71	37-45
	53-62	Silty clay	CH	A-7-6	0	0	100	100	100	95-100	61-71	37-45
	62-80	Silty clay loam	CH	A-7-6	0	0	100	100	100	95-100	51-61	29-37
2844: Fillmore-----	0-7	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	28-36	9-16
	7-14	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	28-36	9-16
	14-22	Silt loam	CL	A-4	0	0	100	100	95-100	95-100	25-30	7-11
	22-30	Clay	CH	A-7-6	0	0	100	100	100	95-100	61-71	37-45
	30-42	Clay	CH	A-7-6	0	0	100	100	100	95-100	61-71	37-45
	42-54	Silty clay	CH	A-7-6	0	0	100	100	100	95-100	61-71	37-45
	54-62	Silty clay	CH	A-7-6	0	0	100	100	100	95-100	61-71	37-45
	62-80	Silty clay	CH	A-7-6	0	0	100	100	100	95-100	61-71	37-45

ENGINEERING INDEX PROPERTIES--Continued  
Saunders County, 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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
2863: Fluvaquents----	0-20	Silty clay	CL	A-7-6	0	0	100	100	85-100	45-95	35-66	15-40
	20-80	Stratified variable	GP	A-1-a	0	0	---	---	---	---	---	---
3025: Gibbon, OCCASIONALLY FLOODED-----	0-5	Silt loam	CL	A-6	0	0	100	100	85-100	70-90	30-36	11-16
	5-19	Silt loam	CL	A-6	0	0	100	100	85-100	70-90	30-36	11-16
	19-24	Silt loam	CL	A-6	0	0	100	100	85-100	70-90	30-36	11-16
	24-30	Silt loam	CL	A-6	0	0	100	100	90-100	80-90	30-36	11-16
	30-42	Stratified very fine sandy loam to silt loam	CL	A-6	0	0	100	100	70-95	35-90	15-36	11-16
	42-60	Stratified very fine sandy loam to silt loam	CL	A-6	0	0	100	100	70-95	35-90	15-36	11-16
3038: Gibbon, OCCASIONALLY FLOODED-----	0-5	Silt loam	CL	A-6	0	0	100	100	85-100	70-90	30-36	11-16
	5-19	Silt loam	CL	A-6	0	0	100	100	85-100	70-90	30-36	11-16
	19-24	Silt loam	CL	A-6	0	0	100	100	85-100	70-90	30-36	11-16
	24-30	Silt loam	CL	A-6	0	0	100	100	90-100	80-90	30-36	11-16
	30-42	Stratified very fine sandy loam to silt loam	CL	A-6	0	0	100	100	70-95	35-90	15-36	11-16
	42-60	Stratified very fine sandy loam to silt loam	CL	A-6	0	0	100	100	70-95	35-90	15-36	11-16
Saltine, OCCASIONALLY FLOODED-----	0-7	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	70-95	36-44	16-22
	7-12	Silty clay loam	CL	A-6	0	0	95-100	95-100	85-100	60-100	28-48	9-25
	12-30	Silty clay loam	CL	A-6	0	0	95-100	95-100	85-100	60-100	28-48	9-25
	30-48	Silty clay loam	CL	A-7-6	0	0	95-100	95-100	70-95	30-54	11-30	
	48-55	Silty clay loam	CL	A-6	0	0	100	100	20-95	20-90	30-48	11-25
	55-60	Sandy clay loam	CL	A-6	0	0	100	100	20-95	20-90	30-48	11-25
3421: Hedville-----	0-10	Cobbly loam	SC	A-4	0	15-25	80-100	75-100	40-100	10-70	20-30	3-11
	10-16	Cobbly loam	ML	A-4	0	2-15	80-100	75-100	30-90	15-90	18-30	2-11
	16-22	Bedrock			---	---	---	---	---	---	---	---
3830: Ida, 30-60% slopes-----	0-4		CL	A-6	0	0	100	100	95-100	95-100	28-35	9-15
	4-8		CL	A-4	0	0	100	100	95-100	95-100	28-35	9-15
	8-18		ML	A-4	0	0	100	100	95-100	95-100	30-40	5-15
	18-40		ML	A-4	0	0	100	100	95-100	95-100	30-40	5-15
	40-60		ML	A-4	0	0	100	100	95-100	95-100	30-40	5-15
Steinauer-----	0-6	Clay loam	CL	A-6	0	0-5	95-100	95-100	85-100	55-90	36-41	16-20
	6-15	Clay loam	CL	A-6	0	0-5	95-100	95-100	85-100	70-90	36-41	16-20
	15-41	Clay loam	CL	A-6	0	0-5	95-100	95-100	85-100	60-75	34-44	14-22
	41-60	Clay loam	CL	A-6	0	0-5	95-100	95-100	85-100	60-75	34-44	14-22
3890: Inglewood, RARELY FLOODED	0-5	Loamy fine sand	SC	A-2-4	0	0	100	100	50-80	15-35	15-20	NP-6
	5-22	Stratified sand to fine sandy loam	SC	A-2-4	0	0	100	100	50-85	5-55	15-20	NP-4
	22-30	Stratified sand to fine sandy loam	SC	A-2-4	0	0	100	100	50-85	5-55	15-20	NP-4
	30-40	Stratified sand to fine sandy loam	SC	A-2-4	0	0	100	100	50-85	5-55	15-20	NP-4
	40-50	Sand, fine sand	SC	A-2-4, A-3	0	0	100	100	50-80	5-35	15-20	NP-3
	50-80	Sand, fine sand	SC	A-2-4, A-3	0	0	100	100	50-80	5-35	15-20	NP-3
4104: Judson-----	0-6	Silt loam	CL	A-6	0	0	100	100	100	95-100	34-36	14-16
	6-12	Silty clay loam	CL	A-6	0	0	100	100	100	95-100	36-41	16-20
	12-22	Silty clay loam	CL	A-6	0	0	100	100	100	95-100	36-41	16-20
	22-31	Silty clay loam	CL	A-6	0	0	100	100	100	95-100	36-41	16-20
	31-43	Silty clay loam	CL	A-7-6	0	0	100	100	100	95-100	36-44	16-22
	43-54	Silty clay loam	CL	A-7-6	0	0	100	100	100	95-100	36-44	16-22
	54-69	Silty clay loam	CL	A-7-6	0	0	100	100	100	95-100	36-44	16-22
	69-80	Silty clay loam	CL	A-7-6	0	0	100	100	100	95-100	36-44	16-22

ENGINEERING INDEX PROPERTIES--Continued  
Saunders County, Nebraska

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

Map symbol and soil name	Depth In	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit Pct	Plas- ticity index	
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200			
					Pct	Pct							
4106: Judson-----	0-6	Silt loam	CL	A-6	0	0	100	100	100	95-100	34-36	14-16	
	6-12	Silty clay loam	CL	A-6	0	0	100	100	100	95-100	36-41	16-20	
	12-22	Silty clay loam	CL	A-6	0	0	100	100	100	95-100	36-41	16-20	
	22-31	Silty clay loam	CL	A-6	0	0	100	100	100	95-100	36-41	16-20	
	31-43	Silty clay loam	CL	A-7-6	0	0	100	100	100	95-100	36-44	16-22	
	43-54	Silty clay loam	CL	A-7-6	0	0	100	100	100	95-100	36-44	16-22	
	54-69	Silty clay loam	CL	A-7-6	0	0	100	100	100	95-100	36-44	16-22	
	69-80	Silty clay loam	CL	A-7-6	0	0	100	100	100	95-100	36-44	16-22	
4250: Kenridge, OCCASIONALLY FLOODED-----	0-8	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	36-41	16-20	
	8-20	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	36-41	16-20	
	20-36	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	85-95	36-44	16-22	
	36-46	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	85-95	36-44	16-22	
	46-60	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	85-95	36-44	16-22	
	60-80	Silty clay loam	CL	A-7-6	0	0	100	100	90-100	70-80	36-44	16-22	
4404: Lamo, OCCASIONALLY FLOODED-----	0-5	Silty clay loam	CL	A-6	0	0	100	100	95-100	80-95	34-44	14-22	
	5-25	Silty clay loam	CL	A-6	0	0	100	100	95-100	80-95	34-44	14-22	
	25-36	Silty clay loam	CL	A-6	0	0	100	100	95-100	80-95	34-44	14-22	
	36-44	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	34-44	14-22	
4583: Lex, OCCASIONALLY FLOODED-----	44-60	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	34-44	14-22	
	0-7	Loam	CL	A-6	0	0	95-100	95-100	85-100	60-95	26-44	8-22	
	7-17	Clay loam	CL	A-6	0	0	95-100	95-100	85-100	60-95	26-44	8-22	
	17-19	Loam	CL	A-6	0	0	95-100	95-100	85-100	60-95	26-44	8-22	
4853: Malcolm-----	19-27	Stratified fine sandy loam to loam to sandy clay loam	CL	A-6	0	0	95-100	95-100	85-100	60-90	28-41	9-20	
	27-60	Coarse sand	SP-SC	A-1-b	0	0	60-100	50-95	30-65	3-14	1-16	NP-2	
	0-7	Silt loam	CL	A-6	0	0	100	100	90-100	70-90	28-36	9-16	
	7-12	Silty clay loam	CL	A-7-6	0	0	100	100	90-100	70-95	34-44	14-22	
	12-20	Silty clay loam	CL	A-7-6	0	0	100	100	90-100	70-95	34-44	14-22	
	20-28	Silty clay loam	CL	A-6	0	0	100	100	90-100	70-95	34-44	14-22	
	28-60	Silt loam	CL, CL-ML, ML	A-6	0	0	100	100	85-100	50-90	19-36	3-16	
	4860: Malmo, SEVERELY ERODED-----	0-6	Clay loam	CL	A-7-6	0	0	95-100	95-100	85-100	70-90	44-48	22-25
6-15		Clay	CH	A-7-6	0	0	100	95-100	85-100	80-95	51-66	29-41	
15-25		Clay	CH	A-7-6	0	0	100	95-100	85-100	80-95	51-66	29-41	
25-39		Clay	CH	A-7-6	0	0	100	95-100	85-100	80-95	51-66	29-41	
39-43		Gravelly clay	CH	A-7-6	0	0	95-100	75-85	65-75	60-70	51-66	29-41	
43-54		Clay loam	CL	A-7-6	0	0	95-100	95-100	85-100	70-90	34-63	15-39	
54-80		Loam	CL	A-6	0	0	95-100	90-100	65-95	60-95	34-63	15-39	
5388: Morrill-----		0-6	Loam	CL	A-6	0	0	95-100	75-100	65-100	50-80	25-36	8-16
	6-12	Loam	CL	A-6	0	0	95-100	75-100	65-100	50-80	28-44	9-22	
	12-22	Loam	CL	A-6	0	0	85-100	70-100	55-100	25-80	28-44	9-22	
	22-30	Sandy clay loam	CL	A-6	0	0	85-100	70-100	55-100	25-80	28-44	9-22	
	30-35	Sandy clay loam	CL	A-6	0	0	85-100	70-100	55-100	25-80	28-44	9-22	
	35-43	Sandy clay loam	CL	A-6	0	0	85-100	70-100	55-100	25-80	28-44	9-22	
	43-52	Fine sandy loam	SC	A-4	0	0	90-100	70-100	45-85	25-50	15-39	NP-18	
	52-59	Fine sandy loam	SC	A-2-4	0	0	90-100	70-100	45-95	10-40	10-39	NP-18	
	59-73	Loamy fine sand	SC	A-2-4	0	0	90-100	70-100	45-95	10-40	10-39	NP-18	
	73-80	Sand	SC	A-2-4	0	0	90-100	70-100	45-95	10-40	10-39	NP-18	
	5480: Muscotah, OCCASIONALLY FLOODED-----	0-9	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	85-95	36-56	16-33
		9-16	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	85-95	36-56	16-33
16-23		Silty clay loam	CL	A-7-6	0	0	100	100	95-100	85-95	36-56	16-33	
23-35		Silty clay	CH	A-7-6	0	0	100	100	95-100	85-95	51-66	29-41	
35-44		Silty clay	CH	A-7-6	0	0	100	100	95-100	85-95	51-66	29-41	
44-60		Silty clay	CH	A-7-6	0	0	100	100	95-100	85-95	51-66	29-41	
60-70		Silty clay	CH	A-7-6	0	0	100	100	95-100	85-95	51-66	29-41	
70-80		Silty clay	CH	A-7-6	0	0	100	100	95-100	85-95	51-66	29-41	
5540: Nodaway, OCCASIONALLY FLOODED-----	0-7	Silt loam	CL	A-6	0	0	100	95-100	95-100	90-100	28-36	9-16	
	7-14	Stratified silt loam	CL	A-6	0	0	100	95-100	95-100	90-100	28-39	9-18	
	14-45	Stratified silt loam	CL	A-6	0	0	100	95-100	95-100	90-100	28-39	9-18	
	45-60	Stratified silt loam	CL	A-6	0	0	100	95-100	95-100	90-100	28-39	9-18	

ENGINEERING INDEX PROPERTIES--Continued  
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Map symbol and soil name	Depth In	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit Pct	Plas- ticity index	
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200			
					Pct	Pct							
5541: Nodaway, CHANNELED-----	0-7	Silt loam	CL	A-6	0	0	100	95-100	95-100	90-100	28-36	9-16	
	7-14	Stratified silt loam	CL	A-6	0	0	100	95-100	95-100	90-100	28-39	9-18	
	14-45	Stratified silt loam	CL	A-6	0	0	100	95-100	95-100	90-100	28-39	9-18	
	45-60	Stratified silt loam	CL	A-6	0	0	100	95-100	95-100	90-100	28-39	9-18	
5736: Obert, FREQUENTLY FLOODED-----	0-12	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	90-100	36-44	16-22	
	12-24	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-100	28-44	9-22	
	24-60	Silty clay loam	CL	A-6	0	0	100	100	80-100	75-95	28-44	9-22	
5742: Obert, OCCASIONALLY FLOODED-----	0-12	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	90-100	36-44	16-22	
	12-24	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-100	28-44	9-22	
	24-60	Silty clay loam	CL	A-6	0	0	100	100	80-100	75-95	28-44	9-22	
5780: Olmitz-----	0-6	Loam	CL	A-6	0	0	100	90-100	85-95	60-80	28-36	9-16	
	6-22	Clay loam	CL	A-6	0	0	100	90-100	85-95	60-80	36-41	16-20	
	22-32	Clay loam	CL	A-6	0	0	100	90-100	85-95	60-80	36-41	16-20	
	32-40	Clay loam	CL	A-6	0	0	100	90-100	85-95	60-80	36-41	16-20	
	40-52	Clay loam	CL	A-6	0	0	100	90-100	85-95	60-80	36-41	16-20	
	52-60	Clay loam	CL	A-7-6	0	0	100	90-100	85-95	60-80	36-43	16-21	
6046: Pawnee-----	0-6	Clay loam	CL	A-7-6	0	0	95-100	95-100	85-100	70-90	36-48	15-25	
	6-10	Clay loam	CL	A-7-6	0	0	95-100	95-100	85-100	70-90	36-46	16-23	
	10-14	Clay loam	CL	A-7-6	0	0	95-100	95-100	85-100	70-90	36-46	16-23	
	14-24	Clay	CH	A-7-6	0	0	95-100	95-100	85-100	70-85	56-66	33-41	
	24-32	Clay	CH	A-7-6	0	0	95-100	95-100	85-100	70-85	56-66	33-41	
	32-45	Clay	CH	A-7-6	0	0	95-100	95-100	85-100	70-85	56-66	33-41	
	45-53	Clay	CH	A-7-6	0	0	95-100	95-100	85-100	70-85	56-66	33-41	
	53-80	Clay loam	CL	A-7-6	0	0	95-100	95-100	80-100	70-90	31-56	14-33	
	6130: Platte, OCCASIONALLY FLOODED-----	0-5	Fine sandy loam	CL, ML, SC, SM	A-4	0	0	100	90-100	50-90	10-70	16-25	2-7
		5-8	Very fine sandy loam	CL, ML, SC, SM	A-4	0	0	100	90-100	50-90	10-70	16-25	2-7
8-16		Very fine sandy loam	CL, ML, SC, SM	A-4	0	0	100	90-100	50-90	10-70	16-25	2-7	
16-80		Stratified coarse sand to gravelly coarse sand to gravelly sand	SM, SP, SP-SM	A-1-b	0	0	70-100	50-95	25-65	0-15	0-20	NP	
6138: Platte, FREQUENTLY FLOODED-----	0-5	Fine sandy loam	CL, ML, SC, SM	A-4	0	0	100	90-100	50-90	10-70	16-25	2-7	
	5-8	Very fine sandy loam	ML, SC, SM, CL	A-4	0	0	100	90-100	50-90	10-70	16-25	2-7	
	8-16	Very fine sandy loam	CL, ML, SC, SM	A-4	0	0	100	90-100	50-90	10-70	16-25	2-7	
	16-80	Stratified coarse sand to gravelly coarse sand to gravelly sand	SM, SP, SP-SM	A-1-b	0	0	70-100	50-95	25-65	0-15	0-20	NP	
Barney, FREQUENTLY FLOODED, CHANNELED-----	0-7	Silty clay loam	ML, CL, CL-ML	A-6	0	0	100	100	95-100	85-95	36-44	16-22	
	7-10	Loam	ML, CL, CL-ML	A-4	0	0	95-100	90-100	85-95	60-95	21-36	4-16	
	10-30	Fine sand	SM, SP, SP-SM	A-1-b	0	0	90-100	90-100	30-70	3-15	0-10	NP-5	
	30-80	Coarse sand	SM, SP, SP-SM	A-1-b	0	0	90-100	75-95	30-70	3-15	0-10	NP-5	
6160: Pohocco-----	0-6	Silty clay loam	CL	A-6	0	0	100	100	100	95-100	36-44	16-22	
	6-15	Silt loam	CL, ML	A-6	0	0	100	100	100	95-100	30-44	11-22	
	15-20	Silt loam	CL, ML	A-6	0	0	100	100	100	95-100	30-44	11-22	
	20-28	Silt loam	CL, ML	A-6	0	0	100	100	100	95-100	30-44	11-22	
	28-80	Silt loam	ML	A-6	0	0	100	100	100	95-100	30-36	11-16	
6162: Pohocco-----	0-6	Silty clay loam	CL	A-6	0	0	100	100	100	95-100	36-44	16-22	
	6-15	Silt loam	CL, ML	A-6	0	0	100	100	100	95-100	30-44	11-22	
	15-20	Silt loam	CL, ML	A-6	0	0	100	100	100	95-100	30-44	11-22	
	20-28	Silt loam	CL, ML	A-6	0	0	100	100	100	95-100	30-44	11-22	
	28-80	Silt loam	ML	A-6	0	0	100	100	100	95-100	30-36	11-16	

ENGINEERING INDEX PROPERTIES--Continued  
Saunders County, Nebraska

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Map symbol and soil name	Depth In	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit Pct	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
6170: Pohocco-----	0-6	Silty clay loam	CL	A-6	0	0	100	100	100	95-100	36-44	16-22
	6-15	Silt loam	CL, ML	A-6	0	0	100	100	100	95-100	30-44	11-22
	15-20	Silt loam	CL, ML	A-6	0	0	100	100	100	95-100	30-44	11-22
	20-28	Silt loam	CL, ML	A-6	0	0	100	100	100	95-100	30-44	11-22
	28-80	Silt loam	ML	A-6	0	0	100	100	100	95-100	30-36	11-16
Pahuk-----	0-6	Loamy fine sand	SC-SM, SM	A-2-4	0	0	100	100	50-80	12-35	10-23	NP-6
	6-14	Loamy fine sand	SC-SM, SM, SP-SM	A-2-4	0	0	100	100	50-80	5-35	10-23	NP-6
	14-40	Fine sand	SC-SM, SM, SP-SM	A-2-4	0	0	100	100	50-80	5-35	10-20	NP-3
	40-80	Fine sand	SC-SM, SM, SP-SM	A-2-4	0	0	100	100	50-80	5-35	10-20	NP-3
6172: Pohocco-----	0-6	Silty clay loam	CL	A-6	0	0	100	100	100	95-100	36-44	16-22
	6-15	Silt loam	CL, ML	A-6	0	0	100	100	100	95-100	30-44	11-22
	15-20	Silt loam	CL, ML	A-6	0	0	100	100	100	95-100	30-44	11-22
	20-28	Silt loam	CL, ML	A-6	0	0	100	100	100	95-100	30-44	11-22
	28-80	Silt loam	ML	A-6	0	0	100	100	100	95-100	30-36	11-16
Pahuk-----	0-6	Loamy fine sand	SC-SM, SM	A-2-4	0	0	100	100	50-80	12-35	10-23	NP-6
	6-14	Loamy fine sand	SC-SM, SM, SP-SM	A-2-4	0	0	100	100	50-80	5-35	10-23	NP-6
	14-40	Fine sand	SC-SM, SM, SP-SM	A-2-4	0	0	100	100	50-80	5-35	10-20	NP-3
	40-80	Fine sand	SC-SM, SM, SP-SM	A-2-4	0	0	100	100	50-80	5-35	10-20	NP-3
6520: Saltillo, OCCASIONALLY FLOODED-----	0-6	Silt loam	CL, CL-ML, ML	A-6	0	0	95-100	95-100	85-100	60-90	26-36	8-16
	6-17	Silt loam	CL, CL-ML, ML	A-6	0	0	95-100	95-100	85-100	60-100	28-48	9-25
	17-32	Stratified silt loam to silty clay loam	CL, CL-ML, ML	A-6	0	0	95-100	95-100	85-100	60-100	28-48	9-25
	32-50	Stratified silt loam to silty clay loam	CL, CL-ML, ML	A-6	0	0	95-100	95-100	85-100	60-100	28-48	9-25
	50-60	Stratified silt loam to silty clay loam	CL, CL-ML, ML	A-6	0	0	95-100	95-100	85-100	60-100	28-48	9-25
	60-80	Stratified silt loam to silty clay loam	CL, CL-ML, ML	A-6	0	0	95-100	95-100	85-100	60-100	28-48	9-25
6791: Scott-----	0-6	Silt loam	CL, CL-ML, ML	A-6	0	0	100	100	100	95-100	28-36	9-16
	6-18	Silt loam	CL, CL-ML, ML	A-6	0	0	100	100	100	95-100	28-36	9-16
	18-28	Silty clay	CH, CL	A-7-6	0	0	100	100	100	95-100	56-71	33-45
	28-42	Silty clay	CH, CL	A-7-6	0	0	100	100	100	95-100	56-71	33-45
	42-56	Silty clay	CH, CL	A-7-6	0	0	100	100	100	95-100	56-71	33-45
	56-80	Silty clay	CH, CL	A-7-6	0	0	100	100	100	95-100	56-71	33-45
7069: Steinauer-----	0-6	Clay loam	CL	A-6	0	0-5	95-100	95-100	85-100	55-90	36-41	16-20
	6-15	Clay loam	CL	A-6	0	0-5	95-100	95-100	85-100	70-90	36-41	16-20
	15-41	Clay loam	CL	A-6	0	0-5	95-100	95-100	85-100	60-75	34-44	14-22
	41-60	Clay loam	CL	A-6	0	0-5	95-100	95-100	85-100	60-75	34-44	14-22
7290: Tomek-----	0-11	Silt loam	CL, ML	A-6	0	0	100	100	100	95-100	30-45	5-20
	11-19	Silty clay loam	CL, ML	A-6	0	0	100	100	100	95-100	30-50	5-25
	19-54	Silty clay loam	CH	A-7-6	0	0	100	100	100	95-100	50-55	25-30
	54-80	Silty clay loam	CL, ML	A-7-6	0	0	100	100	100	95-100	35-50	10-25
7920: Wann, OCCASIONALLY FLOODED-----	0-6	Fine sandy loam	SC-SM, SM	A-4	0	0	95-100	95-100	70-100	30-50	15-26	NP-8
	6-16	Fine sandy loam	SC-SM, SM	A-4	0	0	95-100	95-100	70-100	30-50	15-26	NP-8
	16-50	Sandy loam	SM, SC-SM	A-2-4	0	0	95-100	75-100	60-100	20-50	15-28	NP-9
8120: Yutan-----	50-60	Stratified sandy loam to fine sandy loam to loamy sand to loam	SM	A-2-4	0	0	95-100	95-100	70-100	15-40	15-30	NP-11
	0-6	Silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	90-100	44-48	22-25
	6-13	Silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	90-100	42-50	21-27
	13-20	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	90-100	38-44	17-22
	20-27	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	90-100	38-44	17-22
	27-32	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	90-100	38-44	17-22
	32-43	Silty clay loam	CL	A-6	0	0	100	100	95-100	90-100	34-42	14-21
	43-63	Silt loam	CL	A-6	0	0	100	100	95-100	85-100	30-36	11-16
	63-80	Silt loam	CL	A-6	0	0	100	100	95-100	85-100	30-36	11-16

ENGINEERING INDEX PROPERTIES--Continued  
Saunders County, Nebraska

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

Map symbol and soil name	Depth In	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit Pct	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
8124: Yutan-----	0-6	Silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	90-100	44-48	22-25
	6-13	Silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	90-100	42-50	21-27
	13-20	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	90-100	38-44	17-22
	20-27	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	90-100	38-44	17-22
	27-32	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	90-100	38-44	17-22
	32-43	Silty clay loam	CL	A-6	0	0	100	100	95-100	90-100	34-42	14-21
	43-63	Silt loam	CL	A-6	0	0	100	100	95-100	85-100	30-36	11-16
	63-80	Silt loam	CL	A-6	0	0	100	100	95-100	85-100	30-36	11-16
8130: Yutan-----	0-6	Silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	90-100	44-48	22-25
	6-13	Silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	90-100	42-50	21-27
	13-20	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	90-100	38-44	17-22
	20-27	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	90-100	38-44	17-22
	27-32	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	90-100	38-44	17-22
	32-43	Silty clay loam	CL	A-6	0	0	100	100	95-100	90-100	34-42	14-21
	43-63	Silt loam	CL	A-6	0	0	100	100	95-100	85-100	30-36	11-16
	63-80	Silt loam	CL	A-6	0	0	100	100	95-100	85-100	30-36	11-16
Aksarben-----	0-6	Silty clay loam	CL	A-6	0	0	100	100	95-100	90-100	36-44	16-22
	6-12	Silty clay loam	CL	A-6	0	0	100	100	95-100	90-100	36-44	16-22
	12-18	Silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	90-100	51-58	29-35
	18-26	Silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	90-100	51-58	29-35
	26-34	Silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	90-100	51-58	29-35
	34-42	Silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	90-100	51-58	29-35
	42-60	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	90-100	43-51	23-29
	60-80	Silt loam	CL	A-6	0	0	100	100	95-100	85-95	36-51	17-29
8134: Yutan-----	0-6	Silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	90-100	44-48	22-25
	6-13	Silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	90-100	42-50	21-27
	13-20	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	90-100	38-44	17-22
	20-27	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	90-100	38-44	17-22
	27-32	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	90-100	38-44	17-22
	32-43	Silty clay loam	CL	A-6	0	0	100	100	95-100	90-100	34-42	14-21
	43-63	Silt loam	CL	A-6	0	0	100	100	95-100	85-100	30-36	11-16
	63-80	Silt loam	CL	A-6	0	0	100	100	95-100	85-100	30-36	11-16
Judson-----	0-6	Silt loam	CL	A-6	0	0	100	100	100	95-100	34-36	14-16
	6-12	Silty clay loam	CL	A-6	0	0	100	100	100	95-100	36-41	16-20
	12-22	Silty clay loam	CL	A-6	0	0	100	100	100	95-100	36-41	16-20
	22-31	Silty clay loam	CL	A-6	0	0	100	100	100	95-100	36-41	16-20
	31-43	Silty clay loam	CL	A-7-6	0	0	100	100	100	95-100	36-44	16-22
	43-54	Silty clay loam	CL	A-7-6	0	0	100	100	100	95-100	36-44	16-22
	54-69	Silty clay loam	CL	A-7-6	0	0	100	100	100	95-100	36-44	16-22
	69-80	Silty clay loam	CL	A-7-6	0	0	100	100	100	95-100	36-44	16-22
9900: Arents, Earthen Dam-----	---	---	---	---	---	---	---	---	---	---	---	---
9985: Pits-----	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
9998: 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-sat). 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 (Kw and Kf) 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 Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf 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	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					

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.

PHYSICAL PROPERTIES OF THE SOILS  
Saunders County, Nebraska: Update

(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
										K	Kf	T		
	In	Pct	Pct	Pct	g/cc	in/hr	In/in	Pct	Pct					
1050: Aksarben-----	0-6	2-20	52	27-35	1.30-1.40	0.60-2.00	0.17-0.23	3.0-5.9	2.0-4.0	.32	.32	5	7	38
	6-12	2-20	52	27-35	1.30-1.40	0.60-2.00	0.17-0.23	3.0-5.9	2.0-4.0	.32	.32			
	12-18	2-10	54	35-42	1.20-1.45	0.20-0.60	0.16-0.18	3.0-5.9	1.0-2.0	.43	.43			
	18-26	2-10	54	35-42	1.20-1.45	0.20-0.60	0.16-0.18	3.0-5.9	1.0-2.0	.43	.43			
	26-34	2-10	54	35-42	1.20-1.45	0.20-0.60	0.16-0.18	3.0-5.9	1.0-2.0	.43	.43			
	34-42	2-10	54	35-42	1.20-1.45	0.20-0.60	0.16-0.18	3.0-5.9	1.0-2.0	.43	.43			
	42-60	2-20	48	27-35	1.30-1.40	0.60-2.00	0.18-0.20	3.0-5.9	0.5-1.0	.43	.43			
	60-80	2-30	52	20-35	1.30-1.40	0.60-2.00	0.18-0.20	3.0-5.9	0.5-1.0	.43	.43			
1100: Alda, OCCASIONALLY FLOODED-----	0-11	52-80	27	2-12	1.40-1.60	0.60-2.00	0.20-0.22	0.0-2.9	2.0-4.0	.28	.28	4	5	56
	11-17	52-80	27	2-12	1.40-1.60	2.00-6.00	0.15-0.17	0.0-2.9	0.5-1.0	.20	.20			
	17-29	52-80	27	2-12	1.40-1.60	2.00-6.00	0.15-0.17	0.0-2.9	0.5-1.0	.20	.20			
	29-34	88-98	6	0-3	1.50-1.70	19.98-19.98	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15			
	34-80	88-98	6	0-3	1.50-1.70	19.98-19.98	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15			
1347: Barney, FREQUENTLY FLOODED-----	0-7	2-20	52	27-35	1.40-1.50	0.60-2.00	0.20-0.24	0.0-2.9	2.0-4.0	.28	.28	5	4L	86
	7-10	26-52	41	10-20	1.40-1.50	0.60-2.00	0.20-0.24	0.0-2.9	2.0-4.0	.28	.28			
	10-30	86-98	1	0-5	1.70-1.90	5.95-19.98	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
	30-80	86-98	6	0-5	1.70-1.90	5.95-19.98	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
1616: Boel, OCCASIONALLY FLOODED-----	0-11	72-88	16	2-12	1.50-1.70	5.95-19.98	0.10-0.12	0.0-2.9	1.0-2.0	.17	.17	5	2	134
	11-15	52-88	27	2-20	1.50-1.60	5.95-19.98	0.05-0.10	0.0-2.9	0.0-0.5	.20	.20			
	15-60			1-6	1.50-1.70	5.95-19.98	0.05-0.10	0.0-2.9	0.0-0.5	.20	.20			
1873: Burchard-----	0-13	20-45	38	27-30	1.25-1.45	0.20-0.60	0.17-0.19	3.0-5.9	2.0-4.0	.28	.28	5	6	48
	13-19	20-45	33	27-35	1.40-1.60	0.20-0.60	0.15-0.17	3.0-5.9	0.5-1.0	.37	.37			
	19-29	20-45	38	24-30	1.40-1.60	0.20-0.60	0.15-0.17	3.0-5.9	0.5-1.0	.37	.37			
	29-37	20-45	38	24-30	1.40-1.60	0.20-0.60	0.15-0.17	3.0-5.9	0.5-1.0	.37	.37			
	37-60	20-45	38	24-30	1.55-1.65	0.20-0.60	0.14-0.16	3.0-5.9	0.0-0.5	.37	.37			
Steinauer-----	0-6	20-45	36	27-32	1.20-1.35	0.20-0.60	0.19-0.22	3.0-5.9	0.5-2.0	.32	.32	5	4L	86
	6-15	20-45	36	27-32	1.30-1.50	0.20-0.60	0.17-0.19	3.0-5.9	0.5-1.0	.37	.37			
	15-41	20-52	36	24-35	1.30-1.65	0.20-0.60	0.16-0.19	3.0-5.9	0.0-0.5	.37	.37			
	41-60	20-52	36	24-35	1.30-1.65	0.20-0.60	0.16-0.19	3.0-5.9	0.0-0.5	.37	.37			
1879: Burchard-----	0-13	20-45	38	27-30	1.25-1.45	0.20-0.60	0.17-0.19	3.0-5.9	2.0-4.0	.28	.28	5	6	48
	13-19	20-45	33	27-35	1.40-1.60	0.20-0.60	0.15-0.17	3.0-5.9	0.5-1.0	.37	.37			
	19-29	20-45	38	24-30	1.40-1.60	0.20-0.60	0.15-0.17	3.0-5.9	0.5-1.0	.37	.37			
	29-37	20-45	38	24-30	1.40-1.60	0.20-0.60	0.15-0.17	3.0-5.9	0.5-1.0	.37	.37			
	37-60	20-45	38	24-30	1.55-1.65	0.20-0.60	0.14-0.16	3.0-5.9	0.0-0.5	.37	.37			
Steinauer-----	0-6	20-45	36	27-32	1.20-1.35	0.20-0.60	0.19-0.22	3.0-5.9	0.5-2.0	.32	.32	5	4L	86
	6-15	20-45	36	27-32	1.30-1.50	0.20-0.60	0.17-0.19	3.0-5.9	0.5-1.0	.37	.37			
	15-41	20-52	36	24-35	1.30-1.65	0.20-0.60	0.16-0.19	3.0-5.9	0.0-0.5	.37	.37			
	41-60	20-52	36	24-35	1.30-1.65	0.20-0.60	0.16-0.19	3.0-5.9	0.0-0.5	.37	.37			
2420: Deroin, SEVERELY ERODED-----	0-7	5-20	59	27-40	1.20-1.40	0.20-0.60	0.21-0.23	3.0-5.9	1.0-3.0	.37	.37	4	7	38
	7-12	5-30	59	27-35	1.35-1.45	0.20-0.60	0.17-0.20	3.0-5.9	0.0-1.0	.43	.43			
	12-18	5-30	59	27-35	1.35-1.45	0.20-0.60	0.17-0.20	3.0-5.9	0.0-1.0	.43	.43			
	18-40	5-30	59	27-35	1.35-1.45	0.20-0.60	0.17-0.20	3.0-5.9	0.0-1.0	.43	.43			
	40-50	10-45	63	24-32	1.30-1.50	0.20-0.60	0.16-0.20	3.0-5.9	0.0-0.5	.43	.43			
	50-80	10-45	63	24-32	1.30-1.50	0.20-0.60	0.16-0.20	3.0-5.9	0.0-0.5	.43	.43			
2830: Filbert-----	0-5	2-20	52	18-27	1.20-1.40	0.60-2.00	0.22-0.24	3.0-5.9	2.0-4.0	.37	.37	3	6	48
	5-7	2-20	52	18-27	1.20-1.40	0.60-2.00	0.22-0.24	3.0-5.9	2.0-4.0	.37	.37			
	7-12	2-20	54	14-20	1.20-1.40	0.60-2.00	0.22-0.24	3.0-5.9	1.0-2.0	.37	.37			
	12-15	2-20	54	14-20	1.20-1.40	0.60-2.00	0.22-0.24	3.0-5.9	1.0-2.0	.37	.37			
	15-25	2-15	45	45-55	1.10-1.20	0.00-0.06	0.11-0.13	6.0-8.9	0.5-1.0	.37	.37			
	25-36	2-15	45	45-55	1.10-1.20	0.00-0.06	0.11-0.13	6.0-8.9	0.5-1.0	.37	.37			
	36-43	2-15	45	45-55	1.10-1.20	0.00-0.06	0.11-0.13	6.0-8.9	0.5-1.0	.37	.37			
	43-53	2-15	45	45-55	1.10-1.20	0.00-0.06	0.11-0.13	6.0-8.9	0.5-1.0	.37	.37			
	53-62	2-15	45	45-55	1.10-1.20	0.00-0.06	0.11-0.13	6.0-8.9	0.5-1.0	.37	.37			
	62-80	2-10	54	35-45	1.10-1.25	0.00-0.06	0.11-0.13	6.0-8.9	0.5-1.0	.37	.37			
2844: Fillmore-----	0-7	2-20	52	18-27	1.20-1.40	0.60-2.00	0.21-0.24	0.0-2.9	2.0-4.0	.37	.37	3	6	48
	7-14	2-20	52	18-27	1.20-1.40	0.60-2.00	0.21-0.24	0.0-2.9	2.0-4.0	.37	.37			
	14-22	2-20	54	14-20	1.20-1.40	0.60-2.00	0.21-0.24	0.0-2.9	0.5-1.0	.37	.37			
	22-30	2-15	28	45-55	1.10-1.30	0.00-0.06	0.11-0.14	6.0-8.9	1.0-2.0	.37	.37			
	30-42	2-15	28	45-55	1.10-1.30	0.00-0.06	0.11-0.14	6.0-8.9	1.0-2.0	.37	.37			
	42-54	2-15	28	45-55	1.10-1.30	0.00-0.06	0.11-0.14	6.0-8.9	1.0-2.0	.37	.37			
	54-62	2-15	28	45-55	1.10-1.30	0.00-0.06	0.11-0.14	6.0-8.9	1.0-2.0	.37	.37			
	62-80	2-15	28	45-55	1.10-1.30	0.00-0.06	0.11-0.14	6.0-8.9	1.0-2.0	.37	.37			
2863: Fluvaquents--	0-20	2-12	50	35-60	1.00-1.40	0.06-0.20	0.13-0.17	3.0-5.9	2.0-8.0	.32	.32	5	8	0
	20-80			---	---	0.01-20.00	0.16-0.22	---	---	---	---			

PHYSICAL PROPERTIES OF THE SOILS  
Saunders County, Nebraska: Update

(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
										K	Kf	T		
	In	Pct	Pct	Pct	g/cc	in/hr	In/in	Pct	Pct					
3025: Gibbon, OCCASIONALLY FLOODED-----	0-5	2-12	67	20-27	1.20-1.40	0.60-2.00	0.21-0.23	0.0-2.9	2.0-4.0	.32	.32	5	4L	86
	5-19	2-12	67	20-27	1.20-1.40	0.60-2.00	0.21-0.23	0.0-2.9	2.0-4.0	.32	.32			
	19-24	2-12	67	20-27	1.20-1.40	0.60-2.00	0.21-0.23	0.0-2.9	1.0-3.0	.32	.32			
	24-30	2-12	67	20-27	1.30-1.50	0.60-2.00	0.18-0.22	3.0-5.9	0.5-1.0	.32	.32			
	30-42	2-55		20-27	1.40-1.60	0.57-2.00	0.18-0.22	0.0-2.9	0.5-1.0	.32	.32			
42-60	2-12		20-27	1.40-1.60	0.57-2.00	0.18-0.22	0.0-2.9	0.5-1.0	.32	.32				
3038: Gibbon, OCCASIONALLY FLOODED-----	0-5	2-12	67	20-27	1.20-1.40	0.60-2.00	0.21-0.23	0.0-2.9	2.0-4.0	.32	.32	5	4L	86
	5-19	2-12	67	20-27	1.20-1.40	0.60-2.00	0.21-0.23	0.0-2.9	2.0-4.0	.32	.32			
	19-24	2-12	67	20-27	1.20-1.40	0.60-2.00	0.21-0.23	0.0-2.9	1.0-3.0	.32	.32			
	24-30	2-12	67	20-27	1.30-1.50	0.60-2.00	0.18-0.22	3.0-5.9	0.5-1.0	.32	.32			
	30-42	2-12		20-27	1.40-1.60	0.57-2.00	0.18-0.22	0.0-2.9	0.5-1.0	.32	.32			
42-60	2-12		20-27	1.40-1.60	0.57-2.00	0.18-0.22	0.0-2.9	0.5-1.0	.32	.32				
Saltine, OCCASIONALLY FLOODED-----	0-7	2-10	61	27-35	1.20-1.30	0.20-0.60	0.17-0.23	6.0-8.9	0.5-2.0	.37	.37	5	4L	86
	7-12	2-10	63	18-40	1.20-1.30	0.60-2.00	0.17-0.22	3.0-5.9	0.0-0.5	.43	.43			
	12-30	2-10	63	18-40	1.20-1.30	0.60-2.00	0.17-0.22	3.0-5.9	0.0-0.5	.43	.43			
	30-48	2-12	56	20-45	1.30-1.40	0.20-0.60	0.10-0.22	6.0-8.9	0.0-0.5	.43	.43			
	48-55	5-75	63	20-40	1.40-1.50	0.20-2.00	0.18-0.22	3.0-5.9	0.0-0.5	.43	.43			
55-60	5-75	63	20-40	1.40-1.50	0.20-2.00	0.18-0.22	3.0-5.9	0.0-0.5	.43	.43				
3421: Hedville-----	0-10	40-80	43	8-20	1.30-1.50	0.60-2.00	0.14-0.18	0.0-2.9	1.0-4.0	.20	.20	2	5	56
	10-16	26-88	39	6-20	1.45-1.65	0.60-2.00	0.14-0.18	0.0-2.9	1.0-4.0	.28	.28			
	16-22					0.06-0.20								
3830: Ida, 30-60% slopes-----	0-4	2-12	67	18-25	1.20-1.30	0.60-2.00	0.20-0.22	0.0-2.9	2.0-3.0	.32	.32	5	4L	86
	4-8	2-12	67	18-25	1.20-1.30	0.60-2.00	0.20-0.22	0.0-2.9	0.0-0.5	.43	.43			
	8-18	2-12	67	18-25	1.20-1.30	0.60-2.00	0.20-0.22	0.0-2.9	0.0-0.5	.43	.43			
	18-40	2-12	67	18-25	1.20-1.30	0.60-2.00	0.20-0.22	0.0-2.9	0.0-0.5	.43	.43			
	40-60	2-12	67	18-25	1.20-1.30	0.60-2.00	0.20-0.22	0.0-2.9	0.0-0.5	.43	.43			
Steinauer----	0-6	20-45	36	27-32	1.20-1.35	0.20-0.60	0.19-0.22	3.0-5.9	0.5-2.0	.32	.32	5	4L	86
	6-15	20-45	36	27-32	1.30-1.50	0.20-0.60	0.17-0.19	3.0-5.9	0.5-1.0	.37	.37			
	15-41	20-52	36	24-35	1.30-1.65	0.20-0.60	0.16-0.19	3.0-5.9	0.0-0.5	.37	.37			
	41-60	20-52	36	24-35	1.30-1.65	0.20-0.60	0.16-0.19	3.0-5.9	0.0-0.5	.37	.37			
3890: Inglewood, RARELY FLOODED-----	0-5	72-88	16	2-10	1.45-1.65	5.95-19.98	0.10-0.12	0.0-2.9	0.5-1.0	.17	.17	5	2	134
	5-22	70-95		1-8	1.45-1.65	5.95-19.98	0.07-0.18	0.0-2.9	0.0-0.5	.17	.17			
	22-30	70-95		1-8	1.45-1.65	5.95-19.98	0.07-0.18	0.0-2.9	0.0-0.5	.17	.17			
	30-40	70-95		1-8	1.45-1.65	5.95-19.98	0.07-0.18	0.0-2.9	0.0-0.5	.17	.17			
	40-50	85-99	2	0-5	1.50-1.70	5.95-19.98	0.07-0.12	0.0-2.9	0.0-0.5	.17	.17			
50-80	85-99	2	0-5	1.50-1.70	5.95-19.98	0.07-0.12	0.0-2.9	0.0-0.5	.17	.17				
4104: Judson-----	0-6	2-10	65	24-27	1.20-1.40	0.60-2.00	0.21-0.23	0.0-2.9	2.0-4.0	.28	.28	5	6	48
	6-12	2-10	63	27-32	1.25-1.45	0.60-2.00	0.21-0.23	3.0-5.9	2.0-4.0	.28	.28			
	12-22	2-10	63	27-32	1.25-1.45	0.60-2.00	0.21-0.23	3.0-5.9	2.0-4.0	.28	.28			
	22-31	2-10	63	27-32	1.25-1.45	0.60-2.00	0.21-0.23	3.0-5.9	2.0-4.0	.28	.28			
	31-43	2-10	61	27-35	1.25-1.45	0.60-2.00	0.21-0.23	3.0-5.9	1.0-3.0	.43	.43			
	43-54	2-10	61	27-35	1.25-1.45	0.60-2.00	0.21-0.23	3.0-5.9	0.5-2.0	.43	.43			
	54-69	2-10	61	27-35	1.25-1.45	0.60-2.00	0.21-0.23	3.0-5.9	0.5-2.0	.43	.43			
	69-80	2-10	61	27-35	1.25-1.45	0.60-2.00	0.21-0.23	3.0-5.9	0.5-2.0	.43	.43			
4106: Judson-----	0-6	2-10	65	24-27	1.20-1.40	0.60-2.00	0.21-0.23	0.0-2.9	2.0-4.0	.28	.28	5	6	48
	6-12	2-10	63	27-32	1.25-1.45	0.60-2.00	0.21-0.23	3.0-5.9	2.0-4.0	.28	.28			
	12-22	2-10	63	27-32	1.25-1.45	0.60-2.00	0.21-0.23	3.0-5.9	2.0-4.0	.28	.28			
	22-31	2-10	63	27-32	1.25-1.45	0.60-2.00	0.21-0.23	3.0-5.9	2.0-4.0	.28	.28			
	31-43	2-10	61	27-35	1.25-1.45	0.60-2.00	0.21-0.23	3.0-5.9	1.0-3.0	.43	.43			
4250: Kenridge, OCCASIONALLY FLOODED-----	0-8	2-10	63	27-32	1.20-1.40	0.20-0.60	0.21-0.23	3.0-5.9	2.0-4.0	.28	.28	5	7	38
	8-20	2-10	63	27-32	1.20-1.40	0.20-0.60	0.21-0.23	3.0-5.9	2.0-4.0	.28	.28			
	20-36	2-10	61	27-35	1.25-1.45	0.20-0.60	0.18-0.20	3.0-5.9	1.0-4.0	.32	.32			
	36-46	2-10	61	27-35	1.25-1.45	0.20-0.60	0.18-0.20	3.0-5.9	1.0-4.0	.32	.32			
	46-60	2-10	61	27-35	1.25-1.45	0.20-0.60	0.18-0.20	3.0-5.9	1.0-4.0	.32	.32			
60-80	2-10	61	27-35	1.25-1.45	0.20-0.60	0.14-0.16	3.0-5.9	0.5-1.0	.37	.37				
4404: Lamo, OCCASIONALLY FLOODED-----	0-5	2-10	66	18-35	1.10-1.30	0.20-0.60	0.19-0.23	3.0-5.9	2.0-4.0	.32	.32	5	4L	86
	5-25	2-10	66	18-35	1.10-1.30	0.20-0.60	0.19-0.23	3.0-5.9	2.0-4.0	.32	.32			
	25-36	2-10	66	18-35	1.25-1.45	0.20-0.60	0.19-0.23	3.0-5.9	1.0-3.0	.32	.32			
	36-44	2-10	63	25-35	1.25-1.45	0.20-0.60	0.18-0.22	3.0-5.9	0.5-1.0	.43	.43			
	44-60	2-10	63	25-35	1.25-1.45	0.20-0.60	0.18-0.22	3.0-5.9	0.5-1.0	.43	.43			

PHYSICAL PROPERTIES OF THE SOILS  
Saunders County, Nebraska: Update

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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
										K	Kf	T		
	In	Pct	Pct	Pct	g/cc	in/hr	In/in	Pct	Pct					
4583: Lex, OCCASIONALLY FLOODED-----	0-7	20-52	37	15-35	1.25-1.45	0.60-2.00	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	4	4L	86
	7-17	20-52	40	15-35	1.25-1.45	0.60-2.00	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28			
	17-19	20-52	37	15-35	1.25-1.45	0.60-2.00	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28			
	19-27	26-80		18-32	1.30-1.70	0.20-2.00	0.15-0.22	0.0-2.9	0.5-1.0	.37	.37			
	27-60	88-98	6	1-5	1.55-1.75	19.98-19.98	0.02-0.06	0.0-2.9	0.0-0.5	.05	.10			
4853: Malcolm-----	0-7	2-12	67	18-27	1.20-1.30	0.60-2.00	0.22-0.24	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	7-12	2-12	61	24-35	1.30-1.40	0.60-2.00	0.18-0.22	3.0-5.9	0.5-2.0	.43	.43			
	12-20	2-12	61	24-35	1.30-1.40	0.60-2.00	0.18-0.22	3.0-5.9	0.5-2.0	.43	.43			
	20-28	2-12	65	24-35	1.30-1.40	0.60-2.00	0.18-0.22	3.0-5.9	0.5-2.0	.43	.43			
	28-60	8-70	69	7-27	1.35-1.45	0.60-2.00	0.17-0.22	0.0-2.9	0.0-0.5	.43	.43			
4860: Malmo, SEVERELY ERODED-----	0-6	20-45	32	35-40	1.35-1.45	0.06-0.20	0.17-0.19	6.0-8.9	1.0-3.0	.37	.37	4	4	86
	6-15	20-50	30	35-50	1.20-1.40	0.01-0.06	0.10-0.14	6.0-8.9	0.5-1.0	.32	.32			
	15-25	20-50	30	35-50	1.20-1.40	0.01-0.06	0.10-0.14	6.0-8.9	0.5-1.0	.32	.32			
	25-39	20-50	30	35-50	1.20-1.40	0.01-0.06	0.10-0.14	6.0-8.9	0.5-1.0	.32	.32			
	39-43	20-50	30	35-50	1.30-1.50	0.01-0.06	0.10-0.14	6.0-8.9	0.5-1.0	.28	.32			
	43-54	20-45	32	20-45	1.40-1.60	0.06-0.20	0.09-0.17	3.0-5.9	0.5-1.0	.32	.32			
	54-80	20-50	37	20-45	1.45-1.65	0.06-0.20	0.09-0.19	3.0-5.9	0.1-0.5	.32	.32			
	0-6	26-52	37	15-27	1.30-1.65	0.60-2.00	0.15-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
6-12	20-52	38	18-35	1.30-1.40	0.60-2.00	0.14-0.21	0.0-2.9	1.0-2.0	.28	.28				
12-22	20-75	38	18-35	1.40-1.60	0.60-2.00	0.15-0.19	3.0-6.0	0.5-1.0	.32	.32				
22-30	20-75	18	18-35	1.40-1.60	0.20-0.60	0.15-0.19	3.0-6.0	0.5-1.0	.32	.32				
30-35	20-75	18	18-35	1.40-1.60	0.20-0.60	0.15-0.19	3.0-6.0	0.5-1.0	.32	.32				
35-43	20-75	18	18-35	1.40-1.60	0.20-0.60	0.15-0.19	3.0-6.0	0.5-1.0	.32	.32				
43-52	20-80	26	2-35	1.35-1.45	2.00-6.00	0.13-0.15	0.0-2.9	0.0-0.5	.24	.24				
52-59	25-98	26	1-30	1.50-1.70	2.00-6.00	0.05-0.16	0.0-2.9	0.0-0.5	.15	.17				
59-73	25-98	16	1-30	1.50-1.70	2.00-6.00	0.05-0.16	0.0-2.9	0.0-0.5	.15	.17				
73-80	25-98	2	1-30	1.50-1.70	2.00-6.00	0.05-0.16	0.0-2.9	0.0-0.5	.15	.17				
5480: Muscotah, OCCASIONALLY FLOODED-----	0-9	2-8	48	27-40	1.30-1.40	0.20-0.60	0.21-0.23	3.0-5.9	2.0-4.0	.37	.37	5	7	38
	9-16	2-8	48	27-40	1.30-1.40	0.20-0.60	0.21-0.23	3.0-5.9	2.0-4.0	.37	.37			
	16-23	2-8	48	27-40	1.30-1.40	0.20-0.60	0.21-0.23	3.0-5.9	2.0-4.0	.37	.37			
	23-35	2-8	50	35-50	1.20-1.30	0.06-0.20	0.11-0.20	6.0-8.9	1.0-2.0	.28	.28			
	35-44	2-8	50	35-50	1.20-1.30	0.06-0.20	0.11-0.20	6.0-8.9	1.0-2.0	.28	.28			
	44-60	2-8	50	35-50	1.20-1.30	0.06-0.20	0.11-0.20	6.0-8.9	1.0-2.0	.28	.28			
	60-70	2-8	50	35-50	1.20-1.30	0.01-0.06	0.10-0.20	6.0-8.9	0.5-1.0	.28	.28			
	70-80	2-8	50	35-50	1.20-1.30	0.01-0.06	0.10-0.20	6.0-8.9	0.5-1.0	.28	.28			
	0-7	2-10	67	18-27	1.25-1.35	0.60-2.00	0.20-0.23	0.0-2.9	2.0-3.0	.32	.32	5	6	48
7-14	2-10		18-28	1.25-1.35	0.60-2.00	0.20-0.23	3.0-5.9	0.0-0.5	.43	.43				
14-45	2-10		18-28	1.25-1.35	0.60-2.00	0.20-0.23	3.0-5.9	0.0-0.5	.43	.43				
45-60	2-10		18-28	1.25-1.35	0.60-2.00	0.20-0.23	3.0-5.9	0.0-0.5	.43	.43				
5541: Nodaway, CHANNELED---	0-7	2-10	67	18-27	1.25-1.35	0.60-2.00	0.20-0.23	0.0-2.9	2.0-3.0	.32	.32	5	6	48
	7-14	2-10		18-28	1.25-1.35	0.60-2.00	0.20-0.23	3.0-5.9	0.0-0.5	.43	.43			
	14-45	2-10		18-28	1.25-1.35	0.60-2.00	0.20-0.23	3.0-5.9	0.0-0.5	.43	.43			
	45-60	2-10		18-28	1.25-1.35	0.60-2.00	0.20-0.23	3.0-5.9	0.0-0.5	.43	.43			
5736: Obert, FREQUENTLY FLOODED-----	0-12	2-10	61	27-35	1.20-1.30	0.20-0.60	0.21-0.23	6.0-8.9	2.0-4.0	.28	.28	5	8	0
	12-24	2-12	63	18-35	1.25-1.45	0.20-0.60	0.18-0.20	6.0-8.9	1.0-2.0	.32	.32			
	24-60	2-50		18-35	1.25-1.45	0.20-2.00	0.17-0.20	3.0-5.9	0.5-1.0	.43	.43			
5742: Obert, OCCASIONALLY FLOODED-----	0-12	2-10	61	27-35	1.20-1.30	0.20-0.60	0.21-0.23	6.0-8.9	2.0-4.0	.28	.28	5	8	0
	12-24	2-12	63	18-35	1.25-1.45	0.20-0.60	0.18-0.20	6.0-8.9	1.0-2.0	.32	.32			
	24-60	2-50		18-35	1.25-1.45	0.20-2.00	0.17-0.20	3.0-5.9	0.5-1.0	.43	.43			
5780: Olmitt-----	0-6	26-52	36	18-27	1.25-1.45	0.60-2.00	0.19-0.21	3.0-5.9	3.0-4.0	.24	.24	5	6	48
	6-22	20-45	36	27-32	1.30-1.50	0.60-2.00	0.19-0.21	3.0-5.9	2.0-3.0	.28	.28			
	22-32	20-45	36	27-32	1.30-1.50	0.60-2.00	0.19-0.21	3.0-5.9	2.0-3.0	.28	.28			
	32-40	20-45	36	27-32	1.30-1.50	0.60-2.00	0.15-0.17	3.0-5.9	1.0-2.0	.28	.28			
	40-52	20-45	36	27-32	1.30-1.50	0.60-2.00	0.15-0.17	3.0-5.9	1.0-2.0	.28	.28			
	52-60	20-45	33	27-34	1.30-1.50	0.60-2.00	0.15-0.17	3.0-5.9	1.0-2.0	.28	.28			

PHYSICAL PROPERTIES OF THE SOILS  
Saunders County, Nebraska: Update

(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
										K	Kf	T		
	In	Pct	Pct	Pct	g/cc	in/hr	In/in	Pct	Pct					
6046: Pawnee-----	0-6	20-45	32	27-40	1.30-1.60	0.20-0.60	0.17-0.19	3.0-5.9	2.0-4.0	.37	.37	5	6	48
	6-10	20-45	33	27-40	1.30-1.60	0.20-0.60	0.17-0.19	3.0-5.9	2.0-3.0	.37	.37			
	10-14	20-45	32	27-40	1.30-1.60	0.06-0.20	0.17-0.19	3.0-5.9	2.0-3.0	.37	.37			
	14-24	15-45	30	40-50	1.30-1.60	0.01-0.06	0.09-0.11	6.0-8.9	1.0-2.0	.37	.37			
	24-32	15-45	30	40-50	1.30-1.60	0.01-0.06	0.09-0.11	6.0-8.9	1.0-2.0	.37	.37			
	32-45	15-45	30	40-50	1.30-1.60	0.01-0.06	0.09-0.11	6.0-8.9	1.0-2.0	.37	.37			
	45-53	15-45	30	40-50	1.40-1.70	0.01-0.06	0.09-0.11	6.0-8.9	0.5-1.0	.37	.37			
	53-80	20-75	33	15-40	1.40-1.70	0.06-0.20	0.14-0.16	6.0-8.9	0.0-0.5	.37	.37			
	6130: Platte, OCCASIONALLY FLOODED-----	0-5	52-80	26	5-15	1.45-1.65	2.00-6.00	0.16-0.18	0.0-2.9	1.0-3.0	.20	.20	3	3
5-8		52-80	26	5-15	1.45-1.65	2.00-6.00	0.16-0.18	0.0-2.9	1.0-3.0	.20	.20			
8-16		52-80	26	5-15	1.45-1.65	2.00-6.00	0.16-0.18	0.0-2.9	1.0-3.0	.20	.20			
6138: Platte, FREQUENTLY FLOODED-----	0-5	52-80	26	5-15	1.45-1.65	2.00-6.00	0.16-0.18	0.0-2.9	1.0-3.0	.20	.20	3	3	86
	5-8	52-80	26	5-15	1.45-1.65	2.00-6.00	0.16-0.18	0.0-2.9	1.0-3.0	.20	.20			
	8-16	52-80	26	5-15	1.45-1.65	2.00-6.00	0.16-0.18	0.0-2.9	1.0-3.0	.20	.20			
Barney, FREQUENTLY FLOODED, CHANNELED----	0-7	2-20	52	27-35	1.40-1.50	0.60-2.00	0.20-0.24	0.0-2.9	2.0-4.0	.28	.28	5	4L	86
	7-10	26-52	41	10-20	1.40-1.50	0.60-2.00	0.20-0.24	0.0-2.9	2.0-4.0	.28	.28			
	10-30	86-98	1	0-5	1.70-1.90	5.95-19.98	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
6160: Pohocco-----	0-6	2-10	63	27-35	1.35-1.40	0.60-2.00	0.21-0.23	3.0-5.9	0.5-2.0	.37	.37	5	7	38
	6-15	2-12	65	20-35	1.35-1.45	0.60-2.00	0.18-0.22	3.0-5.9	0.5-1.0	.43	.43			
	15-20	2-12	65	20-35	1.35-1.45	0.60-2.00	0.18-0.22	3.0-5.9	0.5-1.0	.43	.43			
6162: Pohocco-----	0-6	2-10	63	27-35	1.35-1.40	0.60-2.00	0.21-0.23	3.0-5.9	0.5-2.0	.37	.37	5	7	38
	6-15	2-12	65	20-35	1.35-1.45	0.60-2.00	0.18-0.22	3.0-5.9	0.5-1.0	.43	.43			
	15-20	2-12	65	20-35	1.35-1.45	0.60-2.00	0.18-0.22	3.0-5.9	0.5-1.0	.43	.43			
6170: Pohocco-----	0-6	2-10	63	27-35	1.35-1.40	0.60-2.00	0.21-0.23	3.0-5.9	0.5-2.0	.37	.37	5	7	38
	6-15	2-12	65	20-35	1.35-1.45	0.60-2.00	0.18-0.22	3.0-5.9	0.5-1.0	.43	.43			
	15-20	2-12	65	20-35	1.35-1.45	0.60-2.00	0.18-0.22	3.0-5.9	0.5-1.0	.43	.43			
Pahuk-----	0-6	72-88	7	2-12	1.35-1.55	5.95-19.98	0.10-0.12	0.0-2.9	0.5-1.0	.17	.17	5	2	134
	6-14	72-95	7	1-12	1.45-1.65	5.95-19.98	0.06-0.10	0.0-2.9	0.0-0.5	.17	.17			
	14-40	72-98	1	0-8	1.50-1.70	5.95-19.98	0.05-0.07	0.0-2.9	0.0-0.5	.15	.15			
6172: Pohocco-----	0-6	2-10	63	27-35	1.35-1.40	0.60-2.00	0.21-0.23	3.0-5.9	0.5-2.0	.37	.37	5	7	38
	6-15	2-12	65	20-35	1.35-1.45	0.60-2.00	0.18-0.22	3.0-5.9	0.5-1.0	.43	.43			
	15-20	2-12	65	20-35	1.35-1.45	0.60-2.00	0.18-0.22	3.0-5.9	0.5-1.0	.43	.43			
Pahuk-----	0-6	72-88	7	2-12	1.35-1.55	5.95-19.98	0.10-0.12	0.0-2.9	0.5-1.0	.17	.17	5	2	134
	6-14	72-95	7	1-12	1.45-1.65	5.95-19.98	0.06-0.10	0.0-2.9	0.0-0.5	.17	.17			
	14-40	72-98	1	0-8	1.50-1.70	5.95-19.98	0.05-0.07	0.0-2.9	0.0-0.5	.15	.15			
6520: Saltillo, OCCASIONALLY FLOODED-----	0-6	2-12	67	15-27	1.30-1.40	0.60-2.00	0.20-0.24	0.0-2.9	0.5-2.0	.37	.37	5	8	0
	6-17	2-10	61	18-40	1.25-1.45	0.60-2.00	0.17-0.22	3.0-5.9	0.0-0.5	.43	.43			
	17-32	2-10	61	18-40	1.30-1.50	0.60-2.00	0.17-0.22	3.0-5.9	0.0-0.5	.43	.43			
6791: Scott-----	0-6	2-20	52	18-27	1.25-1.40	0.60-2.00	0.21-0.24	0.0-2.9	2.0-4.0	.37	.37	3	6	48
	6-18	2-20	54	18-27	1.25-1.40	0.60-2.00	0.21-0.24	0.0-2.9	0.5-1.0	.37	.37			
	18-28	2-10	47	40-55	1.20-1.40	0.01-0.06	0.08-0.16	6.0-8.9	1.0-2.0	.37	.37			
7069: Steinauer----	0-6	20-45	36	27-32	1.20-1.35	0.20-0.60	0.19-0.22	3.0-5.9	0.5-2.0	.32	.32	5	4L	86
	6-15	20-45	36	27-32	1.30-1.50	0.20-0.60	0.17-0.19	3.0-5.9	0.5-1.0	.37	.37			
	15-41	20-52	36	24-35	1.30-1.65	0.20-0.60	0.16-0.19	3.0-5.9	0.0-0.5	.37	.37			

PHYSICAL PROPERTIES OF THE SOILS  
Saunders County, Nebraska: Update

(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
										K	Kf	T		
	In	Pct	Pct	Pct	g/cc	in/hr	In/in	Pct	Pct					
7290: Tomek-----	0-11	24	52	20-27	1.20-1.40	0.60-2.00	0.22-0.24	3.0-5.9	2.0-4.0	.32	.32	5	6	48
	11-19	20	52	20-35	1.20-1.40	0.20-2.00	0.18-0.20	3.0-5.9	2.0-4.0	.43	.43			
	19-54	8	55	35-40	1.30-1.45	0.20-0.60	0.16-0.18	3.0-5.9	1.0-3.0	.43	.43			
	54-80	18	52	25-35	1.20-1.40	0.20-0.60	0.18-0.22	3.0-5.9	0.5-1.0	.43	.43			
7920: Wann, OCCASIONALLY FLOODED-----	0-6	52-80	27	4-15	1.45-1.65	2.00-6.00	0.13-0.18	0.0-2.9	1.0-3.0	.20	.20	5	3	86
	6-16	52-80	27	4-15	1.45-1.65	2.00-6.00	0.13-0.18	0.0-2.9	1.0-3.0	.20	.20			
	16-50	52-80	30	3-18	1.45-1.65	2.00-6.00	0.11-0.17	0.0-2.9	0.5-1.0	.28	.28			
	50-60	26-88		3-20	1.50-1.70	2.00-6.00	0.05-0.17	0.0-2.9	0.0-0.5	.15	.15			
8120: Yutan-----	0-6	2-10	54	35-40	1.20-1.40	0.20-0.60	0.16-0.19	3.0-5.9	0.5-2.0	.37	.37	5	4	86
	6-13	2-10	54	33-42	1.25-1.45	0.20-0.60	0.16-0.19	3.0-5.9	0.5-1.0	.43	.43			
	13-20	2-10	61	27-35	1.25-1.45	0.20-0.60	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43			
	20-27	2-10	61	27-35	1.25-1.45	0.20-0.60	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43			
	27-32	2-10	61	27-35	1.25-1.45	0.20-0.60	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43			
	32-43	2-12	63	24-33	1.25-1.45	0.60-2.00	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
	43-63	2-12	67	20-27	1.30-1.50	0.60-2.00	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
	63-80	2-12	67	20-27	1.30-1.50	0.60-2.00	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
8124: Yutan-----	0-6	2-10	54	35-40	1.20-1.40	0.20-0.60	0.16-0.19	3.0-5.9	0.5-2.0	.37	.37	5	4	86
	6-13	2-10	54	33-42	1.25-1.45	0.20-0.60	0.16-0.19	3.0-5.9	0.5-1.0	.43	.43			
	13-20	2-10	61	27-35	1.25-1.45	0.20-0.60	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43			
	20-27	2-10	61	27-35	1.25-1.45	0.20-0.60	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43			
	27-32	2-10	61	27-35	1.25-1.45	0.20-0.60	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43			
	32-43	2-12	63	24-33	1.25-1.45	0.60-2.00	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
	43-63	2-12	67	20-27	1.30-1.50	0.60-2.00	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
	63-80	2-12	67	20-27	1.30-1.50	0.60-2.00	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
8130: Yutan-----	0-6	2-10	54	35-40	1.20-1.40	0.20-0.60	0.16-0.19	3.0-5.9	0.5-2.0	.37	.37	5	4	86
	6-13	2-10	54	33-42	1.25-1.45	0.20-0.60	0.16-0.19	3.0-5.9	0.5-1.0	.43	.43			
	13-20	2-10	61	27-35	1.25-1.45	0.20-0.60	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43			
	20-27	2-10	61	27-35	1.25-1.45	0.20-0.60	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43			
	27-32	2-10	61	27-35	1.25-1.45	0.20-0.60	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43			
	32-43	2-12	63	24-33	1.25-1.45	0.60-2.00	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
	43-63	2-12	67	20-27	1.30-1.50	0.60-2.00	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
	63-80	2-12	67	20-27	1.30-1.50	0.60-2.00	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
Aksarben-----	0-6	2-20	52	27-35	1.30-1.40	0.60-2.00	0.17-0.23	3.0-5.9	2.0-4.0	.32	.32	5	7	38
	6-12	2-20	52	27-35	1.30-1.40	0.60-2.00	0.17-0.23	3.0-5.9	2.0-4.0	.32	.32			
	12-18	2-10	54	35-42	1.20-1.45	0.20-0.60	0.16-0.18	3.0-5.9	1.0-2.0	.43	.43			
	18-26	2-10	54	35-42	1.20-1.45	0.20-0.60	0.16-0.18	3.0-5.9	1.0-2.0	.43	.43			
	26-34	2-10	54	35-42	1.20-1.45	0.20-0.60	0.16-0.18	3.0-5.9	1.0-2.0	.43	.43			
	34-42	2-10	54	35-42	1.20-1.45	0.20-0.60	0.16-0.18	3.0-5.9	1.0-2.0	.43	.43			
	42-60	2-20	48	27-35	1.30-1.40	0.60-2.00	0.18-0.20	3.0-5.9	0.5-1.0	.43	.43			
	60-80	2-30	52	20-35	1.30-1.40	0.60-2.00	0.18-0.20	3.0-5.9	0.5-1.0	.43	.43			
8134: Yutan-----	0-6	2-10	54	35-40	1.20-1.40	0.20-0.60	0.16-0.19	3.0-5.9	0.5-2.0	.37	.37	5	4	86
	6-13	2-10	54	33-42	1.25-1.45	0.20-0.60	0.16-0.19	3.0-5.9	0.5-1.0	.43	.43			
	13-20	2-10	61	27-35	1.25-1.45	0.20-0.60	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43			
	20-27	2-10	61	27-35	1.25-1.45	0.20-0.60	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43			
	27-32	2-10	61	27-35	1.25-1.45	0.20-0.60	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43			
	32-43	2-12	63	24-33	1.25-1.45	0.60-2.00	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
	43-63	2-12	67	20-27	1.30-1.50	0.60-2.00	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
	63-80	2-12	67	20-27	1.30-1.50	0.60-2.00	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
Judson-----	0-6	2-10	65	24-27	1.20-1.40	0.60-2.00	0.21-0.23	0.0-2.9	2.0-4.0	.28	.28	5	6	48
	6-12	2-10	63	27-32	1.25-1.45	0.60-2.00	0.21-0.23	3.0-5.9	2.0-4.0	.28	.28			
	12-22	2-10	63	27-32	1.25-1.45	0.60-2.00	0.21-0.23	3.0-5.9	2.0-4.0	.28	.28			
	22-31	2-10	63	27-32	1.25-1.45	0.60-2.00	0.21-0.23	3.0-5.9	2.0-4.0	.28	.28			
	31-43	2-10	61	27-35	1.25-1.45	0.60-2.00	0.21-0.23	3.0-5.9	1.0-3.0	.43	.43			
	43-54	2-10	61	27-35	1.25-1.45	0.60-2.00	0.21-0.23	3.0-5.9	0.5-2.0	.43	.43			
	54-69	2-10	61	27-35	1.25-1.45	0.60-2.00	0.21-0.23	3.0-5.9	0.5-2.0	.43	.43			
	69-80	2-10	61	27-35	1.25-1.45	0.60-2.00	0.21-0.23	3.0-5.9	0.5-2.0	.43	.43			
9900: Arents, Earthen Dam-	---	---	---	---	---	---	---	---	---	---	---	-	---	---
9985: 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
9998: Water-----	---	---	---	---	---	---	---	---	---	---	---	-	---	0



CHEMICAL PROPERTIES OF THE SOILS  
Saunders County, 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  
Saunders County, 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	
1050: Aksarben-----	0-6	25-35	5.1-6.5	0	0	0	0
	6-12	25-35	5.1-6.5	0	0	0	0
	12-18	25-35	5.1-6.5	0	0	0	0
	18-26	25-35	5.1-6.5	0	0	0	0
	26-34	25-35	5.1-6.5	0	0	0	0
	34-42	25-35	5.1-6.5	0	0	0	0
	42-60	25-35	5.6-6.5	0	0	0	0
	60-80	20-30	6.1-7.3	0	0	0	0
1100: Alda, OCCASIONALLY FLOODED-----	0-11	10-30	6.6-8.4	0	0	0	0
	11-17	5.0-10	7.4-8.4	1-15	0	0.0-2.0	0-4
	17-29	5.0-10	7.4-8.4	1-15	0	0.0-2.0	0-4
	29-34	0.0-5.0	6.6-8.4	0	0	0	0
	34-80	0.0-5.0	6.6-8.4	0	0	0	0
1347: Barney, FREQUENTLY FLOODED-----	0-7	11-22	6.6-8.4	0-5	0	0	0
	7-10	11-22	6.6-8.4	0-5	0	0	0
	10-30	0.0-4.0	6.6-7.8	0	0	0	0
	30-80	0.0-4.0	6.6-7.8	0	0	0	0
1616: Boel, OCCASIONALLY FLOODED-----	0-11	4.0-11	6.6-8.4	0-5	0	0	0
	11-15	0.0-4.0	6.6-8.4	0-5	0	0	0
	15-60	0.0-4.0	6.6-8.4	0-5	0	0	0
1873: Burchard-----	0-13	15-25	5.6-7.3	0	0	0	0
	13-19	15-25	6.1-7.3	0	0	0	0
	19-29	15-25	7.4-8.4	5-10	0	0	0
	29-37	15-25	7.4-8.4	5-10	0	0	0
	37-60	10-20	7.4-8.4	1-15	0-2	0	0
Steinauer-----	0-6	15-25	7.4-8.4	5-10	0	0	0
	6-15	15-25	7.9-8.4	5-15	0	0	0
	15-41	15-25	7.9-8.4	5-15	0	0	0
	41-60	15-25	7.9-8.4	5-15	0	0	0
1879: Burchard-----	0-13	15-25	5.6-7.3	0	0	0	0
	13-19	15-25	6.1-7.3	0	0	0	0
	19-29	15-25	7.4-8.4	5-10	0	0	0
	29-37	15-25	7.4-8.4	5-10	0	0	0
	37-60	10-20	7.4-8.4	1-15	0-2	0	0
Steinauer-----	0-6	15-25	7.4-8.4	5-10	0	0	0
	6-15	15-25	7.9-8.4	5-15	0	0	0
	15-41	15-25	7.9-8.4	5-15	0	0	0
	41-60	15-25	7.9-8.4	5-15	0	0	0
2420: Deroin, SEVERELY ERODED-----	0-7	20-35	5.6-6.5	0	0	0	0
	7-12	15-25	6.1-7.8	0-5	0	0	0
	12-18	15-25	6.1-7.8	0-5	0	0	0
	18-40	15-25	6.1-7.8	0-5	0	0	0
	40-50	10-20	6.1-7.8	0-5	0	0	0
	50-80	10-20	6.1-7.8	0-5	0	0	0
2830: Filbert-----	0-5	18-27	4.5-6.0	0	0	0	0
	5-7	18-27	4.5-6.0	0	0	0	0
	7-12	12-18	5.1-6.5	0	0	0	0
	12-15	12-18	5.1-6.5	0	0	0	0
	15-25	26-37	6.1-7.8	0	0	0	0
	25-36	26-37	6.1-7.8	0	0	0	0
	36-43	26-37	6.1-7.8	0	0	0	0
	43-53	26-37	6.1-7.8	0	0	0	0
	53-62	26-37	6.1-7.8	0	0	0	0
	62-80	26-37	6.1-7.8	0	0	0	0

CHEMICAL PROPERTIES OF THE SOILS--Continued  
Saunders County, 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	
2844: Fillmore-----	0-7	15-22	5.1-6.5	0	0	0	0
	7-14	15-22	5.1-6.5	0	0	0	0
	14-22	12-18	5.1-6.5	0	0	0	0
	22-30	32-40	5.6-7.8	0	0	0	0
	30-42	32-40	5.6-7.8	0	0	0	0
	42-54	32-40	5.6-7.8	0	0	0	0
	54-62	32-40	5.6-7.8	0	0	0	0
	62-80	32-40	5.6-7.8	0	0	0	0
2863: Fluvaquents----	0-20	25-50	6.6-8.4	0-5	0	0.0-2.0	0
	20-80	---	---	---	---	---	---
3025: Gibbon, OCCASIONALLY FLOODED-----	0-5	16-22	7.4-8.4	0-5	0	0.0-2.0	0
	5-19	16-22	7.4-8.4	0-5	0	0.0-2.0	0
	19-24	16-22	7.4-8.4	0-5	0	0.0-2.0	0
	24-30	14-20	7.4-8.4	5-15	0	0.0-2.0	0-5
	30-42	14-20	7.9-8.4	5-15	0	0.0-2.0	0-5
	42-60	14-20	7.9-8.4	5-15	0	0.0-2.0	0-5
3038: Gibbon, OCCASIONALLY FLOODED-----	0-5	16-22	7.4-8.4	0-5	0	0.0-2.0	0
	5-19	16-22	7.4-8.4	0-5	0	0.0-2.0	0
	19-24	16-22	7.4-8.4	0-5	0	0.0-2.0	0
	24-30	14-20	7.4-8.4	5-15	0	0.0-2.0	0-5
	30-42	14-20	7.9-8.4	5-15	0	0.0-2.0	0-5
	42-60	14-20	7.9-8.4	5-15	0	0.0-2.0	0-5
Saltine, OCCASIONALLY FLOODED-----	0-7	12-25	7.4-9.6	1-10	0	0.0-8.0	0-50
	7-12	14-30	8.5-9.6	1-5	0	4.0-16.0	6-50
	12-30	14-30	8.5-9.6	1-5	0	4.0-16.0	6-50
	30-48	14-30	7.4-9.6	1-5	0	0.0-4.0	0-13
	48-55	14-30	7.4-9.6	1-5	0	0.0-4.0	0-13
	55-60	14-30	7.4-9.6	1-5	0	0.0-4.0	0-13
3421: Hedville-----	0-10	5.0-18	5.6-7.3	0	0	0	0
	10-16	5.0-15	5.6-7.3	0	0	0	0
	16-22	---	---	---	---	---	---
3830: Ida, 30-60% slopes-----	0-4	20-25	6.6-8.4	0-25	0	0	0
	4-8	20-25	7.4-8.4	5-30	0	0	0
	8-18	20-25	7.4-8.4	5-30	0	0	0
	18-40	20-25	7.4-8.4	5-30	0	0	0
	40-60	20-25	7.4-8.4	5-30	0	0	0
Steinauer-----	0-6	15-25	7.4-8.4	5-10	0	0	0
	6-15	15-25	7.9-8.4	5-15	0	0	0
	15-41	15-25	7.9-8.4	5-15	0	0	0
	41-60	15-25	7.9-8.4	5-15	0	0	0
3890: Inglewood, RARELY FLOODED-	0-5	3.0-8.0	6.1-7.8	0	0	0	0
	5-22	1.0-8.0	6.1-7.8	0	0	0	0
	22-30	1.0-8.0	6.1-7.8	0	0	0	0
	30-40	1.0-8.0	6.1-7.8	0	0	0	0
	40-50	1.0-8.0	6.1-7.8	0	0	0	0
	50-80	1.0-8.0	6.1-7.8	0	0	0	0
4104: Judson-----	0-6	22-28	5.6-7.3	0	0	0	0
	6-12	22-28	5.6-7.3	0	0	0	0
	12-22	22-28	5.6-7.3	0	0	0	0
	22-31	22-28	5.6-7.3	0	0	0	0
	31-43	22-28	5.6-7.3	0	0	0	0
	43-54	22-28	6.1-7.8	0	0	0	0
	54-69	22-28	6.1-7.8	0	0	0	0
	69-80	22-28	6.1-7.8	0	0	0	0

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	
4106: Judson-----	0-6	22-28	5.6-7.3	0	0	0	0
	6-12	22-28	5.6-7.3	0	0	0	0
	12-22	22-28	5.6-7.3	0	0	0	0
	22-31	22-28	5.6-7.3	0	0	0	0
	31-43	22-28	5.6-7.3	0	0	0	0
	43-54	22-28	6.1-7.8	0	0	0	0
	54-69	22-28	6.1-7.8	0	0	0	0
	69-80	22-28	6.1-7.8	0	0	0	0
4250: Kenridge, OCCASIONALLY FLOODED-----	0-8	22-30	5.6-6.5	0	0	0	0
	8-20	22-30	5.6-6.5	0	0	0	0
	20-36	20-33	6.1-7.3	0	0	0	0
	36-46	20-33	6.1-7.3	0	0	0	0
	46-60	20-33	6.1-7.3	0	0	0	0
	60-80	19-27	6.1-7.3	0	0	0	0
4404: Lamo, OCCASIONALLY FLOODED-----	0-5	18-28	7.4-8.4	1-10	0	0	0
	5-25	18-28	7.4-8.4	1-10	0	0	0
	25-36	18-28	7.4-8.4	1-10	0	0	0
	36-44	15-25	7.4-8.4	1-15	0	0	0
	44-60	15-25	7.4-8.4	1-15	0	0	0
4583: Lex, OCCASIONALLY FLOODED-----	0-7	11-22	7.4-8.4	1-10	0	0.0-2.0	0-2
	7-17	11-22	7.4-8.4	1-10	0	0.0-2.0	0-2
	17-19	11-22	7.4-8.4	1-10	0	0.0-2.0	0-2
	19-27	12-23	6.1-8.4	0-5	0	0.0-2.0	0-2
	27-60	2.0-5.0	6.1-7.8	0-5	0	0.0-2.0	0-2
4853: Malcolm-----	0-7	10-25	5.6-6.5	0	0	0	0
	7-12	15-30	5.6-6.5	0	0	0	0
	12-20	15-30	5.6-6.5	0	0	0	0
	20-28	15-30	5.6-6.5	0	0	0	0
	28-60	8.0-15	5.6-6.5	0	0	0	0
4860: Malmo, SEVERELY ERODED-----	0-6	25-31	5.6-6.5	0	0	0	0
	6-15	30-36	6.1-7.8	0-5	0	0	0
	15-25	30-36	6.1-7.8	0-5	0	0	0
	25-39	30-36	6.1-7.8	0-5	0	0	0
	39-43	27-37	7.4-7.8	1-5	0	0	0
	43-54	13-33	7.4-8.4	1-10	0	0	0
	54-80	13-33	7.4-8.4	1-10	0	0	0
5388: Morrill-----	0-6	8.0-30	4.5-7.3	0	0	0	0
	6-12	10-30	5.1-7.3	0	0	0	0
	12-22	15-30	5.1-7.3	0	0	0	0
	22-30	15-30	5.1-7.3	0	0	0	0
	30-35	15-30	5.1-7.3	0	0	0	0
	35-43	15-30	5.1-7.3	0	0	0	0
	43-52	5.0-15	5.1-7.3	0	0	0	0
	52-59	4.0-25	5.1-7.3	0	0	0	0
	59-73	4.0-25	5.1-7.3	0	0	0	0
	73-80	4.0-25	5.1-7.3	0	0	0	0
5480: Muscotah, OCCASIONALLY FLOODED-----	0-9	15-30	5.6-7.3	0	0	0	0
	9-16	15-30	5.6-7.3	0	0	0	0
	16-23	15-30	5.6-7.3	0	0	0	0
	23-35	20-40	5.6-7.3	0	0	0	0
	35-44	20-40	5.6-7.3	0	0	0	0
	44-60	20-40	5.6-7.3	0	0	0	0
	60-70	20-40	5.6-7.3	1-10	0	0	0
	70-80	20-40	5.6-7.3	0	0	0	0

CHEMICAL PROPERTIES OF THE SOILS--Continued  
Saunders County, 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		
5540: Nodaway, OCCASIONALLY FLOODED-----	0-7	20-25	6.1-7.3	0	0	0.0-2.0	0	
	7-14	20-25	6.1-7.3	0	0	0.0-2.0	0	
	14-45	20-25	6.1-7.3	0	0	0.0-2.0	0	
	45-60	20-25	6.1-7.3	0	0	0.0-2.0	0	
5541: Nodaway, CHANNELED-----	0-7	20-25	6.1-7.3	0	0	0.0-2.0	0	
	7-14	20-25	6.1-7.3	0	0	0.0-2.0	0	
	14-45	20-25	6.1-7.3	0	0	0.0-2.0	0	
	45-60	20-25	6.1-7.3	0	0	0.0-2.0	0	
5736: Obert, FREQUENTLY FLOODED-----	0-12	21-32	7.4-8.4	1-15	0	0.0-2.0	0	
	12-24 24-60	13-25 13-25	7.4-8.4 7.4-8.4	0-15 0-5	0 0	0.0-2.0 0.0-2.0	0 0	
5742: Obert, OCCASIONALLY FLOODED-----	0-12	21-32	7.4-8.4	1-15	0	0.0-2.0	0	
	12-24 24-60	13-25 13-25	7.4-8.4 7.4-8.4	0-15 0-5	0 0	0.0-2.0 0.0-2.0	0 0	
5780: Olmitz-----	0-6	20-25	5.6-7.3	0	0	0	0	
	6-22	20-25	5.6-7.3	0	0	0	0	
	22-32	20-25	5.6-7.3	0	0	0	0	
	32-40	20-25	5.6-7.3	0	0	0	0	
	40-52	20-25	5.6-7.3	0	0	0	0	
	52-60	20-25	5.6-7.3	0	0	0	0	
6046: Pawnee-----	0-6	20-30	5.6-7.3	0	0	0	0	
	6-10	25-30	5.6-7.3	0	0	0	0	
	10-14	25-30	5.6-7.3	0	0	0	0	
	14-24	30-40	6.1-7.8	0	0	0	0	
	24-32	30-40	6.1-7.8	0	0	0	0	
	32-45	30-40	6.1-7.8	0	0	0	0	
	45-53	15-30	6.1-7.8	0-5	0	0	0	
	53-80	20-25	7.4-8.4	1-10	0	0	0	
	6130: Platte, OCCASIONALLY FLOODED-----	0-5	3.0-15	6.6-8.4	0-10	0	0.0-2.0	0
		5-8	3.0-15	6.6-8.4	0-10	0	0.0-2.0	0
8-16 16-80		3.0-15 0.0-5.0	6.6-8.4 6.6-7.8	0-10 0	0 0	0.0-2.0 0	0 0	
6138: Platte, FREQUENTLY FLOODED-----	0-5	3.0-15	6.6-8.4	0-10	0	0.0-2.0	0	
	5-8	3.0-15	6.6-8.4	0-10	0	0.0-2.0	0	
	8-16 16-80	3.0-15 0.0-5.0	6.6-8.4 6.6-7.8	0-10 0	0 0	0.0-2.0 0	0 0	
Barney, FREQUENTLY FLOODED, CHANNELED-----	0-7	11-22	6.6-8.4	0-5	0	0	0	
	7-10	11-22	6.6-8.4	0-5	0	0	0	
	10-30 30-80	0.0-4.0 0.0-4.0	6.6-7.8 6.6-7.8	0 0	0 0	0 0	0 0	
6160: Pohocco-----	0-6	20-35	6.6-7.8	0	0	0	0	
	6-15	15-30	6.6-7.8	0	0	0	0	
	15-20	15-30	6.6-7.8	1-5	0	0	0	
	20-28	15-30	6.6-7.8	1-5	0	0	0	
	28-80	15-20	7.4-8.4	1-10	0	0	0	

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	
6162: Pohocco-----	0-6	20-35	6.6-7.8	0	0	0	0
	6-15	15-30	6.6-7.8	0	0	0	0
	15-20	15-30	6.6-7.8	1-5	0	0	0
	20-28	15-30	6.6-7.8	1-5	0	0	0
	28-80	15-20	7.4-8.4	1-10	0	0	0
6170: Pohocco-----	0-6	20-35	6.6-7.8	0	0	0	0
	6-15	15-30	6.6-7.8	0	0	0	0
	15-20	15-30	6.6-7.8	1-5	0	0	0
	20-28	15-30	6.6-7.8	1-5	0	0	0
	28-80	15-20	7.4-8.4	1-10	0	0	0
Pahuk-----	0-6	5.0-10	5.6-7.8	0	0	0	0
	6-14	0.0-10	5.6-7.8	0	0	0	0
	14-40	0.0-10	5.6-7.8	0	0	0	0
	40-80	0.0-10	5.6-7.8	0	0	0	0
6172: Pohocco-----	0-6	20-35	6.6-7.8	0	0	0	0
	6-15	15-30	6.6-7.8	0	0	0	0
	15-20	15-30	6.6-7.8	1-5	0	0	0
	20-28	15-30	6.6-7.8	1-5	0	0	0
	28-80	15-20	7.4-8.4	1-10	0	0	0
Pahuk-----	0-6	5.0-10	5.6-7.8	0	0	0	0
	6-14	0.0-10	5.6-7.8	0	0	0	0
	14-40	0.0-10	5.6-7.8	0	0	0	0
	40-80	0.0-10	5.6-7.8	0	0	0	0
6520: Saltillo, OCCASIONALLY FLOODED-----	0-6	10-20	7.4-8.4	1-10	0	4.0-20.0	13-90
	6-17	14-30	7.4-9.0	1-5	0	4.0-20.0	13-90
	17-32	14-30	7.4-9.0	1-5	0	4.0-20.0	13-90
	32-50	14-30	7.4-9.0	1-5	0	4.0-20.0	13-90
	50-60	14-30	7.4-9.0	1-5	0	4.0-20.0	13-90
	60-80	14-30	7.4-9.0	1-5	0	4.0-20.0	13-90
6791: Scott-----	0-6	20-30	5.1-6.5	0	0	0	0
	6-18	10-20	5.1-6.5	0	0	0	0
	18-28	20-35	5.6-7.8	0	0	0	0
	28-42	20-35	5.6-7.8	0	0	0	0
	42-56	20-35	5.6-7.8	0	0	0	0
	56-80	20-35	5.6-7.8	0	0	0	0
7069: Steinauer-----	0-6	15-25	7.4-8.4	5-10	0	0	0
	6-15	15-25	7.9-8.4	5-15	0	0	0
	15-41	15-25	7.9-8.4	5-15	0	0	0
	41-60	15-25	7.9-8.4	5-15	0	0	0
7290: Tomek-----	0-11	15-25	6.1-7.3	0	0	0	0
	11-19	15-30	6.1-7.3	0	0	0	0
	19-54	25-30	6.6-7.8	0	0	0	0
	54-80	15-25	6.6-7.8	0	0	0	0
7920: Wann, OCCASIONALLY FLOODED-----	0-6	4.0-14	6.6-8.4	0-5	0	0.0-2.0	0-5
	6-16	4.0-14	6.6-8.4	0-5	0	0.0-2.0	0-5
	16-50	2.0-14	7.4-9.0	0-5	0	0.0-2.0	0-10
	50-60	2.0-16	7.4-9.0	0-5	0	0.0-2.0	0-10
8120: Yutan-----	0-6	25-35	5.1-6.5	0	0	0	0
	6-13	25-35	5.6-7.3	0	0	0	0
	13-20	20-30	6.1-7.3	0	0	0	0
	20-27	20-30	6.1-7.3	0	0	0	0
	27-32	20-30	6.1-7.3	0	0	0	0
	32-43	20-30	6.1-7.3	0	0	0	0
	43-63	15-25	6.6-7.8	0	0	0	0
	63-80	15-25	6.6-7.8	0	0	0	0

CHEMICAL PROPERTIES OF THE SOILS--Continued  
Saunders County, 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	
8124: Yutan-----	0-6	25-35	5.1-6.5	0	0	0	0
	6-13	25-35	5.6-7.3	0	0	0	0
	13-20	20-30	6.1-7.3	0	0	0	0
	20-27	20-30	6.1-7.3	0	0	0	0
	27-32	20-30	6.1-7.3	0	0	0	0
	32-43	20-30	6.1-7.3	0	0	0	0
	43-63	15-25	6.6-7.8	0	0	0	0
	63-80	15-25	6.6-7.8	0	0	0	0
8130: Yutan-----	0-6	25-35	5.1-6.5	0	0	0	0
	6-13	25-35	5.6-7.3	0	0	0	0
	13-20	20-30	6.1-7.3	0	0	0	0
	20-27	20-30	6.1-7.3	0	0	0	0
	27-32	20-30	6.1-7.3	0	0	0	0
	32-43	20-30	6.1-7.3	0	0	0	0
	43-63	15-25	6.6-7.8	0	0	0	0
	63-80	15-25	6.6-7.8	0	0	0	0
Aksarben-----	0-6	25-35	5.1-6.5	0	0	0	0
	6-12	25-35	5.1-6.5	0	0	0	0
	12-18	25-35	5.1-6.5	0	0	0	0
	18-26	25-35	5.1-6.5	0	0	0	0
	26-34	25-35	5.1-6.5	0	0	0	0
	34-42	25-35	5.1-6.5	0	0	0	0
	42-60	25-35	5.6-6.5	0	0	0	0
	60-80	20-30	6.1-7.3	0	0	0	0
8134: Yutan-----	0-6	25-35	5.1-6.5	0	0	0	0
	6-13	25-35	5.6-7.3	0	0	0	0
	13-20	20-30	6.1-7.3	0	0	0	0
	20-27	20-30	6.1-7.3	0	0	0	0
	27-32	20-30	6.1-7.3	0	0	0	0
	32-43	20-30	6.1-7.3	0	0	0	0
	43-63	15-25	6.6-7.8	0	0	0	0
	63-80	15-25	6.6-7.8	0	0	0	0
Judson-----	0-6	22-28	5.6-7.3	0	0	0	0
	6-12	22-28	5.6-7.3	0	0	0	0
	12-22	22-28	5.6-7.3	0	0	0	0
	22-31	22-28	5.6-7.3	0	0	0	0
	31-43	22-28	5.6-7.3	0	0	0	0
	43-54	22-28	6.1-7.8	0	0	0	0
	54-69	22-28	6.1-7.8	0	0	0	0
	69-80	22-28	6.1-7.8	0	0	0	0
9900: Arents, Earthen Dam-----	---	---	---	---	---	---	---
9985: Pits-----	0-60	0.0-5.0	6.6-8.4	0	0	0	0
9998: Water-----	---	---	---	---	---	---	---



WATER FEATURES  
Saunders County, 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				
1050: Aksarben-----	B		---	---	---	---	---	---	---
1100: Alda, OCCASIONALLY FLOODED	C	January	1.5-3.0	>6.0	---	---	---	---	None
		February	1.5-3.0	>6.0	---	---	---	---	None
		March	1.5-3.0	>6.0	---	---	---	---	None
		April	1.5-3.0	>6.0	---	---	---	Brief	Occasional
		May	1.5-3.0	>6.0	---	---	---	Brief	Occasional
		June	---	---	---	---	---	Brief	Occasional
		July	---	---	---	---	---	Brief	Occasional
		November	1.5-3.0	>6.0	---	---	---	---	None
		December	1.5-3.0	>6.0	---	---	---	---	None
1347: Barney, FREQUENTLY FLOODED	D	January	0.0-2.0	>6.0	---	---	---	---	None
		February	0.0-2.0	>6.0	---	---	---	---	None
		March	0.0-2.0	>6.0	---	---	---	Brief	Frequent
		April	0.0-2.0	>6.0	---	---	---	Brief	Frequent
		May	0.0-2.0	>6.0	---	---	---	Brief	Frequent
		June	0.0-2.0	>6.0	---	---	---	Brief	Frequent
		July	---	---	---	---	---	Brief	Occasional
		November	0.0-2.0	>6.0	---	---	---	---	None
		December	0.0-2.0	>6.0	---	---	---	---	None
1616: Boel, OCCASIONALLY FLOODED	A	January	1.5-3.0	>6.0	---	---	---	---	None
		February	1.5-3.0	>6.0	---	---	---	---	None
		March	1.5-3.0	>6.0	---	---	---	Brief	Occasional
		April	1.5-3.0	>6.0	---	---	---	Brief	Occasional
		May	1.5-3.0	>6.0	---	---	---	Brief	Occasional
		June	---	---	---	---	---	Brief	Occasional
		November	1.5-3.0	>6.0	---	---	---	---	None
		December	1.5-3.0	>6.0	---	---	---	---	None
1873: Burchard-----	B		---	---	---	---	---	---	---
Steinauer-----	B		---	---	---	---	---	---	---
1879: Burchard-----	B		---	---	---	---	---	---	---
Steinauer-----	B		---	---	---	---	---	---	---
2420: Derooin, SEVERELY ERODED---	B		---	---	---	---	---	---	---
2830: Filbert-----	D	March	0.5-1.5	0.8-2.0	---	---	---	---	None
		April	0.5-1.5	0.8-2.0	---	---	---	---	None
		May	0.5-1.5	0.8-2.0	---	---	---	---	None
		June	0.5-1.5	0.8-2.0	---	---	---	---	None
		July	0.5-1.5	0.8-2.0	---	---	---	---	None
2844: Fillmore-----	D	March	0.0-2.0	1.0-3.0	0.0-0.5	Brief	Occasional	---	None
		April	0.0-2.0	1.0-3.0	0.0-0.5	Brief	Occasional	---	None
		May	0.0-2.0	1.0-3.0	0.0-0.5	Brief	Occasional	---	None
		June	0.0-2.0	1.0-3.0	0.0-0.5	Brief	Occasional	---	None
		July	0.0-2.0	1.0-3.0	0.0-0.5	Brief	Occasional	---	None
2863: Fluvaquents-----	D	January	0.0	>6.0	0.0-2.0	Very long	Frequent	Brief	Frequent
		February	0.0	>6.0	0.0-2.0	Very long	Frequent	Brief	Frequent
		March	0.0	>6.0	0.0-2.0	Very long	Frequent	Brief	Frequent
		April	0.0	>6.0	0.0-2.0	Very long	Frequent	Brief	Frequent
		May	0.0	>6.0	0.0-2.0	Very long	Frequent	Brief	Frequent
		June	0.0	>6.0	0.0-2.0	Very long	Frequent	Brief	Frequent
		July	0.0	>6.0	0.0-2.0	Very long	Frequent	Brief	Occasional
		August	0.0	>6.0	0.0-2.0	Very long	Frequent	Brief	Occasional
		September	0.0	>6.0	0.0-2.0	Very long	Frequent	Brief	Occasional
		October	0.0	>6.0	0.0-2.0	Very long	Frequent	Brief	Occasional
		November	0.0	>6.0	0.0-2.0	Very long	Frequent	Brief	Frequent
		December	0.0	>6.0	0.0-2.0	Very long	Frequent	Brief	Frequent
3025:									

(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		
Gibbon, OCCASIONALLY FLOODED-----	B	January	1.5-3.0	>6.0	---	---	---	---	None		
		February	1.5-3.0	>6.0	---	---	---	---	None		
		March	1.5-3.0	>6.0	---	---	---	Very brief	Occasional		
		April	1.5-3.0	>6.0	---	---	---	Very brief	Occasional		
		May	1.5-3.0	>6.0	---	---	---	Very brief	Occasional		
		June	1.5-3.0	>6.0	---	---	---	Very brief	Occasional		
		July	---	---	---	---	---	Very brief	Occasional		
		November	1.5-3.0	>6.0	---	---	---	---	None		
		December	1.5-3.0	>6.0	---	---	---	---	None		
		3038: Gibbon, OCCASIONALLY FLOODED-----	B	January	1.5-3.0	>6.0	---	---	---	---	None
				February	1.5-3.0	>6.0	---	---	---	---	None
				March	1.5-3.0	>6.0	---	---	---	Very brief	Occasional
April	1.5-3.0			>6.0	---	---	---	Very brief	Occasional		
May	1.5-3.0			>6.0	---	---	---	Very brief	Occasional		
June	1.5-3.0			>6.0	---	---	---	Very brief	Occasional		
July	---			---	---	---	---	Very brief	Occasional		
November	1.5-3.0			>6.0	---	---	---	---	None		
December	1.5-3.0			>6.0	---	---	---	---	None		
Saltine, OCCASIONALLY FLOODED-----	C			January	1.5-3.0	>6.0	---	---	---	---	None
				February	1.5-3.0	>6.0	---	---	---	---	None
				March	1.5-3.0	>6.0	---	---	---	---	None
		April	1.5-3.0	>6.0	---	---	---	Brief	Occasional		
		May	1.5-3.0	>6.0	---	---	---	Brief	Occasional		
		June	1.5-3.0	>6.0	---	---	---	Brief	Occasional		
		July	1.5-3.0	>6.0	---	---	---	Brief	Occasional		
		November	1.5-3.0	>6.0	---	---	---	---	None		
		December	1.5-3.0	>6.0	---	---	---	---	None		
		3421: Hedville-----	D	January	1.5-3.0	>6.0	---	---	---	---	None
		3830: Ida, 30-60% slopes-----	B	February	1.5-3.0	>6.0	---	---	---	---	None
			March	1.5-3.0	>6.0	---	---	---	---	---	None
Steinauer-----	B	April	1.5-3.0	>6.0	---	---	---	---	None		
3890: Inglewood, RARELY FLOODED-	A	May	1.5-3.0	>6.0	---	---	---	---	---	None	
		June	1.5-3.0	>6.0	---	---	---	---	---	None	
		July	1.5-3.0	>6.0	---	---	---	---	---	None	
		November	1.5-3.0	>6.0	---	---	---	---	---	None	
		December	1.5-3.0	>6.0	---	---	---	---	---	None	
		4104: Judson-----	B	January	3.0-6.0	>6.0	---	---	---	---	None
				February	3.0-6.0	>6.0	---	---	---	Brief	Rare
				March	3.0-6.0	>6.0	---	---	---	Brief	Rare
				April	3.0-6.0	>6.0	---	---	---	Brief	Rare
				May	3.0-6.0	>6.0	---	---	---	Brief	Rare
				June	3.0-6.0	>6.0	---	---	---	Brief	Rare
				July	3.0-6.0	>6.0	---	---	---	---	None
November	3.0-6.0			>6.0	---	---	---	---	None		
December	3.0-6.0			>6.0	---	---	---	---	None		
4106: Judson-----	B			January	3.0-6.0	>6.0	---	---	---	---	None
4250: Kenridge, OCCASIONALLY FLOODED-----	C			February	3.0-6.0	>6.0	---	---	---	---	None
				March	3.0-6.0	>6.0	---	---	---	Brief	Occasional
		April	3.0-6.0	>6.0	---	---	---	Brief	Occasional		
		May	3.0-6.0	>6.0	---	---	---	Brief	Occasional		
		June	3.0-6.0	>6.0	---	---	---	Brief	Occasional		
		July	3.0-6.0	>6.0	---	---	---	Brief	Occasional		
		August	---	---	---	---	---	Brief	Occasional		
		September	---	---	---	---	---	Brief	Occasional		
		October	---	---	---	---	---	Brief	Occasional		
		November	3.0-6.0	>6.0	---	---	---	---	None		
		December	3.0-6.0	>6.0	---	---	---	---	None		
		4404:		January	3.0-6.0	>6.0	---	---	---	---	None

(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	
Lamo, OCCASIONALLY FLOODED	C	January	1.0-3.0	>6.0	---	---	---	---	None	
		February	1.0-3.0	>6.0	---	---	---	---	None	
		March	1.0-3.0	>6.0	---	---	---	Brief	Occasional	
		April	1.0-3.0	>6.0	---	---	---	Brief	Occasional	
		May	1.0-3.0	>6.0	---	---	---	Brief	Occasional	
		June	---	---	---	---	---	Brief	Occasional	
		July	---	---	---	---	---	Brief	Occasional	
		August	---	---	---	---	---	Brief	Occasional	
		November	1.0-3.0	>6.0	---	---	---	---	None	
		December	1.0-3.0	>6.0	---	---	---	---	None	
		4583: Lex, OCCASIONALLY FLOODED-	B	January	1.0-3.0	>6.0	---	---	---	None
		February		1.0-3.0	>6.0	---	---	---	---	None
March	1.0-3.0	>6.0		---	---	---	---	None		
April	1.0-3.0	>6.0		---	---	---	Brief	Occasional		
May	1.0-3.0	>6.0		---	---	---	Brief	Occasional		
June	---	---		---	---	---	Brief	Occasional		
July	---	---		---	---	---	Brief	Occasional		
November	1.0-3.0	>6.0		---	---	---	---	None		
December	1.0-3.0	>6.0		---	---	---	---	None		
4853: Malcolm-----	B			---	---	---	---	---	---	
4860: Malmo, SEVERELY ERODED----	D	March		1.0-3.0	1.5-3.0	---	---	---	None	
April		1.0-3.0		1.5-3.0	---	---	---	---	None	
May		1.0-3.0	1.5-3.0	---	---	---	---	None		
June		1.0-3.0	1.5-3.0	---	---	---	---	None		
5388: Morrill-----		B		---	---	---	---	---	---	
5480: Muscotah, OCCASIONALLY FLOODED-----	D	March	1.5-3.0	>6.0	---	---	---	Brief	Occasional	
April		1.5-3.0	>6.0	---	---	---	Brief	Occasional		
May		1.5-3.0	>6.0	---	---	---	Brief	Occasional		
June		1.5-3.0	>6.0	---	---	---	Brief	Occasional		
5540: Nodaway, OCCASIONALLY FLOODED-----		B	February	---	---	---	---	---	Brief	Occasional
March	---		---	---	---	---	---	Brief	Occasional	
April	3.0-5.0		>6.0	---	---	---	---	Brief	Occasional	
May	3.0-5.0		>6.0	---	---	---	---	Brief	Occasional	
June	3.0-5.0		>6.0	---	---	---	---	Brief	Occasional	
July	3.0-5.0		>6.0	---	---	---	---	Brief	Occasional	
August	---		---	---	---	---	---	Brief	Occasional	
September	---		---	---	---	---	---	Brief	Occasional	
October	---		---	---	---	---	---	Brief	Occasional	
November	---		---	---	---	---	---	Brief	Occasional	
5541: Nodaway, CHANNELED-----	B		February	---	---	---	---	---	Brief	Frequent
March			---	---	---	---	---	---	Brief	Frequent
April		3.0-5.0	>6.0	---	---	---	---	Brief	Frequent	
May		3.0-5.0	>6.0	---	---	---	---	Brief	Frequent	
June		3.0-5.0	>6.0	---	---	---	---	Brief	Frequent	
July		3.0-5.0	>6.0	---	---	---	---	Brief	Frequent	
August		---	---	---	---	---	---	Brief	Frequent	
September		---	---	---	---	---	---	Brief	Frequent	
October		---	---	---	---	---	---	Brief	Frequent	
November		---	---	---	---	---	---	Brief	Frequent	
5736: Obert, FREQUENTLY FLOODED-		D	January	0.0-1.5	>6.0	0.0-0.5	Long	Occasional	---	None
February			0.0-1.5	>6.0	0.0-0.5	Long	Occasional	---	None	
March	0.0-1.5		>6.0	0.0-0.5	Long	Occasional	Brief	Frequent		
April	0.0-1.5		>6.0	0.0-0.5	Long	Occasional	Brief	Frequent		
May	0.0-1.5		>6.0	0.0-0.5	Long	Occasional	Brief	Frequent		
June	0.0-1.5		>6.0	0.0-0.5	Long	Occasional	Brief	Frequent		
July	1.5-3.0		>6.0	---	---	---	---	Brief	Frequent	
August	1.5-3.0		>6.0	---	---	---	---	Brief	Frequent	
September	1.5-3.0		>6.0	---	---	---	---	Brief	Frequent	
October	1.5-3.0		>6.0	---	---	---	---	Brief	Frequent	
November	0.0-1.5		>6.0	0.0-0.5	Long	Occasional	---	None		
December	0.0-1.5		>6.0	0.0-0.5	Long	Occasional	---	None		
5742:										

(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	
Obert, OCCASIONALLY FLOODED-----	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	Occasional	
		April	0.0-1.5	>6.0	---	---	---	Brief	Occasional	
		May	0.0-1.5	>6.0	---	---	---	Brief	Occasional	
		June	0.0-1.5	>6.0	---	---	---	Brief	Occasional	
		July	1.5-3.0	>6.0	---	---	---	Brief	Occasional	
		August	1.5-3.0	>6.0	---	---	---	Brief	Occasional	
		September	1.5-3.0	>6.0	---	---	---	Brief	Occasional	
		October	1.5-3.0	>6.0	---	---	---	Brief	Occasional	
		November	0.0-1.5	>6.0	---	---	---	---	None	
		December	0.0-1.5	>6.0	---	---	---	---	None	
5780: Olmitz-----	B		---	---	---	---	---	---		
6046: Pawnee-----	D	March	1.0-3.0	1.5-3.0	---	---	---	None		
		April	1.0-3.0	1.5-3.0	---	---	---	None		
		May	1.0-3.0	1.5-3.0	---	---	---	None		
6130: Platte, OCCASIONALLY FLOODED-----	B	February	1.0-3.0	>6.0	---	---	---	---	None	
		March	1.0-3.0	>6.0	---	---	---	Brief	Occasional	
		April	1.0-3.0	>6.0	---	---	---	Brief	Occasional	
		May	1.0-3.0	>6.0	---	---	---	Brief	Occasional	
		June	1.0-3.0	>6.0	---	---	---	Brief	Occasional	
		July	---	---	---	---	---	Brief	Occasional	
		August	---	---	---	---	---	Brief	Occasional	
		September	---	---	---	---	---	Brief	Occasional	
		October	---	---	---	---	---	Brief	Occasional	
		6138: Platte, FREQUENTLY FLOODED	B	February	1.0-3.0	>6.0	---	---	---	---
March	1.0-3.0			>6.0	---	---	---	Brief	Frequent	
April	1.0-3.0			>6.0	---	---	---	Brief	Frequent	
May	1.0-3.0			>6.0	---	---	---	Brief	Frequent	
June	1.0-3.0			>6.0	---	---	---	Brief	Frequent	
July	---			---	---	---	---	Brief	Frequent	
August	---			---	---	---	---	Brief	Frequent	
September	---			---	---	---	---	Brief	Frequent	
October	---			---	---	---	---	Brief	Frequent	
Barney, FREQUENTLY FLOODED, CHANNELED-----	D			January	0.0-2.0	>6.0	---	---	---	---
		February	0.0-2.0	>6.0	---	---	---	---	None	
		March	0.0-2.0	>6.0	---	---	---	Brief	Frequent	
		April	0.0-2.0	>6.0	---	---	---	Brief	Frequent	
		May	0.0-2.0	>6.0	---	---	---	Brief	Frequent	
		June	0.0-2.0	>6.0	---	---	---	Brief	Frequent	
		July	---	---	---	---	---	Brief	Occasional	
		November	0.0-2.0	>6.0	---	---	---	---	None	
		December	0.0-2.0	>6.0	---	---	---	---	None	
		6160: Pohocco-----	B		---	---	---	---	---	---
		6162: Pohocco-----	B		---	---	---	---	---	---
		6170: Pohocco-----	B		---	---	---	---	---	---
Pahuk-----	A		---	---	---	---	---	---		
6172: Pohocco-----	B		---	---	---	---	---	---		
Pahuk-----	A		---	---	---	---	---	---		
6520: Saltillo, OCCASIONALLY FLOODED-----	C	January	0.0-1.5	>6.0	---	---	---	---	None	
		February	0.0-1.5	>6.0	---	---	---	---	None	
		March	0.0-1.5	>6.0	---	---	---	---	None	
		April	0.0-1.5	>6.0	---	---	---	Brief	Occasional	
		May	0.0-1.5	>6.0	---	---	---	Brief	Occasional	
		June	0.0-1.5	>6.0	---	---	---	Brief	Occasional	
		July	0.0-1.5	>6.0	---	---	---	Brief	Occasional	
		November	0.0-1.5	>6.0	---	---	---	---	None	
		December	0.0-1.5	>6.0	---	---	---	---	None	

(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				
6791: Scott-----	D	March	0.0-2.0	1.0-3.0	0.0-2.0	Very long	Frequent	---	None
		April	0.0-2.0	1.0-3.0	0.0-2.0	Very long	Frequent	---	None
		May	0.0-2.0	1.0-3.0	0.0-2.0	Very long	Frequent	---	None
		June	0.0-2.0	1.0-3.0	0.0-2.0	Very long	Frequent	---	None
		July	0.0-2.0	1.0-3.0	0.0-2.0	Very long	Frequent	---	None
7069: Steinauer-----	B		---	---	---	---	---	---	---
7290: Tomek-----	B		---	---	---	---	---	---	---
7920: Wann, OCCASIONALLY FLOODED	B	March	1.5-3.5	>6.0	---	---	---	Brief	Occasional
		April	1.5-3.5	>6.0	---	---	---	Brief	Occasional
		May	1.5-3.5	>6.0	---	---	---	Brief	Occasional
		June	1.5-3.5	>6.0	---	---	---	Brief	Occasional
		July	1.5-3.5	>6.0	---	---	---	Brief	Occasional
		August	---	---	---	---	---	Brief	Occasional
		September	---	---	---	---	---	Brief	Occasional
		October	---	---	---	---	---	Brief	Occasional
		November	---	---	---	---	---	Brief	Occasional
8120: Yutan-----	B		---	---	---	---	---	---	---
8124: Yutan-----	B		---	---	---	---	---	---	---
8130: Yutan-----	B		---	---	---	---	---	---	---
Aksarben-----	B		---	---	---	---	---	---	---
8134: Yutan-----	B		---	---	---	---	---	---	---
Judson-----	B		---	---	---	---	---	---	---
9985: Pits-----	A		---	---	---	---	---	---	---
9998: 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
1050: Aksarben-----	---	In	In	---	High	Moderate	Moderate
1100: Alda, OCCASIONALLY FLOODED-----	---	---	---	---	High	Moderate	Low
1347: Barney, FREQUENTLY FLOODED-----	---	---	---	---	Moderate	High	Low
1616: Boel, OCCASIONALLY FLOODED-----	---	---	---	---	Moderate	High	Low
1873: Burchard-----	---	---	---	---	Moderate	Moderate	Low
Steinauer-----	---	---	---	---	Moderate	High	Low
1879: Burchard-----	---	---	---	---	Moderate	Moderate	Low
Steinauer-----	---	---	---	---	Moderate	High	Low
2420: Deroin, SEVERELY ERODED-----	---	---	---	---	High	Moderate	Moderate
2830: Filbert-----	---	---	---	---	High	High	Low
2844: Fillmore-----	---	---	---	---	High	High	Low
2863: Fluvaquents-----	---	---	---	---	Moderate	High	Low
3025: Gibbon, OCCASIONALLY FLOODED-----	---	---	---	---	High	High	Low
3038: Gibbon, OCCASIONALLY FLOODED-----	---	---	---	---	High	High	Low
Saltine, OCCASIONALLY FLOODED-----	---	---	---	---	High	High	High
3421: Hedville-----	4-20	Bedrock (lithic)	---	Strongly cemented	Moderate	Low	Moderate
3830: Ida, 30-60% slopes-----	---	---	---	---	High	Low	Low
Steinauer-----	---	---	---	---	Moderate	High	Low
3890: Inglewood, RARELY FLOODED-	---	---	---	---	Moderate	Moderate	Low
4104: Judson-----	---	---	---	---	High	Moderate	Low
4106: Judson-----	---	---	---	---	High	Moderate	Low
4250: Kenridge, OCCASIONALLY FLOODED-----	---	---	---	---	High	Moderate	Low
4404: Lamo, OCCASIONALLY FLOODED-----	---	---	---	---	High	High	Low
4583: Lex, OCCASIONALLY FLOODED-----	---	---	---	---	High	High	Low
4853: Malcolm-----	---	---	---	---	High	Moderate	Moderate
4860: Malmo, SEVERELY ERODED-----	---	---	---	---	High	High	Low
5388: Morrill-----	---	---	---	---	Moderate	Moderate	Moderate
5480: Muscotah, OCCASIONALLY FLOODED-----	---	---	---	---	Moderate	High	Low
5540: Nodaway, OCCASIONALLY FLOODED-----	---	---	---	---	High	Moderate	Low
5541: Nodaway, CHANNELED-----	---	---	---	---	High	Moderate	Low
5736: Obert, FREQUENTLY FLOODED-----	---	---	---	---	High	High	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				
5742: Obert, OCCASIONALLY FLOODED-----	---	---	---	---	High	High	Low
5780: Olmitz-----	---	---	---	---	Moderate	Moderate	Moderate
6046: Pawnee-----	---	---	---	---	High	High	Low
6130: Platte, OCCASIONALLY FLOODED-----	---	---	---	---	Moderate	High	Moderate
6138: Platte, FREQUENTLY FLOODED-----	---	---	---	---	Moderate	High	Moderate
Barney, FREQUENTLY FLOODED, CHANNELED-----	---	---	---	---	Moderate	High	Low
6160: Pohocco-----	---	---	---	---	High	Moderate	Low
6162: Pohocco-----	---	---	---	---	High	Moderate	Low
6170: Pohocco-----	---	---	---	---	High	Moderate	Low
Pahuk-----	---	---	---	---	Low	Low	Moderate
6172: Pohocco-----	---	---	---	---	High	Moderate	Low
Pahuk-----	---	---	---	---	Low	Low	Moderate
6520: Saltillo, OCCASIONALLY FLOODED-----	---	---	---	---	High	High	High
6791: Scott-----	---	---	---	---	High	High	Low
7069: Steinauer-----	---	---	---	---	Moderate	High	Low
7290: Tomek-----	---	---	---	---	Moderate	Moderate	Low
7920: Wann, OCCASIONALLY FLOODED-----	---	---	---	---	High	Moderate	Low
8120: Yutan-----	---	---	---	---	High	Moderate	Moderate
8124: Yutan-----	---	---	---	---	High	Moderate	Moderate
8130: Yutan-----	---	---	---	---	High	Moderate	Moderate
Aksarben-----	---	---	---	---	High	Moderate	Moderate
8134: Yutan-----	---	---	---	---	High	Moderate	Moderate
Judson-----	---	---	---	---	High	Moderate	Low
9900: Arents, Earthen Dam-----	---	---	---	---	---	---	---
9985: Pits-----	---	---	---	---	Low	Low	Low
9998: Water-----	---	---	---	---	---	---	---



WATER MANAGEMENT  
Saunders County, 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  
Saunders County, 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
1050: Aksarben-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily
1100: Alda, OCCASIONALLY FLOODED-----	Limitation:  flooding frost action cutbanks cave	Limitation:  flooding wetness	Limitation:  too sandy wetness	Favorable
1347: Barney, FREQUENTLY FLOODED-----	Limitation:  flooding cutbanks cave	Limitation:  wetness droughty	Limitation:  too sandy wetness	Limitation:  rooting depth wetness droughty
1616: Boel, OCCASIONALLY FLOODED-----	Limitation:  flooding cutbanks cave	Limitation:  fast intake wetness droughty	Limitation:  too sandy wetness soil blowing	Limitation:  rooting depth droughty
1873: Burchard-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily slope	Limitation: erodes easily slope
Steinauer-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily slope	Limitation: erodes easily slope
1879: Burchard-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily slope	Limitation: erodes easily slope
Steinauer-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily slope	Limitation: erodes easily slope
2420: Deroin, SEVERELY ERODED-----	Limitation:  deep to water	Limitation:  erodes easily slope	Limitation:  erodes easily slope	Limitation:  erodes easily slope
2830: Filbert-----	Limitation: frost action percs slowly	Limitation: erodes easily percs slowly wetness	Limitation: erodes easily percs slowly wetness	Limitation: erodes easily percs slowly wetness
2844: Fillmore-----	Limitation: frost action percs slowly ponding	Limitation: erodes easily percs slowly ponding	Limitation: erodes easily percs slowly ponding	Limitation: erodes easily percs slowly wetness
2863: Fluvaquents-----	Limitation: flooding percs slowly ponding	Limitation: rooting depth ponding droughty	Limitation: ponding	Limitation: rooting depth wetness droughty
3025: Gibbon, OCCASIONALLY FLOODED-----	Limitation:  flooding frost action	Limitation:  flooding wetness	Limitation:  wetness	Favorable
3038: Gibbon, OCCASIONALLY FLOODED-----	Limitation:  flooding frost action	Limitation:  flooding wetness	Limitation:  wetness	Favorable
Saltine, OCCASIONALLY FLOODED-----	Limitation:  excess salt flooding frost action	Limitation:  erodes easily flooding wetness	Limitation:  erodes easily wetness	Limitation:  erodes easily excess sodium excess salt
3421: Hedville-----	Limitation: deep to water	Limitation: slope thin layer soil blowing	Limitation: area reclaim slope depth to rock	Limitation: area reclaim slope depth to rock

WATER MANAGEMENT--Continued  
Saunders County, 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
3830: Ida, 30-60% slopes-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily slope	Limitation: erodes easily slope
Steinauer-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily slope	Limitation: erodes easily slope
3890: Inglewood, RARELY FLOODED--	Limitation: deep to water	Limitation: fast intake soil blowing droughty	Limitation: too sandy soil blowing	Limitation: droughty
4104: Judson-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
4106: Judson-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
4250: Kenridge, OCCASIONALLY FLOODED-----	Limitation: deep to water	Limitation: flooding	Favorable	Favorable
4404: Lamo, OCCASIONALLY FLOODED-----	Limitation: flooding frost action	Limitation: flooding wetness	Limitation: erodes easily wetness	Limitation: erodes easily wetness
4583: Lex, OCCASIONALLY FLOODED-----	Limitation: flooding frost action cutbanks cave	Limitation: flooding wetness	Limitation: erodes easily too sandy wetness	Limitation: erodes easily wetness
4853: Malcolm-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily slope	Limitation: erodes easily slope
4860: Malmo, SEVERELY ERODED-----	Limitation: frost action percs slowly slope	Limitation: slope wetness	Limitation: erodes easily slope wetness	Limitation: erodes easily slope wetness
5388: Morrill-----	Limitation: deep to water	Limitation: slope	Favorable	Favorable
5480: Muscotah, OCCASIONALLY FLOODED-----	Limitation: flooding percs slowly	Limitation: erodes easily percs slowly wetness	Limitation: erodes easily percs slowly wetness	Limitation: erodes easily percs slowly
5540: Nodaway, OCCASIONALLY FLOODED-----	Limitation: deep to water	Limitation: flooding	Limitation: erodes easily	Limitation: erodes easily
5541: Nodaway, CHANNELED-----	Limitation: deep to water	Limitation: flooding	Limitation: erodes easily	Limitation: erodes easily
5736: Obert, FREQUENTLY FLOODED-----	Limitation: flooding frost action ponding	Limitation: flooding ponding	Limitation: ponding	Limitation: wetness
5742: Obert, OCCASIONALLY FLOODED-----	Limitation: flooding frost action ponding	Limitation: flooding ponding	Limitation: ponding	Limitation: wetness
5780: Olmitz-----	Limitation: deep to water	Limitation: slope	Favorable	Favorable

WATER MANAGEMENT--Continued  
Saunders County, 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
6046: Pawnee-----	Limitation: frost action percs slowly slope	Limitation: percs slowly slope wetness	Limitation: erodes easily wetness	Limitation: erodes easily wetness
6130: Platte, OCCASIONALLY FLOODED-----	Limitation:  flooding cutbanks cave	Limitation:  wetness droughty	Limitation:  too sandy wetness soil blowing	Limitation:  rooting depth wetness droughty
6138: Platte, FREQUENTLY FLOODED-----	Limitation:  flooding cutbanks cave	Limitation:  wetness droughty	Limitation:  too sandy wetness soil blowing	Limitation:  rooting depth wetness droughty
Barney, FREQUENTLY FLOODED, CHANNELED-----	Limitation:  flooding cutbanks cave	Limitation:  wetness droughty	Limitation:  too sandy wetness	Limitation:  rooting depth wetness droughty
6160: Pohocco-----	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
6162: Pohocco-----	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
6170: Pohocco-----	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
Pahuk-----	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: slope too sandy soil blowing	Limitation: rooting depth slope droughty
6172: Pohocco-----	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
Pahuk-----	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: slope too sandy soil blowing	Limitation: rooting depth slope droughty
6520: Saltillo, OCCASIONALLY FLOODED-----	Limitation:  excess salt flooding frost action	Limitation:  erodes easily flooding wetness	Limitation:  erodes easily wetness	Limitation:  excess sodium excess salt wetness
6791: Scott-----	Limitation: frost action percs slowly ponding	Limitation: erodes easily percs slowly ponding	Limitation: erodes easily percs slowly ponding	Limitation: erodes easily percs slowly wetness
7069: Steinauer-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily slope	Limitation: erodes easily slope
7290: Tomek-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily
7920: Wann, OCCASIONALLY FLOODED-----	Limitation:  flooding frost action	Limitation:  flooding wetness soil blowing	Limitation:  wetness soil blowing	Favorable
8120: Yutan-----	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
8124: Yutan-----	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope

WATER MANAGEMENT--Continued  
Saunders County, 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
8130: Yutan-----	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
Aksarben-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily
8134: Yutan-----	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
Judson-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
9900: Arents, Earthen Dam-----	---	---	---	---
9985: Pits-----	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: slope too sandy	Limitation: rooting depth slope droughty
9998: Water-----	---	---	---	---

WATER MANAGEMENT--Continued  
Saunders County, 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
1050: Aksarben-----	98	Somewhat limited Seepage	0.70	Not limited		Very limited Deep to water	1.00
1100: Alda, OCCASIONALLY FLOODED-----	85	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.95 0.14	Very limited Cutbanks cave Deep to water	1.00 0.02
1347: Barney, FREQUENTLY FLOODED-----	87	Very limited Seepage	1.00	Very limited Seepage Depth to saturated zone	1.00 1.00	Very limited Cutbanks cave	1.00
1616: Boel, OCCASIONALLY FLOODED-----	85	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.95 0.72	Very limited Cutbanks cave Deep to water	1.00 0.02
1873: Burchard-----	50	Somewhat limited Seepage	0.05	Somewhat limited Piping	0.25	Very limited Deep to water	1.00
Steinauer-----	35	Somewhat limited Seepage	0.05	Somewhat limited Piping	0.08	Very limited Deep to water	1.00
1879: Burchard-----	45	Somewhat limited Seepage Slope	0.05 0.03	Somewhat limited Piping	0.15	Very limited Deep to water	1.00
Steinauer-----	40	Somewhat limited Seepage Slope	0.05 0.02	Somewhat limited Piping	0.08	Very limited Deep to water	1.00
2420: Deroin, SEVERELY ERODED-----	90	Somewhat limited Seepage	0.04	Somewhat limited Piping	0.01	Very limited Deep to water	1.00
2830: Filbert-----	90	Not limited		Very limited Depth to saturated zone Hard to pack	1.00 0.92	Very limited Deep to water	1.00
2844: Fillmore-----	90	Somewhat limited Seepage	0.70	Very limited Ponding Depth to saturated zone Hard to pack	1.00 1.00 0.90	Very limited Deep to water	1.00
2863: Fluvaquents-----	95	Very limited Seepage	1.00	Very limited Ponding Depth to saturated zone	1.00 1.00	Somewhat limited Cutbanks cave	0.10
3025: Gibbon, OCCASIONALLY FLOODED-----	95	Somewhat limited Seepage	0.70	Somewhat limited Depth to saturated zone Piping	0.95 0.68	Somewhat limited Slow refill Cutbanks cave Deep to water	0.30 0.10 0.02
3038: Gibbon, OCCASIONALLY FLOODED-----	50	Somewhat limited Seepage	0.70	Somewhat limited Depth to saturated zone Piping	0.95 0.68	Somewhat limited Slow refill Cutbanks cave	0.30 0.10

WATER MANAGEMENT--Continued  
Saunders County, 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
Saltine, OCCASIONALLY FLOODED-----	38	Somewhat limited		Very limited		Deep to water	0.02
		Seepage	0.70	Piping Depth to saturated zone Salinity	1.00 0.95 0.12	Somewhat limited Salty water Slow refill Cutbanks cave Deep to water	0.50 0.30 0.10 0.02
3421: Hedville-----	80	Very limited Depth to bedrock Slope	1.00 0.08	Very limited Thin layer Piping	1.00 1.00	Very limited Deep to water	1.00
3830: Ida, 30-60% slopes--	60	Somewhat limited Slope Seepage	0.85 0.70	Very limited Piping	1.00	Very limited Deep to water	1.00
Steinauer-----	30	Somewhat limited Slope Seepage	0.85 0.05	Somewhat limited Piping	0.08	Very limited Deep to water	1.00
3890: Inglewood, RARELY FLOODED-----	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Cutbanks cave Deep to water	1.00 0.96
4104: Judson-----	85	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.01	Very limited Deep to water	1.00
4106: Judson-----	90	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.01	Very limited Deep to water	1.00
4250: Kenridge, OCCASIONALLY FLOODED-----	92	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.05	Piping	0.00	Deep to water Slow refill Cutbanks cave	0.96 0.95 0.10
4404: Lamo, OCCASIONALLY FLOODED-----	96	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.05	Depth to saturated zone Piping	1.00 0.08	Slow refill Cutbanks cave Deep to water	0.95 0.10 0.00
4583: Lex, OCCASIONALLY FLOODED-----	94	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone Seepage	1.00 0.96	Cutbanks cave Deep to water	1.00 0.00
4853: Malcolm-----	85	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.74	Very limited Deep to water	1.00
4860: Malmo, SEVERELY ERODED-----	85	Not limited		Very limited		Very limited	
				Depth to saturated zone Hard to pack	1.00 0.48	Deep to water	1.00
5388: Morrill-----	89	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Deep to water	1.00

WATER MANAGEMENT--Continued  
Saunders County, Nebraska

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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
5480: Muscotah, OCCASIONALLY FLOODED-----	90	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.05	Depth to saturated zone Hard to pack	0.95 0.80	Slow refill Cutbanks cave Deep to water	1.00 0.10 0.02
5540: Nodaway, OCCASIONALLY FLOODED-----	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Piping	0.68	Deep to water Slow refill Cutbanks cave	0.81 0.30 0.10
5541: Nodaway, CHanneled--	85	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.68	Somewhat limited Deep to water Slow refill Cutbanks cave	0.81 0.30 0.10
5736: Obert, FREQUENTLY FLOODED-----	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.57	Ponding Depth to saturated zone Piping	1.00 1.00 0.07	Slow refill Cutbanks cave	0.43 0.10
5742: Obert, OCCASIONALLY FLOODED-----	86	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.57	Depth to saturated zone Piping	1.00 0.07	Slow refill Cutbanks cave	0.43 0.10
5780: Olmitz-----	85	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.06	Very limited Deep to water	1.00
6046: Pawnee-----	80	Not limited		Very limited Depth to saturated zone Hard to pack	1.00 0.79	Very limited Deep to water	1.00
6130: Platte, OCCASIONALLY FLOODED-----	80	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone Seepage	1.00 0.16	Cutbanks cave Deep to water	1.00 0.00
6138: Platte, FREQUENTLY FLOODED-----	50	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone Seepage	1.00 0.16	Cutbanks cave Deep to water	1.00 0.00
Barney, FREQUENTLY FLOODED, CHanneled--	46	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage Depth to saturated zone	1.00 1.00	Cutbanks cave	1.00
6160: Pohocco-----	80	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.64	Very limited Deep to water	1.00
6162: Pohocco-----	80	Somewhat limited Seepage Slope	0.70 0.02	Somewhat limited Piping	0.64	Very limited Deep to water	1.00
6170: Pohocco-----	52	Somewhat limited		Somewhat limited		Very limited	

WATER MANAGEMENT--Continued  
Saunders County, Nebraska

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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
Pahuk-----	45	Seepage	0.70	Piping	0.64	Deep to water	1.00
		Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Deep to water	1.00
6172: Pohocco-----	59	Somewhat limited Seepage Slope	0.70 0.02	Somewhat limited Piping	0.64	Very limited Deep to water	1.00
Pahuk-----	35	Very limited Seepage Slope	1.00 0.02	Very limited Seepage	1.00	Very limited Deep to water	1.00
6520: Saltillo, OCCASIONALLY FLOODED-----	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Salty water	0.99
				Piping Salinity	1.00 1.00	Slow refill Cutbanks cave	0.30 0.10
6791: Scott-----	100	Not limited		Very limited Ponding Depth to saturated zone Hard to pack	1.00 1.00 0.91	Very limited Deep to water	1.00
7069: Steinauer-----	85	Somewhat limited Slope Seepage	0.12 0.05	Somewhat limited Piping	0.08	Very limited Deep to water	1.00
7290: Tomek-----	86	Somewhat limited Seepage	0.05	Not limited		Very limited Deep to water	1.00
7920: Wann, OCCASIONALLY FLOODED-----	92	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.84	Cutbanks cave	1.00
				Seepage Piping	0.10 0.02	Deep to water	0.07
8120: Yutan-----	88	Somewhat limited Seepage Slope	0.70 0.02	Somewhat limited Piping	0.22	Very limited Deep to water	1.00
8124: Yutan-----	92	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.22	Very limited Deep to water	1.00
8130: Yutan-----	65	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.22	Very limited Deep to water	1.00
Aksarben-----	33	Somewhat limited Seepage	0.70	Not limited		Very limited Deep to water	1.00
8134: Yutan-----	64	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.22	Very limited Deep to water	1.00
Judson-----	25	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.01	Very limited Deep to water	1.00
9900: Arents, Earthen Dam-----	100	Not rated		Not rated		Not rated	
9985: Pits-----	100	Not rated		Not rated		Not rated	

WATER MANAGEMENT--Continued  
Saunders County, Nebraska

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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
9998: Water-----	100	Not rated		Not rated		Not rated	



SANITARY FACILITIES  
Saunders County, 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  
Saunders County, 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  
Saunders County, 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
1050: Aksarben-----	98	Very limited Restricted permeability	1.00	Somewhat limited Seepage	0.50
1100: Alda, OCCASIONALLY FLOODED-----	85	Very limited Flooding Depth to saturated zone Filtering capacity	1.00 1.00 1.00	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 1.00
1347: Barney, FREQUENTLY FLOODED-----	87	Very limited Flooding Depth to saturated zone Filtering capacity	1.00 1.00 1.00	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 1.00
1616: Boel, OCCASIONALLY FLOODED-----	85	Very limited Flooding Depth to saturated zone Filtering capacity	1.00 1.00 1.00	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 1.00
1873: Burchard-----	50	Very limited Restricted permeability Slope	1.00 0.04	Very limited Slope	1.00
Steinauer-----	35	Very limited Restricted permeability Slope	1.00 0.04	Very limited Slope	1.00
1879: Burchard-----	45	Very limited Restricted permeability Slope	1.00 1.00	Very limited Slope	1.00
Steinauer-----	40	Very limited Restricted permeability Slope	1.00 0.96	Very limited Slope	1.00
2420: Deroin, SEVERELY ERODED-----	90	Very limited Restricted permeability Slope	1.00 0.00	Very limited Slope	1.00
2830: Filbert-----	90	Very limited Restricted permeability Depth to saturated zone	1.00 1.00	Somewhat limited Seepage	0.50
2844: Fillmore-----	90	Very limited Restricted permeability Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Seepage	1.00 0.50
2863: Fluvaquents-----	95	Very limited Flooding Ponding Depth to saturated zone Filtering capacity	1.00 1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone Seepage	1.00 1.00 1.00 1.00
3025: Gibbon, OCCASIONALLY FLOODED-----	95	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  
Saunders County, Nebraska

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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
3038: Gibbon, OCCASIONALLY FLOODED-----	50	Restricted permeability	0.50	Seepage	0.50
		Very limited		Very limited	
		Flooding Depth to saturated zone	1.00	Flooding Depth to saturated zone	1.00
Saltine, OCCASIONALLY FLOODED-----	38	Restricted permeability	0.50	Seepage	0.50
		Very limited		Very limited	
		Flooding Depth to saturated zone	1.00	Flooding Depth to saturated zone	1.00
3421: Hedville-----	80	Restricted permeability	1.00	Seepage	0.50
		Very limited		Very limited	
		Flooding Depth to saturated zone	1.00	Flooding Depth to saturated zone	1.00
3830: Ida, 30-60% slopes--	60	Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage	0.50	Seepage	0.50
Steinauer-----	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Restricted permeability	1.00		
3890: Inglewood, RARELY FLOODED-----	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Depth to saturated zone	0.84	Flooding	0.40
4104: Judson-----	85	Flooding	0.40	Depth to saturated zone	0.17
		Slope		Slope	0.00
		Somewhat limited		Somewhat limited	
4106: Judson-----	90	Restricted permeability	0.50	Seepage	0.50
		Somewhat limited		Somewhat limited	
		Slope		Slope	0.09
4250: Kenridge, OCCASIONALLY FLOODED-----	92	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Restricted permeability	1.00	Depth to saturated zone	0.17
4404: Lamo, OCCASIONALLY FLOODED-----	96	Depth to saturated zone	0.84		
		Very limited		Very limited	
		Flooding Depth to saturated zone	1.00	Flooding Depth to saturated zone	1.00
4583: Lex, OCCASIONALLY FLOODED-----	94	Restricted permeability	1.00		
		Very limited		Very limited	
		Flooding Depth to saturated zone	1.00	Flooding Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Restricted permeability	0.68		

SANITARY FACILITIES--Continued  
Saunders County, 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
4853: Malcolm-----	85	Somewhat limited Restricted permeability Slope	0.50 0.00	Very limited Slope Seepage	1.00 0.50
4860: Malmo, SEVERELY ERODED-----	85	Very limited  Restricted permeability Depth to saturated zone Slope	1.00 1.00 0.04	Very limited  Slope Depth to saturated zone	1.00 0.25
5388: Morrill-----	89	Very limited Restricted permeability Slope	1.00 0.04	Very limited Seepage Slope	1.00 1.00
5480: Muscotah, OCCASIONALLY FLOODED-----	90	Very limited  Flooding Restricted permeability Depth to saturated zone	1.00 1.00 1.00	Very limited  Flooding Depth to saturated zone	1.00 1.00
5540: Nodaway, OCCASIONALLY FLOODED-----	90	Very limited  Flooding Depth to saturated zone Restricted permeability	1.00 1.00 0.50	Very limited  Flooding Depth to saturated zone Seepage	1.00 0.71 0.50
5541: Nodaway, CHanneled--	85	Very limited Flooding Depth to saturated zone Restricted permeability	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Seepage	1.00 0.71 0.50
5736: Obert, FREQUENTLY FLOODED-----	80	Very limited  Flooding Ponding Depth to saturated zone Restricted permeability	1.00 1.00 1.00 1.00	Very limited  Ponding Flooding Depth to saturated zone Seepage	1.00 1.00 1.00 0.32
5742: Obert, OCCASIONALLY FLOODED-----	86	Very limited  Flooding Depth to saturated zone Restricted permeability	1.00 1.00 1.00	Very limited  Flooding Depth to saturated zone Seepage	1.00 1.00 0.32
5780: Olmitz-----	85	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage Slope	0.50 0.09
6046: Pawnee-----	80	Very limited Restricted permeability Depth to saturated zone Slope	1.00 1.00 0.04	Very limited Slope Depth to saturated zone	1.00 0.25
6130: Platte, OCCASIONALLY FLOODED-----	80	Very limited  Flooding Depth to saturated zone Filtering capacity	1.00 1.00 1.00	Very limited  Flooding Seepage Depth to saturated zone	1.00 1.00 1.00

SANITARY FACILITIES--Continued  
Saunders County, 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
6138: Platte, FREQUENTLY FLOODED-----	50	Very limited		Very limited	
		Flooding Depth to saturated zone	1.00	Flooding Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
Barney, FREQUENTLY FLOODED, CHANNELED-	46	Very limited		Very limited	
		Flooding Depth to saturated zone	1.00	Flooding Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
6160: Pohocco-----	80	Somewhat limited Restricted permeability Slope	0.50	Very limited Slope	1.00
			0.00	Seepage	0.50
6162: Pohocco-----	80	Somewhat limited Slope	0.96	Very limited Slope	1.00
		Restricted permeability	0.50	Seepage	0.50
6170: Pohocco-----	52	Somewhat limited Restricted permeability Slope	0.50	Very limited Slope	1.00
			0.00	Seepage	0.50
Pahuk-----	45	Very limited Filtering capacity Slope	1.00	Very limited Seepage	1.00
			0.00	Slope	1.00
6172: Pohocco-----	59	Somewhat limited Slope	0.96	Very limited Slope	1.00
		Restricted permeability	0.50	Seepage	0.50
Pahuk-----	35	Very limited Filtering capacity Slope	1.00	Very limited Slope	1.00
			0.96	Seepage	1.00
6520: Saltillo, OCCASIONALLY FLOODED-----	85	Very limited		Very limited	
		Flooding Depth to saturated zone	1.00	Flooding Depth to saturated zone	1.00
		Restricted permeability	0.50	Seepage	0.50
6791: Scott-----	100	Very limited Restricted permeability Ponding Depth to saturated zone	1.00	Very limited Ponding	1.00
			1.00	Seepage	0.50
			1.00		
7069: Steinauer-----	85	Very limited Restricted permeability Slope	1.00	Very limited Slope	1.00
			1.00		
7290: Tomek-----	86	Very limited Restricted permeability	1.00	Somewhat limited Seepage	0.00
7920: Wann, OCCASIONALLY FLOODED-----	92	Very limited		Very limited	
		Flooding Depth to saturated zone	1.00	Flooding Seepage	1.00
			1.00	Depth to saturated zone	1.00
8120: Yutan-----	88	Very limited Restricted permeability	1.00	Very limited Slope	1.00

SANITARY FACILITIES--Continued  
Saunders County, Nebraska

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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
8124: Yutan-----	92	Slope	0.96	Seepage	0.50
		Very limited Restricted permeability	1.00	Somewhat limited Seepage	0.50
8130: Yutan-----	65	Very limited Restricted permeability	1.00	Slope	0.33
				Somewhat limited Seepage	0.50
Aksarben-----	33	Very limited Restricted permeability	1.00	Slope	0.33
				Somewhat limited Seepage	0.50
8134: Yutan-----	64	Very limited Restricted permeability	1.00	Very limited Slope	1.00
				Slope	0.00
Judson-----	25	Somewhat limited Restricted permeability	0.50	Seepage	0.50
				Slope	0.00
9900: Arents, Earthen Dam-	100	Not rated		Not rated	
9985: Pits-----	100	Not rated		Not rated	
9998: Water-----	100	Not rated		Not rated	

SANITARY FACILITIES--Continued  
Saunders County, 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
1050: Aksarben-----	98	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
1100: Alda, OCCASIONALLY FLOODED-----	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too Sandy	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Seepage	1.00	Seepage	1.00	Depth to saturated zone	0.68
		Too Sandy	1.00				
1347: Barney, FREQUENTLY FLOODED-----	87	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too Sandy	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Seepage	1.00	Seepage	1.00	Depth to saturated zone	1.00
		Too Sandy	1.00				
1616: Boel, OCCASIONALLY FLOODED-----	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too Sandy	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Seepage	1.00	Seepage	1.00	Depth to saturated zone	0.68
		Too Sandy	1.00				
1873: Burchard-----	50	Somewhat limited Too clayey	0.50	Somewhat limited Slope	0.04	Somewhat limited Too clayey	0.50
		Slope	0.04			Slope	0.04
Steinauer-----	35	Somewhat limited Too clayey	0.50	Somewhat limited Slope	0.04	Somewhat limited Too clayey	0.50
		Slope	0.04			Slope	0.04
1879: Burchard-----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Too clayey	0.50			Too clayey	0.50
Steinauer-----	40	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96
		Too clayey	0.50			Too clayey	0.50
2420: Deroin, SEVERELY ERODED-----	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.00	Too clayey	0.50
		Slope	0.00			Slope	0.00
2830: Filbert-----	90	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to saturated zone	1.00
2844: Fillmore-----	90	Very limited Depth to saturated zone	1.00	Very limited Ponding	1.00	Very limited Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to saturated zone	1.00
2863: Fluvaquents-----	95	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Seepage	1.00	Seepage	1.00		
3025: Gibbon, OCCASIONALLY FLOODED-----	95	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.68
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		

SANITARY FACILITIES--Continued  
Saunders County, Nebraska

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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
3038: Gibbon, OCCASIONALLY FLOODED-----	50	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.68
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
Saltine, OCCASIONALLY FLOODED-----	38	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.68
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Sodium content	1.00				
		Too clayey	0.50				
3421: Hedville-----	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
3830: Ida, 30-60% slopes--	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Steinauer-----	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
3890: Inglewood, RARELY FLOODED-----	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too Sandy	1.00
		Seepage	1.00	Seepage	1.00	Seepage	1.00
		Too Sandy	1.00	Flooding	0.40		
		Flooding	0.40				
4104: Judson-----	85	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
4106: Judson-----	90	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
4250: Kenridge, OCCASIONALLY FLOODED-----	92	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Too clayey	0.50
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Too clayey	0.50				
4404: Lamo, OCCASIONALLY FLOODED-----	96	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.86
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
4583: Lex, OCCASIONALLY FLOODED-----	94	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too Sandy	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Seepage	1.00	Seepage	1.00	Depth to saturated zone	0.86
		Too Sandy	1.00				
4853: Malcolm-----	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.00	Slope	0.00	Slope	0.00
4860: Malmo, SEVERELY ERODED-----	85	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.75	Too clayey	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.86
						Slope	0.04
5388: Morrill-----	89	Very limited		Somewhat limited		Somewhat limited	
		Seepage	1.00	Slope	0.04	Seepage	0.50
		Too Sandy	1.00			Too Sandy	0.50
		Slope	0.04			Slope	0.04

SANITARY FACILITIES--Continued  
Saunders County, Nebraska

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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
5480: Muscotah, OCCASIONALLY FLOODED-----	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too clayey	1.00
		Depth to saturated zone Too clayey	1.00	Depth to saturated zone	1.00	Hard to compact Depth to saturated zone	1.00 0.68
5540: Nodaway, OCCASIONALLY FLOODED-----	90	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
5541: Nodaway, CHanneled--	85	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
5736: Obert, FREQUENTLY FLOODED-----	80	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
5742: Obert, OCCASIONALLY FLOODED-----	86	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone Too clayey	1.00 0.50	Depth to saturated zone	1.00	Too clayey	0.50
5780: Olmitz-----	85	Somewhat limited		Not limited		Somewhat limited	
6046: Pawnee-----	80	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.75	Too clayey	1.00
		Too clayey	0.50	Slope	0.04	Depth to saturated zone	0.86
6130: Platte, OCCASIONALLY FLOODED-----	80	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too Sandy	1.00
		Depth to saturated zone Seepage	1.00	Depth to saturated zone Seepage	1.00	Seepage	1.00
6138: Platte, FREQUENTLY FLOODED-----	50	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too Sandy	1.00
		Depth to saturated zone Seepage	1.00	Depth to saturated zone Seepage	1.00	Seepage	1.00
Barney, FREQUENTLY FLOODED, CHanneled--	46	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone Seepage	1.00	Depth to saturated zone Seepage	1.00	Seepage	1.00
6160: Pohocco-----	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.00	Slope	0.00	Slope	0.00
6162: Pohocco-----	80	Somewhat limited		Somewhat limited		Somewhat limited	
6170: Pohocco-----	52	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.96	Slope	0.96	Slope	0.96

SANITARY FACILITIES--Continued  
Saunders County, 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
Pahuk-----	45	Slope Very limited	0.00	Slope Very limited	0.00	Slope Very limited	0.00
		Seepage	1.00	Seepage	1.00	Too Sandy	1.00
		Too Sandy	1.00	Slope	0.00	Seepage	1.00
		Slope	0.00			Slope	0.00
6172: Pohocco-----	59	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96
Pahuk-----	35	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Too Sandy	1.00
		Too Sandy	1.00	Slope	0.96	Seepage	1.00
		Slope	0.96			Slope	0.96
6520: Saltillo, OCCASIONALLY FLOODED-----	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Sodium content	1.00
		Sodium content	1.00				
		Salinity	1.00				
6791: Scott-----	100	Very limited Depth to saturated zone	1.00	Very limited Ponding	1.00	Very limited Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Depth to saturated zone	1.00
						Hard to compact	1.00
7069: Steinauer-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Too clayey	0.50			Too clayey	0.50
7290: Tomek-----	86	Somewhat limited Too clayey	0.50	Not limited		Very limited Hard to compact	1.00
						Too clayey	0.50
7920: Wann, OCCASIONALLY FLOODED-----	92	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Seepage	0.50
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.44
		Seepage	1.00	Seepage	1.00		
8120: Yutan-----	88	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96
8124: Yutan-----	92	Not limited		Not limited		Not limited	
8130: Yutan-----	65	Not limited		Not limited		Not limited	
Aksarben-----	33	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
8134: Yutan-----	64	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00
Judson-----	25	Somewhat limited Too clayey	0.50	Somewhat limited Slope	0.00	Somewhat limited Too clayey	0.50
		Slope	0.00			Slope	0.00
9900: Arents, Earthen Dam	100	Not rated		Not rated		Not rated	
9985: Pits-----	100	Not rated		Not rated		Not rated	
9998: Water-----	100	Not rated		Not rated		Not rated	



AGRICULTURAL WASTE MANAGEMENT  
Saunders County, 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.

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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.

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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
1050: Aksarben-----	98	Somewhat limited Restricted permeability Too acid	0.30 0.11	Somewhat limited Too acid Restricted permeability	0.42 0.22	Somewhat limited Too acid Restricted permeability	0.42 0.22
1100: Alda, OCCASIONALLY FLOODED-----	85	Very limited Filtering capacity Depth to saturated zone Flooding	1.00 0.95 0.60	Very limited Filtering capacity Flooding Depth to saturated zone	1.00 1.00 0.95	Very limited Filtering capacity Depth to saturated zone Flooding	1.00 0.95 0.60
1347: Barney, FREQUENTLY FLOODED-----	87	Very limited Flooding Depth to saturated zone Filtering capacity Droughty Runoff limitation	1.00 1.00 1.00 0.60 0.40	Very limited Flooding Depth to saturated zone Filtering capacity Droughty	1.00 1.00 1.00 0.60	Very limited Flooding Depth to saturated zone Filtering capacity Droughty	1.00 1.00 1.00 0.60
1616: Boel, OCCASIONALLY FLOODED-----	85	Very limited Filtering capacity Depth to saturated zone Flooding Leaching limitation Droughty	1.00 0.95 0.60 0.45 0.14	Very limited Flooding Filtering capacity Depth to saturated zone Droughty	1.00 1.00 0.95 0.14	Very limited Filtering capacity Depth to saturated zone Flooding Droughty	1.00 0.95 0.60 0.14
1873: Burchard-----	50	Somewhat limited Restricted permeability Slope	0.30 0.04	Somewhat limited Restricted permeability Slope	0.22 0.04	Very limited Too steep for surface application Restricted permeability Too steep for sprinkler application	1.00 0.22 0.22
Steinauer-----	35	Somewhat limited Restricted permeability Slope	0.30 0.04	Somewhat limited Restricted permeability Slope	0.22 0.04	Very limited Too steep for surface application Restricted permeability Too steep for sprinkler application	1.00 0.22 0.22
1879: Burchard-----	45	Very limited Slope Restricted permeability	1.00 0.30	Very limited Slope Restricted permeability	1.00 0.22	Very limited Too steep for surface application Too steep for sprinkler application Restricted permeability	1.00 1.00 0.22
Steinauer-----	40	Somewhat limited Slope Restricted permeability	0.96 0.30	Somewhat limited Slope Restricted permeability	0.96 0.22	Very limited Too steep for surface application Too steep for sprinkler application Restricted permeability	1.00 0.97 0.22
2420: Deroin, SEVERELY ERODED-----	90	Somewhat limited		Somewhat limited		Very limited	

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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
2830: Filbert-----	90	Restricted permeability	0.41	Too acid	0.31	Too steep for surface application	1.00
		Too acid	0.08	Restricted permeability	0.31	Too acid	0.31
		Slope	0.00	Slope	0.00	Restricted permeability	0.31
						Too steep for sprinkler application	0.10
2844: Fillmore-----	90	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Runoff limitation	0.40	Too acid	0.91	Too acid	0.91
		Too acid	0.32				
2863: Fluvaquents-----	95	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Runoff limitation	0.40	Too acid	0.42	Too acid	0.42
3025: Gibbon, OCCASIONALLY FLOODED-----	95	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.95	Flooding	1.00	Depth to saturated zone	0.95
		Flooding	0.60	Depth to saturated zone	0.95	Flooding	0.60
3038: Gibbon, OCCASIONALLY FLOODED-----	50	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.95	Flooding	1.00	Depth to saturated zone	0.95
		Flooding	0.60	Depth to saturated zone	0.95	Flooding	0.60
Saltine, OCCASIONALLY FLOODED-----	38	Very limited		Very limited		Very limited	
		Sodium content	1.00	Flooding	1.00	Sodium content	1.00
		Depth to saturated zone	0.95	Sodium content	1.00	Depth to saturated zone	0.95
		Flooding	0.60	Depth to saturated zone	0.95	Flooding	0.60
		Salinity	0.50	Restricted permeability	0.22	Restricted permeability	0.22
3421: Hedville-----	80	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
		Slope	1.00	Slope	1.00	Too steep for surface application	1.00
		Runoff limitation	0.40	Cobble content	0.12	Too steep for sprinkler application	1.00
3830: Ida, 30-60% slopes--	60	Cobble content	0.12			Cobble content	0.12
		Very limited Slope	1.00	Very limited Slope	1.00	Very limited Too steep for surface application	1.00

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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			
Steinauer-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Too steep for sprinkler application	1.00			
			Restricted permeability		0.30	Restricted permeability	0.22	Very limited Too steep for surface application	1.00	
								Too steep for sprinkler application	1.00	
3890: Inglewood, RARELY FLOODED-----	85	Very limited Filtering capacity Leaching limitation	1.00	Very limited Filtering capacity Flooding	1.00	Very limited Filtering capacity	1.00			
			0.45		0.40		0.22	Restricted permeability	0.22	
4104: Judson-----	85	Not limited		Not limited		Not limited				
4106: Judson-----	90	Not limited		Not limited		Somewhat limited Too steep for surface application	0.00			
4250: Kenridge, OCCASIONALLY FLOODED-----	92	Somewhat limited		Very limited		Somewhat limited				
			Flooding		0.60		Flooding	1.00	Flooding	0.60
			Restricted permeability Too acid		0.30 0.03		Restricted permeability Too acid	0.22 0.14	Restricted permeability Too acid	0.22 0.14
4404: Lamo, OCCASIONALLY FLOODED-----	96	Very limited		Very limited		Very limited				
			Depth to saturated zone		1.00		Flooding	1.00	Depth to saturated zone	1.00
			Flooding		0.60		Depth to saturated zone	1.00	Flooding	0.60
4583: Lex, OCCASIONALLY FLOODED-----	94	Very limited		Very limited		Very limited				
			Restricted permeability		0.30		Restricted permeability	0.22	Restricted permeability	0.22
			Filtering capacity		1.00		Filtering capacity	1.00	Filtering capacity	1.00
4853: Malcolm-----	85	Somewhat limited		Somewhat limited		Very limited				
			Too acid		0.03		Too acid	0.14	Too steep for surface application	1.00
			Slope		0.00		Slope	0.00	Too acid Too steep for sprinkler application	0.14 0.10
4860: Malmo, SEVERELY ERODED-----	85	Very limited		Very limited		Very limited				
			Restricted permeability		1.00		Restricted permeability	1.00	Restricted permeability	1.00
			Depth to saturated zone		1.00		Depth to saturated zone	1.00	Too steep for surface application	1.00
			Runoff limitation		0.40		Too acid	0.14	Depth to saturated zone	1.00
			Slope		0.04		Slope	0.04	Depth to saturated zone Too steep for sprinkler application	0.22
5388: Morrill-----	89	Somewhat limited		Very limited		Too acid	0.14			

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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
5480: Muscotah, OCCASIONALLY FLOODED-----	90	Restricted permeability	0.50	Too acid	1.00	Too steep for surface application	1.00
		Too acid	0.50	Restricted permeability	0.37	Too acid	1.00
		Slope	0.04	Slope	0.04	Restricted permeability	0.37
		Filtering capacity	0.00	Filtering capacity	0.00	Too steep for sprinkler application	0.22
						Filtering capacity	0.00
5540: Nodaway, OCCASIONALLY FLOODED-----	90	Very limited		Very limited		Very limited	
		Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
		Depth to saturated zone	0.95	Flooding	1.00	Depth to saturated zone	0.95
		Flooding	0.60	Depth to saturated zone	0.95	Flooding	0.60
5541: Nodaway, CHANNELED--	85	Runoff limitation	0.40				
		Very limited		Very limited		Somewhat limited	
5736: Obert, FREQUENTLY FLOODED-----	80	Flooding	0.60	Flooding	1.00	Flooding	0.60
		Very limited		Very limited		Very limited	
5742: Obert, OCCASIONALLY FLOODED-----	86	Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Runoff limitation	0.40	Restricted permeability	0.22	Restricted permeability	0.22
		Restricted permeability	0.30				
5780: Olmitz-----	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	0.60	Flooding	1.00	Flooding	0.60
		Runoff limitation	0.40	Restricted permeability	0.22	Restricted permeability	0.22
6046: Pawnee-----	80	Restricted permeability	0.30				
		Very limited		Not limited		Somewhat limited	
		Too steep for surface application				Too steep for surface application	0.00
6130: Platte, OCCASIONALLY FLOODED-----	80	Very limited		Very limited		Very limited	
		Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too steep for surface application	1.00
		Runoff limitation	0.40	Slope	0.04	Depth to saturated zone	1.00
6130: Platte, OCCASIONALLY FLOODED-----	80	Slope	0.04			Too steep for sprinkler application	0.22
		Very limited		Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
		Depth to saturated zone	1.00	Flooding	1.00	Depth to saturated zone	1.00
6130: Platte, OCCASIONALLY FLOODED-----	80	Flooding	0.60	Depth to saturated zone	1.00	Flooding	0.60

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(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
6138: Platte, FREQUENTLY FLOODED-----	50	Droughty	0.39	Droughty	0.39	Droughty	0.39
		Very limited		Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
Barney, FREQUENTLY FLOODED, CHANNELED-----	46	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	0.39	Droughty	0.39	Droughty	0.39
		Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
6160: Pohocco-----	80	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
		Droughty	0.60	Droughty	0.60	Droughty	0.60
		Runoff limitation	0.40				
6162: Pohocco-----	80	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Very limited Too steep for surface application	1.00
						Too steep for sprinkler application	0.10
6170: Pohocco-----	52	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Too steep for surface application	1.00
						Too steep for sprinkler application	0.97
Pahuk-----	45	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Very limited Too steep for surface application	1.00
						Too steep for sprinkler application	0.10
		Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
		Leaching limitation	0.45	Droughty	0.10	Too steep for surface application	1.00
6172: Pohocco-----	59	Droughty	0.10	Slope	0.00	Too steep for surface application	0.10
		Slope	0.00			Too steep for sprinkler application	0.10
		Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Too steep for surface application	1.00
						Too steep for sprinkler application	0.97
Pahuk-----	35	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Too steep for surface application	1.00
		Slope	0.96	Slope	0.96	Filtering capacity	1.00
		Leaching limitation	0.45	Droughty	0.10	Too steep for surface application	0.97
		Droughty	0.10			Too steep for sprinkler application	0.10
6520: Saltillo, OCCASIONALLY FLOODED-----	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Sodium content	1.00	Flooding	1.00	Sodium content	1.00

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(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
6791: Scott-----	100	Salinity	1.00	Sodium content	1.00	Salinity	1.00
		Flooding	0.60	Salinity	1.00	Flooding	0.60
		Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
7069: Steinauer-----	85	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Runoff limitation	0.40	Too acid	0.42	Too acid	0.42
		Too acid	0.11	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
		Slope	1.00	Slope	1.00	Too steep for sprinkler application	1.00
7290: Tomek-----	86	Restricted permeability	0.30	Restricted permeability	0.22	Restricted permeability	0.22
		Somewhat limited Restricted permeability	0.41	Somewhat limited Restricted permeability	0.31	Somewhat limited Restricted permeability	0.31
7920: Wann, OCCASIONALLY FLOODED-----	92	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.84	Flooding	1.00	Depth to saturated zone	0.84
		Flooding	0.60	Depth to saturated zone	0.84	Flooding	0.60
		Sodium content	0.08	Sodium content	0.08	Sodium content	0.08
8120: Yutan-----	88	Filtering capacity	0.00	Filtering capacity	0.00	Filtering capacity	0.00
		Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Too steep for surface application	1.00
		Restricted permeability	0.30	Too acid	0.42	Too steep for sprinkler application	0.97
		Too acid	0.11	Restricted permeability	0.22	Too acid	0.42
8124: Yutan-----	92	Restricted permeability	0.30	Somewhat limited Too acid	0.42	Restricted permeability	0.22
		Too acid	0.11	Restricted permeability	0.22	Too steep for surface application	0.08
		Somewhat limited Restricted permeability	0.30	Somewhat limited Too acid	0.42	Somewhat limited Too acid	0.42
8130: Yutan-----	65	Too acid	0.11	Restricted permeability	0.22	Restricted permeability	0.22
		Somewhat limited Restricted permeability	0.30	Somewhat limited Too acid	0.42	Too steep for surface application	0.08
		Restricted permeability	0.30	Too acid	0.42	Somewhat limited Too acid	0.42
Aksarben-----	33	Too acid	0.11	Restricted permeability	0.22	Restricted permeability	0.22
		Somewhat limited Restricted permeability	0.30	Somewhat limited Too acid	0.42	Too steep for surface application	0.08
		Restricted permeability	0.30	Too acid	0.42	Somewhat limited Too acid	0.42
8134: Yutan-----	64	Too acid	0.11	Restricted permeability	0.22	Restricted permeability	0.22
		Somewhat limited Restricted permeability	0.30	Somewhat limited Too acid	0.42	Too steep for surface application	0.08
		Restricted permeability	0.30	Somewhat limited Too acid	0.42	Very limited Too steep for surface application	1.00

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(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
Judson-----	25	Too acid	0.11	Restricted permeability Slope	0.22	Too acid	0.42
		Slope	0.00			Restricted permeability	0.22
		Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Too steep for sprinkler application	0.10
						Very limited	1.00
9900: Arents, Earthen Dam-	100	Not rated		Not rated		Not rated	
9985: Pits-----	100	Not rated		Not rated		Not rated	
9998: 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  
 Saunders County, 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
1050: AKSARBEN SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES	AKSARBEN	No	broad interstream divide	---	---	---	---
	FILLMORE	Yes	broad interstream divide, playa	2A	YES	NO	NO
1100: ALDA FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	ALDA	No	flood plain	---	---	---	---
	WANN	No	flood plain	---	---	---	---
	PLATTE	No	flood plain	---	---	---	---
1347: BARNEY SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES, WET, FREQUENTLY FLOODED	BARNEY	Yes	flood plain	2B3	YES	NO	NO
	BARNEY	Yes	flood plain	2B3	YES	NO	NO
	PLATTE	No	flood plain	---	---	---	---
1616: BOEL LOAMY FINE SAND, 0 TO 3 PERCENT SLOPES, OCCASIONALLY FLOODED	BOEL	No	flood plain	---	---	---	---
	INGLEWOOD	No	flood plain	---	---	---	---
	ALDA	No	flood plain	---	---	---	---
1873: BURCHARD-STEINAUER CLAY LOAMS, 6 TO 12 PERCENT SLOPES, ERODED	BARNEY	Yes	flood plain	2B3	YES	NO	NO
	BURCHARD	No	hillslope	---	---	---	---
	STEINAUER	No	hillslope	---	---	---	---
1879: BURCHARD-STEINAUER CLAY LOAMS, 12 TO 18 PERCENT SLOPES, ERODED	MORRILL	No	hillslope	---	---	---	---
	MALMO	No	hillslope	---	---	---	---
	BURCHARD	No	hillslope	---	---	---	---
2420: DEROIN SILTY CLAY LOAM, 5 TO 11 PERCENT SLOPES, ERODED	STEINAUER	No	hillslope	---	---	---	---
	MORRILL	No	hillslope	---	---	---	---
	MALMO	No	hillslope	---	---	---	---
2830: FILBERT SILT LOAM, 0 TO 1 PERCENT SLOPES	DEROIN	No	hillslope	---	---	---	---
	MALMO	No	hillslope	---	---	---	---
	FILBERT	No	depression, stream terrace	---	---	---	---
2844: FILLMORE SILT LOAM, TERRACE, 0 TO 1 PERCENT SLOPES	FILLMORE	Yes	playa, stream terrace	2A	YES	NO	NO
	TOMEK	No	stream terrace	---	---	---	---
	FILLMORE	Yes	playa, stream terrace	2A	YES	NO	NO
2863: FLUVAQUENTS, SILTY, FREQUENTLY FLOODED	SCOTT	Yes	playa, stream terrace	2B3,3	YES	NO	YES
	TOMEK	No	stream terrace	---	---	---	---
	FILLMORE	Yes	playa, stream terrace	2A	YES	NO	NO
3025: GIBBON SILT LOAM, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	FLUVAQUENTS	Yes	flood plain, depression	2B3,3	YES	NO	YES
	KEZAN	Yes	drainageway, flood plain	2B3	YES	NO	NO
	GIBBON	No	flood plain	---	---	---	---
2863: FLUVAQUENTS, SILTY, FREQUENTLY FLOODED	WANN	No	flood plain	---	---	---	---
	OBERT	Yes	flood plain	3,2B3	YES	NO	YES

HYDRIC SOIL INTERPRETATIONS  
 HYDRIC SOILS LIST  
 Saunders County, 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
3038: GIBBON-SALTINE LOAMS, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	GIBBON	No	flood plain	---	---	---	---
	SALTINE	No	flood plain	---	---	---	---
	WANN	No	flood plain	---	---	---	---
	OBERT	Yes	flood plain	2B3,3	YES	NO	YES
3421: HEDVILLE COBBLY LOAM, 6 TO 30 PERCENT SLOPES	HEDVILLE	No	hillslope	---	---	---	---
	LANCASTER	No	hillslope	---	---	---	---
	ROCK OUTCROP	Unranked	hillslope	---	---	---	---
3830: IDA-STEINAUER COMPLEX, 17 TO 60 PERCENT SLOPES	IDA	No	hillslope	---	---	---	---
	STEINAUER	No	hillslope	---	---	---	---
	JUDSON	No	hillslope	---	---	---	---
3890: INGLEWOOD LOAMY FINE SAND, 0 TO 3 PERCENT SLOPES, RARELY FLOODED	INGLEWOOD	No	flood plain	---	---	---	---
	BOEL	No	flood plain	---	---	---	---
	WANN	No	flood plain	---	---	---	---
	BARNEY	Yes	flood plain	2B3	YES	NO	NO
4104: JUDSON SILT LOAM, 0 TO 2 PERCENT SLOPES	JUDSON	No	hillslope	---	---	---	---
	KENRIDGE	No	flood plain	---	---	---	---
4106: JUDSON SILT LOAM, 2 TO 5 PERCENT SLOPES	JUDSON	No	hillslope	---	---	---	---
	NODAWAY	No	drainageway	---	---	---	---
4250: KENRIDGE SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	KENRIDGE	No	flood plain	---	---	---	---
	MUSCOTAH	No	flood plain	---	---	---	---
	OBERT	Yes	flood plain	2B3,3	YES	NO	YES
4404: LAMO SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	LAMO	No	flood plain	---	---	---	---
	OBERT	Yes	flood plain	2B3,3	YES	NO	YES
4583: LEX LOAM, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	LEX	No	flood plain	---	---	---	---
	WANN	No	flood plain	---	---	---	---
	BARNEY	Yes	flood plain	2B3	YES	NO	NO
4853: MALCOLM SILT LOAM, 5 TO 11 PERCENT SLOPES, MODERATELY ERODED	MALCOLM	No	hillslope	---	---	---	---
	BURCHARD	No	hillslope	---	---	---	---
	YUTAN	No	hillslope	---	---	---	---
4860: MALMO CLAY LOAM, 6 TO 12 PERCENT SLOPES, ERODED	MALMO	No	hillslope	---	---	---	---
	MORRILL	No	hillslope	---	---	---	---
	PAWNEE	No	hillslope	---	---	---	---
5388: MORRILL CLAY LOAM, 6 TO 12 PERCENT SLOPES, MODERATELY ERODED	MORRILL	No	hillslope	---	---	---	---
	MALMO	No	hillslope	---	---	---	---
	STEINAUER	No	hillslope	---	---	---	---
5480: MUSCOTAH SILTY CLAY LOAM, 0 TO 1 PERCENT SLOPES OCCASIONALLY FLOODED	MUSCOTAH	No	flood plain	---	---	---	---
	NODAWAY	No	flood plain	---	---	---	---
	KEZAN	Yes	flood plain, drainageway	2B3	YES	NO	NO

HYDRIC SOIL INTERPRETATIONS  
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 Saunders County, Nebraska

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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
5540: NODAWAY SILT LOAM, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	NODAWAY	No	flood plain	---	---	---	---
	JUDSON NODAWAY	No No	hillslope drainageway, flood plain	--- ---	--- ---	--- ---	--- ---
	KEZAN	Yes	flood plain	2B3	YES	NO	NO
5541: NODAWAY SILT LOAM, 0 TO 2 PERCENT SLOPES, CHANNELED, FREQUENTLY FLOODED	NODAWAY	No	drainageway, flood plain	---	---	---	---
	NODAWAY JUDSON	No No	flood plain hillslope	--- ---	--- ---	--- ---	--- ---
	KEZAN	Yes	flood plain	2B3	YES	NO	NO
5736: OBERT SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES, WET, FREQUENTLY FLOODED	OBERT	Yes	flood plain	2B3,3	YES	NO	YES
	LAMO FLUVAQUENTS	No Yes	flood plain depression, flood plain	--- 2B3,3	--- YES	--- NO	--- YES
	OBERT	Yes	flood plain	2B3,3	YES	NO	YES
5742: OBERT SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	OBERT	Yes	flood plain	2B3,3	YES	NO	YES
	LAMO OBERT	No Yes	flood plain flood plain	--- 2B3,3	--- YES	--- NO	--- YES
	OLMITZ	No	hillslope	---	---	---	---
5780: OLMITZ LOAM, 2 TO 5 PERCENT SLOPES	PAHUK POHOCCO	No No	hillslope hillslope	--- ---	--- ---	--- ---	--- ---
	PAWNEE	No	hillslope	---	---	---	---
	MALMO BURCHARD STEINAUER	No No No	hillslope hillslope hillslope	--- --- ---	--- --- ---	--- --- ---	--- --- ---
6130: PLATTE FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES OCCASIONALLY FLOODED	PLATTE	No	flood plain	---	---	---	---
	ALDA BARNEY	No Yes	flood plain flood plain	--- 2B3	--- YES	--- NO	--- NO
	PLATTE	No	flood plain	---	---	---	---
6138: PLATTE-BARNEY COMPLEX, 0 TO 2 PERCENT SLOPES, CHANNELED	BARNEY INGLEWOOD	Yes No	flood plain flood plain	2B3 ---	YES ---	NO ---	NO ---
	POHOCCO	No	hillslope	---	---	---	---
	YUTAN JUDSON	No No	hillslope hillslope	--- ---	--- ---	--- ---	--- ---
6160: POHOCCO SILTY CLAY LOAM, 5 TO 11 PERCENT SLOPES, ERODED	POHOCCO	No	hillslope	---	---	---	---
	YUTAN JUDSON	No No	hillslope hillslope	--- ---	--- ---	--- ---	--- ---
	POHOCCO	No	hillslope	---	---	---	---
6162: POHOCCO SILTY CLAY LOAM, 11 TO 17 PERCENT SLOPES, ERODED	POHOCCO	No	hillslope	---	---	---	---
	YUTAN JUDSON	No No	hillslope hillslope	--- ---	--- ---	--- ---	--- ---
	POHOCCO	No	hillslope	---	---	---	---
6170: POHOCCO-PAHUK COMPLEX, 5 TO 11 PERCENT SLOPES, ERODED	POHOCCO	No	hillslope	---	---	---	---
	PAHUK OLMITZ	No No	hillslope hillslope	--- ---	--- ---	--- ---	--- ---
	POHOCCO	No	hillslope	---	---	---	---
6172: POHOCCO-PAHUK COMPLEX, 11 TO 17 PERCENT SLOPES, ERODED	POHOCCO	No	hillslope	---	---	---	---
	PAHUK OLMITZ	No No	hillslope hillslope	--- ---	--- ---	--- ---	--- ---
	POHOCCO	No	hillslope	---	---	---	---

HYDRIC SOIL INTERPRETATIONS  
 HYDRIC SOILS LIST  
 Saunders County, Nebraska

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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
6520: SALTILLO SILT LOAM, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	SALTILLO	Yes	flood plain	2B3	YES	NO	NO
	FLUVAQUENTS	Yes	depression, flood plain	2B3,3	YES	NO	YES
	SALMO	No	flood plain	---	---	---	---
6791: SCOTT SILT LOAM, TERRACE, 0 TO 1 PERCENT SLOPES	SCOTT	Yes	playa, terrace	2B3,3	YES	NO	YES
	STEINAUER	No	hillslope	---	---	---	---
7069: STEINAUER CLAY LOAM, 12 TO 30 PERCENT SLOPES	BURCHARD	No	hillslope	---	---	---	---
	NODAWAY	No	drainageway	---	---	---	---
7290: TOMEK SILT LOAM, 0 TO 2 PERCENT SLOPES	TOMEK	No	stream terrace	---	---	---	---
	FILBERT	No	depression, stream terrace	---	---	---	---
	FILLMORE	Yes	playa, stream terrace	2A	YES	NO	NO
7920: WANN FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	WANN	No	flood plain	---	---	---	---
	BOEL	No	flood plain	---	---	---	---
8120: YUTAN SILTY CLAY LOAM, 11 TO 17 PERCENT SLOPES, ERODED	BARNEY	Yes	flood plain	2B3	YES	NO	NO
	YUTAN	No	hillslope	---	---	---	---
8124: YUTAN SILTY CLAY LOAM, TERRACE, 2 TO 5 PERCENT SLOPES, ERODED	JUDSON	No	hillslope	---	---	---	---
	YUTAN	No	stream terrace	---	---	---	---
8130: YUTAN, ERODED-AKSARBEN SILTY CLAY LOAMS, 2 TO 5 PERCENT SLOPES	TOMEK	No	stream terrace	---	---	---	---
	YUTAN	No	hillslope	---	---	---	---
8134: YUTAN, ERODED-JUDSON COMPLEX, 5 TO 11 PERCENT SLOPES	AKSARBEN	No	hillslope	---	---	---	---
	JUDSON	No	hillslope	---	---	---	---
9900: ARENENTS, EARTHEN DAM	YUTAN	No	hillslope	---	---	---	---
	JUDSON	No	hillslope	---	---	---	---
9985: GRAVEL PITS	AKSARBEN	No	interfluve	---	---	---	---
	ARENENTS, EARTHEN DAM	Unranked	---	---	---	---	---
9998: WATER	PITS	Unranked	---	---	---	---	---
	WATER	Unranked	---	---	---	---	---

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

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.



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Map Symbol	Soil Mapunit Name	HEL Classification R=150 C=15		
		Wind	Water	MU
1050	AKSARBEN SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES	3	3	3
1100	ALDA FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	3	3	3
1347	BARNEY SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES, WET, FREQUENTLY FLOODED	3	3	3
1616	BOEL LOAMY FINE SAND, 0 TO 3 PERCENT SLOPES, OCCASIONALLY FLOODED	3	3	3
1873	BURCHARD-STEINAUER CLAY LOAMS, 6 TO 12 PERCENT SLOPES, ERODED	3	1	1
1879	BURCHARD-STEINAUER CLAY LOAMS, 12 TO 18 PERCENT SLOPES, ERODED	3	1	1
2420	DEROIN SILTY CLAY LOAM, 5 TO 11 PERCENT SLOPES, ERODED	3	1	1
2830	FILBERT SILT LOAM, 0 TO 1 PERCENT SLOPES	3	3	3
2844	FILLMORE SILT LOAM, TERRACE, 0 TO 1 PERCENT SLOPES	3	3	3
2863	FLUVAQUENTS, SILTY, FREQUENTLY FLOODED	3	3	3
3025	GIBBON SILT LOAM, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	3	3	3
3038	GIBBON-SALTINE LOAMS, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	3	3	3
3421	HEDVILLE COBBLY LOAM, 6 TO 30 PERCENT SLOPES	3	1	1
3830	IDA-STEINAUER COMPLEX, 17 TO 60 PERCENT SLOPES	3	1	1
3890	INGLEWOOD LOAMY FINE SAND, 0 TO 3 PERCENT SLOPES, RARELY FLOODED	3	3	3
4104	JUDSON SILT LOAM, 0 TO 2 PERCENT SLOPES	3	3	3
4106	JUDSON SILT LOAM, 2 TO 5 PERCENT SLOPES	3	2	2
4250	KENRIDGE SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	3	3	3
4404	LAMO SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	3	3	3
4583	LEX LOAM, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	3	3	3
4853	MALCOLM SILT LOAM, 5 TO 11 PERCENT SLOPES, MODERATELY ERODED	3	1	1
4860	MALMO CLAY LOAM, 6 TO 12 PERCENT SLOPES, ERODED	3	1	1
5388	MORRILL CLAY LOAM, 6 TO 12 PERCENT SLOPES, MODERATELY ERODED	3	1	1
5480	MUSCOTAH SILTY CLAY LOAM, 0 TO 1 PERCENT SLOPES, OCCASIONALLY FLOODED	3	3	3
5540	NODAWAY SILT LOAM, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	3	3	3
5541	NODAWAY SILT LOAM, 0 TO 2 PERCENT SLOPES, CHANNELED, FREQUENTLY FLOODED	3	3	3
5736	OBERT SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES, WET, FREQUENTLY FLOODED	3	3	3
5742	OBERT SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	3	3	3
5780	OLMITZ LOAM, 2 TO 5 PERCENT SLOPES	3	2	2
6046	PAWNEE CLAY LOAM, 6 TO 12 PERCENT SLOPES, MODERATELY ERODED	1	1	1
6130	PLATTE FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	3	3	3
6138	PLATTE-BARNEY COMPLEX, 0 TO 2 PERCENT SLOPES, CHANNELED	3	3	3
6160	POHOCCO SILTY CLAY LOAM, 5 TO 11 PERCENT SLOPES, ERODED	3	1	1
6162	POHOCCO SILTY CLAY LOAM, 11 TO 17 PERCENT SLOPES, ERODED	3	1	1
6170	POHOCCO-PAHUK COMPLEX, 5 TO 11 PERCENT SLOPES, ERODED	3	1	1
6172	POHOCCO-PAHUK COMPLEX, 11 TO 17 PERCENT SLOPES, ERODED	3	1	1
6520	SALTILLO SILT LOAM, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	3	3	3
6791	SCOTT SILT LOAM, TERRACE, 0 TO 1 PERCENT SLOPES	3	3	3
7069	STEINAUER CLAY LOAM, 12 TO 30 PERCENT SLOPES	3	1	1
7290	TOMEK SILT LOAM, 0 TO 2 PERCENT SLOPES	3	3	3
7920	WANN FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	3	3	3
8120	YUTAN SILTY CLAY LOAM, 11 TO 17 PERCENT SLOPES, ERODED	3	1	1
8124	YUTAN SILTY CLAY LOAM, TERRACE, 2 TO 5 PERCENT SLOPES, ERODED	3	2	2
8130	YUTAN, ERODED-AKSARBEN SILTY CLAY LOAMS, 2 TO 5 PERCENT SLOPES	3	2	2
8134	YUTAN, ERODED-JUDSON COMPLEX, 5 TO 11 PERCENT SLOPES	3	1	1
9900	ARENTE, EARTHEN DAM			
9985	GRAVEL PITS			
9998	WATER			

