CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	**Casey Terry EQIP Project**
Proposed Implementation Date:	7/1/2016
Proponent:	Casey Terry
Location:	27N 13E 31 & 26N 13E 6
County:	Chouteau
Trust:	Common Schools

I. TYPE AND PURPOSE OF ACTION

Casey Terry is currently in the planning phase of a proposed EQIP project that includes 2 stock tanks, 2.4 miles of Stockwater pipeline and .6 miles of fence on State land.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

Provide a brief chronology of the scoping and ongoing involvement for this project.

Department of Natural Resources and Conservation (DNRC)
Northeastern Land Office (NELO)
USDA-Natural Resources and Conservation Services (NRCS)
Casey Terry

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

The DNRC, and NELO have jurisdiction over this proposed project.

DNRC is not aware of any other agencies with jurisdiction or other permits needed to complete this project

3. ALTERNATIVES CONSIDERED:

Alternative A (No Action) – Under this alternative, the Department does not grant permission to install the stockwater pipeline, tanks and fence.

Alternative B (the Proposed Action) – Under this alternative, the Department does grant permission to install the stockwater pipelines, tanks and the fence.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" If no impacts are identified or the resource is not present.*

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify any cumulative impacts to soils.

Erosion Hazard (Off-Road, Off-Trail)

Aggregation Method: Dominant Condition
Tie-break Rule: Higher

Chouteau County Area, Montana
Survey Area Version and Date: 10 - 11/26/2013

Map symbol	Map unit name	Rating	Component name and % composition Rating reasons
35B	Assiniboine fine sandy loam, 0 to 4 percent slopes	Slight	Assiniboine 90% Lihen 3% Assiniboine 3% Kenilworth 2% Evanston 2%
212F	Cabbart-Hillon loams, 25 to 70 percent slopes	Severe	Cabbart 55% Slope/erodibility Hillon 30% Slope/erodibility
251E	Bascovy-Neldore silty clays, 8 to 25 percent slopes	Moderate	Bascovy 50% Slope/erodibility Neldore 35% Slope/erodibility Calcareous soils 3% Slope/erodibility
301C	Marvan-Vanda clays, 2 to 8 percent slopes	Slight	Marvan 50% Vanda 35% Benz 5% Bascovy 3%
331B	Phillips-Elloam complex, 0 to 4 percent slopes	Slight	Phillips 55% Elloam 30% Kevin 6% Absher 6% Weingart 2% Nishon 1%
503B	Telstad-Joplin loams, 0 to 4 percent slopes	Slight	Telstad 55% Joplin 30% Fortbenton 6% Hillon 4% Scobey 2% Elloam 2% Nishon 1%
503C	Telstad-Joplin loams, 4 to 8 percent slopes	Slight	Telstad 45% Joplin 40% Hillon 6% Fortbenton 3% Scobey 2% Marmarth 2% Nishon 1% Elloam 1%
561B	Scobey-Kevin clay loams, 0 to 4 percent slopes	Slight	Scobey 55% Kevin 30% Hillon 7% Elloam 3% Telstad 2% Acel 2% Nishon 1%
605C	Yamacall-Havre loams, 0 to 8 percent slopes	Slight	Yamacall 45% Havre 40% Glendive 3% Busby 3% Very gravelly soils 2% Poorly drained soils 2% Kobase 2%
654F	Fleak-Twilight-Rock outcrop complex, 25 to 70 percent slopes	Very severe	Fleak 35% Slope/erodibility Fleak 2% Slope/erodibility

USDA Natural Resources Conservation Service

Application Version: 6.1.0.0

05/31/2018

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Alternative A (No Action)- No effect anticipated.

Alternative B (the Proposed Action)- The will be some ground disturbance and bare ground created associated with the stockwater installation. The effect will be minimal and the bare ground should revegetate naturally within a few growing seasons. Mitigating factors should be implemented on soils with a "severe" erosion rating. Water bars or straw waddles should be installed on slopes greater than 25% to reduce erosion until revegetated.

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:
Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify cumulative effects to water resources.

Alternative A (No Action)- No effect anticipated.

Alternative B (the Proposed Action)- No effect anticipated.

6. AIR QUALITY:
What pollutants or particulate would be produced? Identify air quality regulations or zones (e.g. Class I air shed) the project would influence. Identify cumulative effects to air quality.

Alternative A (No Action)- No effect anticipated.

Alternative B (the Proposed Action)- No effect anticipated.

7. VEGETATION COVER, QUANTITY AND QUALITY:
What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify cumulative effects to vegetation.

Current plant community is native short grass/shrubs associated with clay pan, dense clay and thin breakes Eco sites. The majority of disturbance associated with the Stockwater pipeline and fence is located on a prairie dog town with invasive annuals being the dominate producer.

The will be some ground disturbance and bare ground created associated with the stockwater installation. These areas will be prone to noxious weed infestations. Frequent scouting should occur until revegetation has occurred to suppress noxious weed establishment.

Alternative A (No Action)- No effect anticipated.

Alternative B (the Proposed Action)- Bare ground associated with the installation of a stockwater pipeline will revegetate with grass & shrubs in a few years. The Area of Potential Effect (APE) will remain visible for many years.

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:
Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.

The majority of state leases 1540 & 2728 are currently occupied by prairie dogs. Black-tailed Prairie Dogs are classified as a Species of Concern in Montana due to declines in abundance and a variety of threats to the population. Prairie dogs are managed under the Conservation Plan for Black-tailed and White-tailed Prairie Dogs in Montana (Montana Prairie Dog Working Group 2002).

Alternative A (No Action)- No effect anticipated.

Alternative B (the Proposed Action)- Temporary displacement of prairie dogs will occur in the footprint of the water pipeline route due to disturbed burrows. Temporary displacement may also occur during fence installation but disturbed burrows should be significantly less.

9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:
Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify cumulative effects to these species and their habitat.

A search of the Montana Natural Heritage Program for Species of Concern with a state rank of 3 or higher was conducted in the township that includes the area of potential effect. (State rank of 3 means Potentially at risk because of **limited** and/or **declining** numbers, range and/or habitat, even though it may be abundant in some areas.)

Species of Concern
7 Species
Filtered by the following criteria:
Township = 027N013E (based on mapped Species Occurrences)

Scientific Name / Common Name / Taxa Sort	Family (Scientific) / Family (Common)	Global Rank	State Rank	USFWS	USFS	BLM	[illegible]	Habitat
MAMMALS (MAMMALIA)								3 SPECIES
Corynorhinus townsendii Townsend's Big-eared Bat	*Vespertilionidae* Bats	G4	S3		SENSITIVE	SENSITIVE		Caves in forested habitats
		Species Occurrences verified in these Counties: [illegible]						
Cynomys ludovicianus Black-tailed Prairie Dog	*Sciuridae* Squirrels	G4	S3		SENSITIVE	SENSITIVE		Grasslands
		Species Occurrences verified in these Counties: [illegible]						
Lasiurus cinereus Hoary Bat	*Vespertilionidae* Bats	G3G4	S3					Riparian and forest
		Species Occurrences verified in these Counties: [illegible]						
BIRDS (AVES)								2 SPECIES
Athene cunicularia Burrowing Owl	*Strigidae* Owls	G4	S3B		SENSITIVE	SENSITIVE		Grasslands
		Species Occurrences verified in these Counties: [illegible] State Rank Reason: [illegible]						
Spizella breweri Brewer's Sparrow	*Emberizidae* Sparrows	G5	S3B			SENSITIVE		Sagebrush
		Species Occurrences verified in these Counties: [illegible] State Rank Reason: [illegible]						
FISH (ACTINOPTERYGII)								2 SPECIES
Chrosomus eos Northern Redbelly Dace	*Cyprinidae* Minnows	G5	S3					Small prairie rivers
		Species Occurrences verified in these Counties: [illegible]						
Etheostoma exile Iowa Darter	*Percidae* Perches	G5	S3					Small prairie rivers
		Species Occurrences verified in these Counties: [illegible]						

Alternative A (No Action)- No effect anticipated

Alternative B (the Proposed Action)- The Burrowing owl and Brewer's sparrow may be in the APE. Temporary displacement may occur during installation but no long term population effect is anticipated with the project.

10. HISTORICAL AND ARCHAEOLOGICAL SITES:
Identify and determine effects to historical, archaeological or paleontological resources.

State Antiquities Database shows Tipi rings on T27N R13E S31.

Alternative A (No Action)- No effect anticipated.

Alternative B (the Proposed Action)- Known and discovered cultural resources will be avoided. Pipeline and fence routes will be surveyed prior to design and construction.

11. AESTHETICS:
Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify cumulative effects to aesthetics.

Alternative A (No Action)- No effect anticipated.

Alternative B (the Proposed Action)- No effect anticipated.

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:
Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify cumulative effects to environmental resources.

Alternative A (No Action)- No effect anticipated.

Alternative B (the Proposed Action)- No effect anticipated.

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:
List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

Alternative A (No Action)-No effect anticipated.

Alternative B (the Proposed Action)- No effect anticipated.

IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" If no impacts are identified or the resource is not present.*

14. HUMAN HEALTH AND SAFETY:
Identify any health and safety risks posed by the project.

Alternative A (No Action)- No effect anticipated.

Alternative B (the Proposed Action)- No effect anticipated.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:
Identify how the project would add to or alter these activities.

Alternative A (No Action)- No effect anticipated.

Alternative B (the Proposed Action)- No effect anticipated.

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:
Estimate the number of jobs the project would create, move or eliminate. Identify cumulative effects to the employment market.

Alternative A (No Action)- No effect anticipated.

Alternative B (the Proposed Action)- No effect anticipated.

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:
Estimate tax revenue the project would create or eliminate. Identify cumulative effects to taxes and revenue.

Alternative A (No Action)- No effect anticipated.

Alternative B (the Proposed Action)- No effect anticipated.

18. DEMAND FOR GOVERNMENT SERVICES:
Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify cumulative effects of this and other projects on government services

Alternative A (No Action)- No effect anticipated.

Alternative B (the Proposed Action)- No effect anticipated.

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:
List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

Alternative A (No Action)- No effect anticipated.

Alternative B (the Proposed Action)- No effect anticipated.

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:
Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify cumulative effects to recreational and wilderness activities.

Alternative A (No Action)- No effect anticipated.

Alternative B (the Proposed Action)- No effect anticipated.

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:
Estimate population changes and additional housing the project would require. Identify cumulative effects to population and housing

Alternative A (No Action)- No effect anticipated.

Alternative B (the Proposed Action)- No effect anticipated.

22. SOCIAL STRUCTURES AND MORES:
Identify potential disruption of native or traditional lifestyles or communities.

Alternative A (No Action)- No effect anticipated.

Alternative B (the Proposed Action)- No effect anticipated.

23. CULTURAL UNIQUENESS AND DIVERSITY:
How would the action affect any unique quality of the area?

Alternative A (No Action)- No effect anticipated.

Alternative B (the Proposed Action)- No effect anticipated.

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:
Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify cumulative economic and social effects likely to occur as a result of the proposed action.

Alternative A (No Action)- No effect anticipated.

Alternative B (the Proposed Action)- No effect anticipated.

EA Checklist Prepared By:	**Name:**	Brandon Sandau
	Title:	Land Use Specialist
Signature:		**Date**: May 31, 2016

V. FINDING

25. ALTERNATIVE SELECTED:

Alternative B (the Proposed Action) – Under this alternative, the Department does grant permission to install the stockwater pipelines, tanks and the fence.

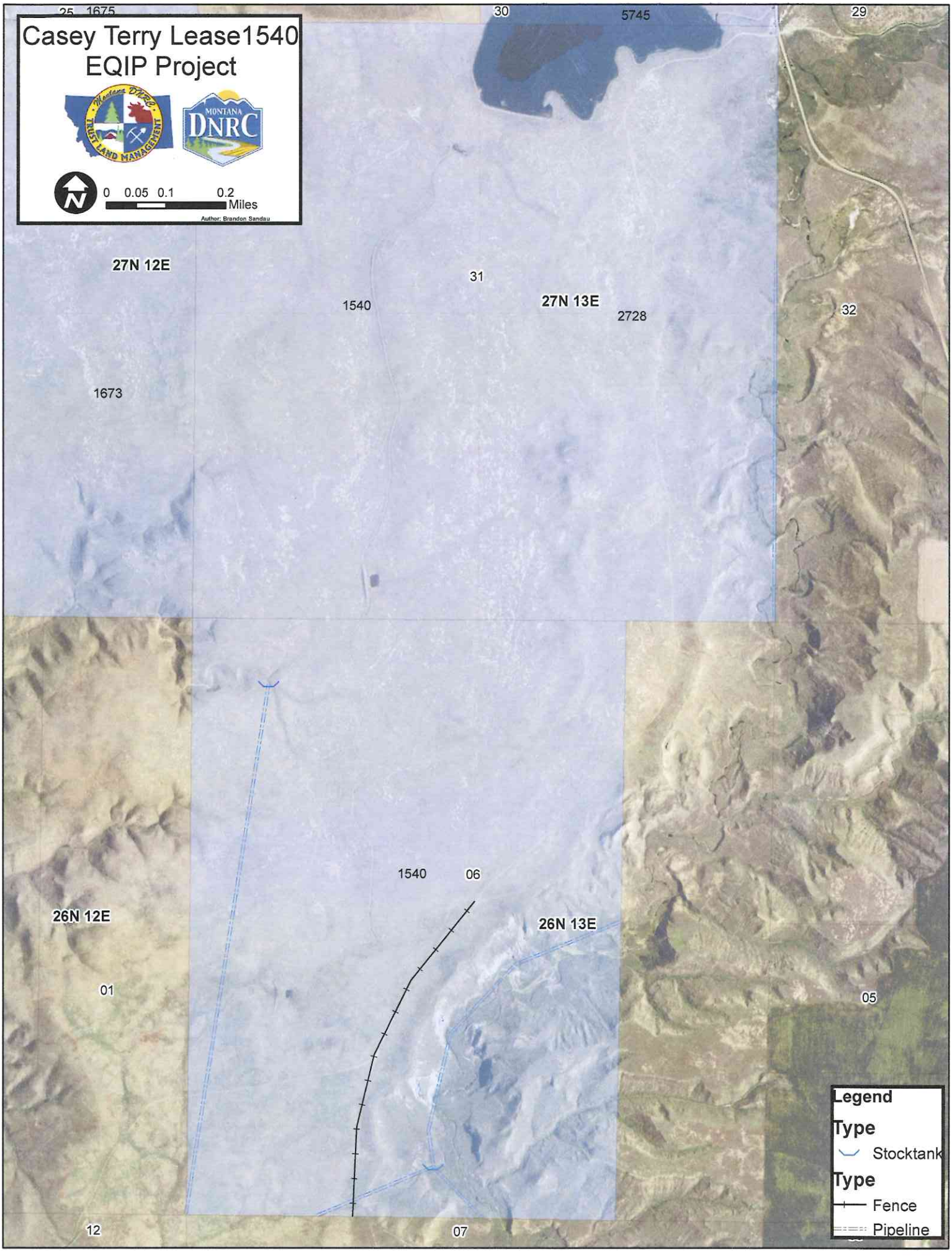
26. SIGNIFICANCE OF POTENTIAL IMPACTS:

The process of completing this EA did not identify any significant potential impacts with the proposed project.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

	EIS		More Detailed EA	XXX	No Further Analysis

EA Checklist Approved By:	**Name:**	Barny D. Smith
	Title:	Unit Manager, Northeastern Land Office
Signature:		**Date**: May 31, 2016


Casey Terry Lease1540
EQIP Project
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Miles
Author: Brandon Sandau
25
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1673
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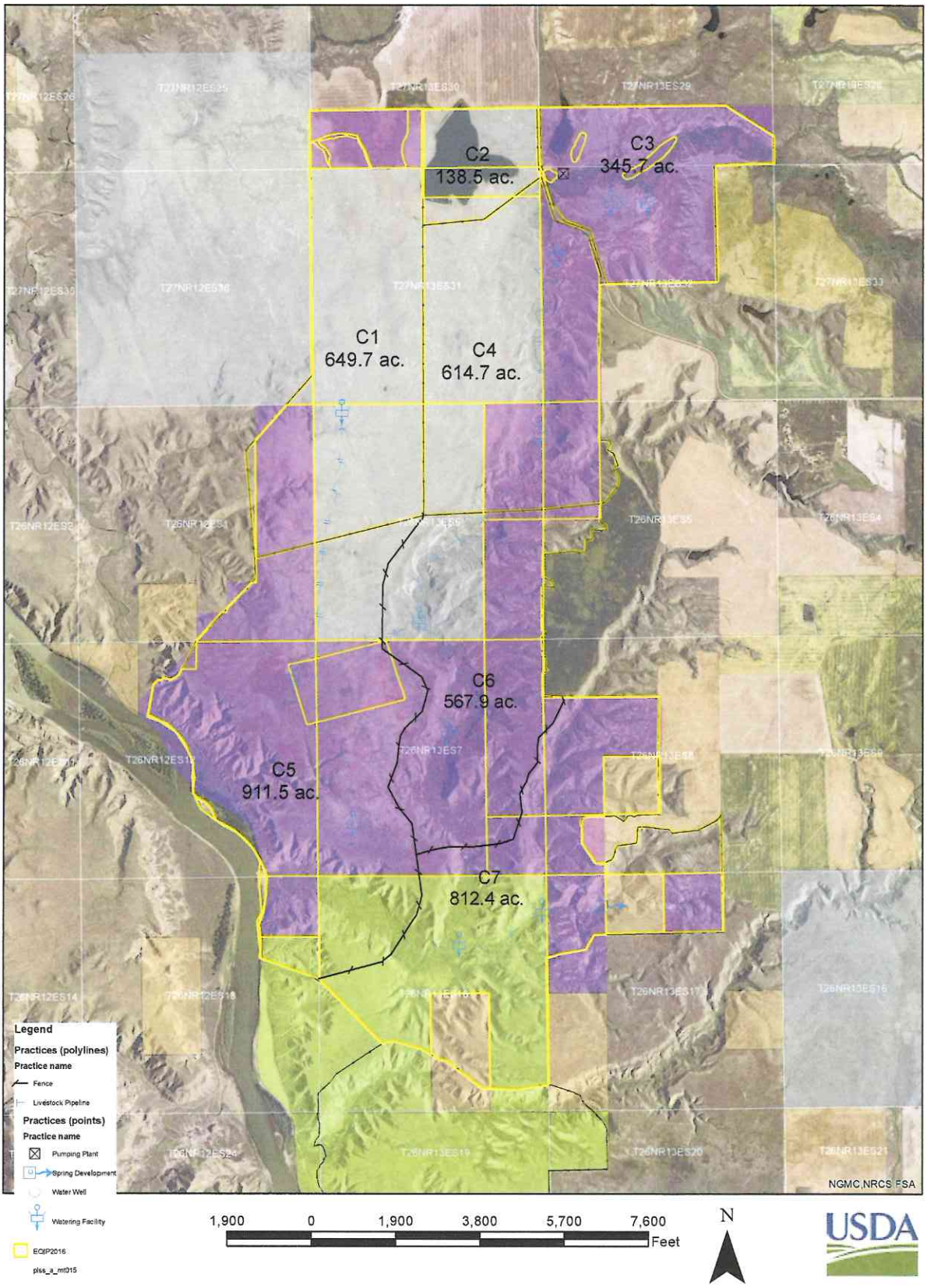
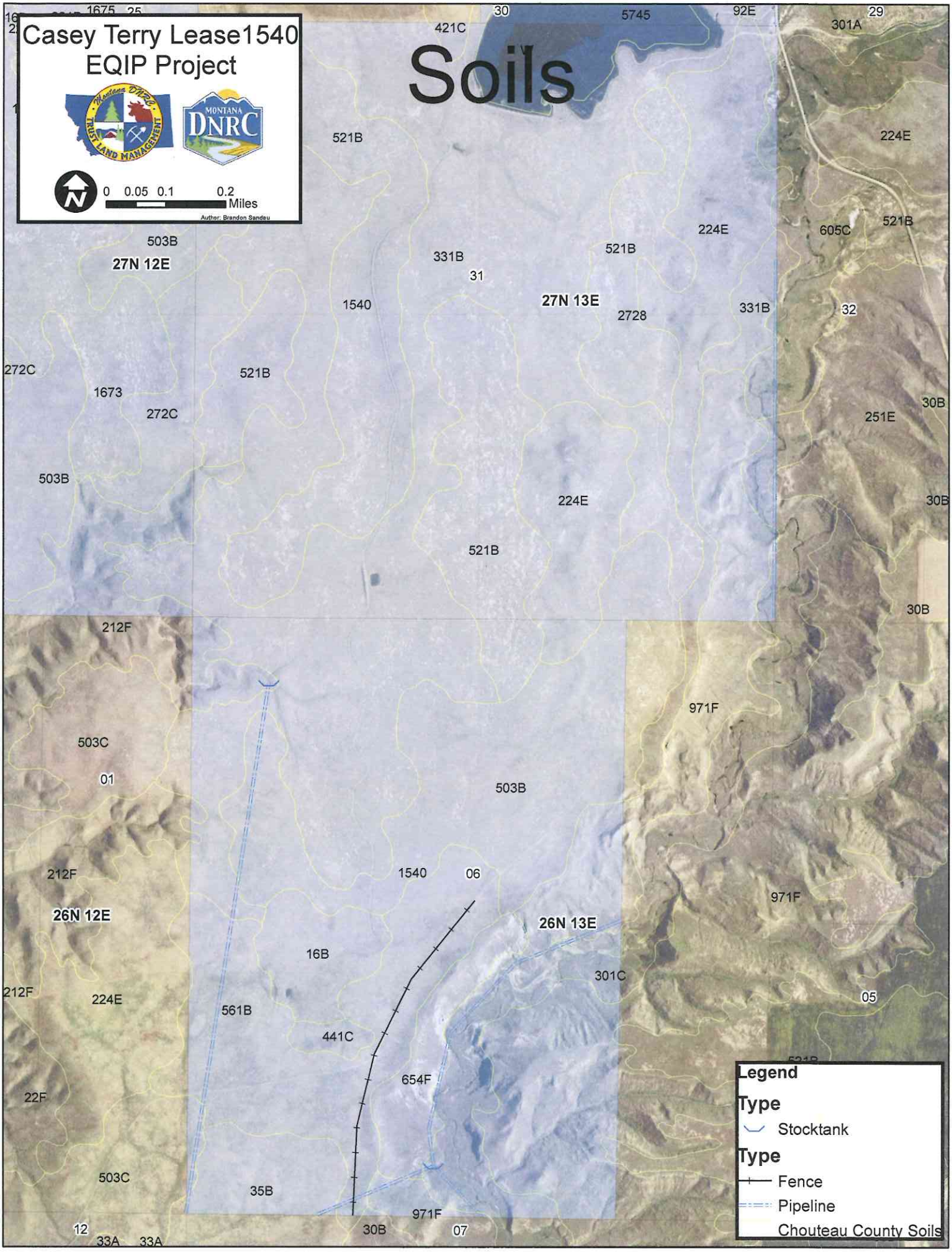
Legend
Type
Stocktank
Type
Fence
Pipeline

Grazing Plan Map

Customer(s): CASEY C TERRY
District: Big Sandy Conservation District
Approximate Acres: 3971.1
Legal Description: T27NR13ES29, 30, 31, & 32
T26NR12ES1, 12, &13
T26NR13ES5, 6, 7, 8, 17, & 18

Field Office: Fort Benton
Agency: USDA-NRCS
Assisted By: SETH JORAMO
Date: 4/29/2016

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EQIP Project
Soils
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Miles
Author: Brandon Sandau
27N 12E
27N 13E
26N 12E
26N 13E
1540
1673
1675
421C
5745
92E
301A
224E
521B
605C
503B
331B
2728
272C
503C
212F
971F
30B
251E
561B
441C
654F
16B
301C
Legend
Type
Stocktank
Type
Fence
Pipeline
Chouteau County Soils

Map Unit Description

Chouteau County Area, Montana

[Minor map unit components are excluded from this report]

Map unit: 35B - Assinniboine fine sandy loam, 0 to 4 percent slopes

Component: Assinniboine (90%)

The Assinniboine component makes up 90 percent of the map unit. Slopes are 0 to 4 percent. The parent material consists of alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R052XN163MT Sandy (sy) 10-14" P.z. ecological site. Nonirrigated land capability classification is 4e. Irrigated land capability classification is 4e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent.

Map unit: 212F - Cabbart-Hillon loams, 25 to 70 percent slopes

Component: Cabbart (55%)

The Cabbart component makes up 55 percent of the map unit. Slopes are 25 to 70 percent. The parent material consists of residuum. Depth to a root restrictive layer, bedrock, paralithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R052XN178MT Shallow (sw) 10-14" P.z. ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 20 percent. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Hillon (30%)

The Hillon component makes up 30 percent of the map unit. Slopes are 25 to 70 percent. The parent material consists of till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R052XN168MT Silty-steep (sistp) 10-14" P.z. ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent.

Map unit: 251E - Bascovy-Neldore silty clays, 8 to 25 percent slopes

Component: Bascovy (50%)

The Bascovy component makes up 50 percent of the map unit. Slopes are 8 to 25 percent. The parent material consists of residuum. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches is low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R052XN164MT Clayey-steep (cystp) 10-14" P.z. ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent. The soil has a very slightly saline horizon within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Neldore (35%)

The Neldore component makes up 35 percent of the map unit. Slopes are 8 to 25 percent. The parent material consists of residuum. Depth to a root restrictive layer, bedrock, paralithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is very low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R052XN179MT Shallow Clay (swc) 10-14" P.z. ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map Unit Description

Chouteau County Area, Montana

Map unit: 301C - Marvan-Vanda clays, 2 to 8 percent slopes

Component: Marvan (50%)

The Marvan component makes up 50 percent of the map unit. Slopes are 2 to 8 percent. The parent material consists of alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R052XN162MT Clayey (cy) 10-14" P.z. ecological site. Nonirrigated land capability classification is 4e. Irrigated land capability classification is 4e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 8 percent. The soil has a very slightly saline horizon within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Vanda (35%)

The Vanda component makes up 35 percent of the map unit. Slopes are 2 to 8 percent. The parent material consists of alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R052XN172MT Dense Clay (dc) 10-14" P.z. ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent. The soil has a moderately saline horizon within 30 inches of the soil surface. The soil has a moderately sodic horizon within 30 inches of the soil surface.

Map unit: 331B - Phillips-Elloam complex, 0 to 4 percent slopes

Component: Phillips (55%)

The Phillips component makes up 55 percent of the map unit. Slopes are 0 to 4 percent. The parent material consists of till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R052XN161MT Silty (si) 10-14" P.z. ecological site. Nonirrigated land capability classification is 3e. Irrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent.

Component: Elloam (30%)

The Elloam component makes up 30 percent of the map unit. Slopes are 0 to 4 percent. The parent material consists of till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R052XN086MT Claypan (cp) 10-14" P.z. ecological site. Nonirrigated land capability classification is 6s. Irrigated land capability classification is 6s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent. The soil has a moderately saline horizon within 30 inches of the soil surface. The soil has a moderately sodic horizon within 30 inches of the soil surface.

Map unit: 503B - Telstad-Joplin loams, 0 to 4 percent slopes

Component: Telstad (55%)

The Telstad component makes up 55 percent of the map unit. Slopes are 0 to 4 percent. The parent material consists of till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R052XN161MT Silty (si) 10-14" P.z. ecological site. Nonirrigated land capability classification is 3e. Irrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 9 percent.

Map Unit Description

Chouteau County Area, Montana

Map unit: 503B - Telstad-Joplin loams, 0 to 4 percent slopes

Component: Joplin (30%)

The Joplin component makes up 30 percent of the map unit. Slopes are 0 to 4 percent. The parent material consists of till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R052XN161MT Silty (si) 10-14" P.z. ecological site. Nonirrigated land capability classification is 3e. Irrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent.

Map unit: 503C - Telstad-Joplin loams, 4 to 8 percent slopes

Component: Telstad (45%)

The Telstad component makes up 45 percent of the map unit. Slopes are 4 to 8 percent. The parent material consists of till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R052XN161MT Silty (si) 10-14" P.z. ecological site. Nonirrigated land capability classification is 3e. Irrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 9 percent.

Component: Joplin (40%)

The Joplin component makes up 40 percent of the map unit. Slopes are 4 to 8 percent. The parent material consists of till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R052XN161MT Silty (si) 10-14" P.z. ecological site. Nonirrigated land capability classification is 3e. Irrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent.

Map unit: 561B - Scobey-Kevin clay loams, 0 to 4 percent slopes

Component: Scobey (55%)

The Scobey component makes up 55 percent of the map unit. Slopes are 0 to 4 percent. The parent material consists of till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R052XN161MT Silty (si) 10-14" P.z. ecological site. Nonirrigated land capability classification is 3e. Irrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent.

Component: Kevin (30%)

The Kevin component makes up 30 percent of the map unit. Slopes are 0 to 4 percent. The parent material consists of till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R052XN161MT Silty (si) 10-14" P.z. ecological site. Nonirrigated land capability classification is 3e. Irrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent.

Map Unit Description

Chouteau County Area, Montana

Map unit: 605C - Yamacall-Havre loams, 0 to 8 percent slopes

Component: Yamacall (45%)

The Yamacall component makes up 45 percent of the map unit. Slopes are 2 to 8 percent. The parent material consists of alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R052XN161MT Silty (si) 10-14" P.z. ecological site. Nonirrigated land capability classification is 3e. Irrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Havre (40%)

The Havre component makes up 40 percent of the map unit. Slopes are 0 to 2 percent. The parent material consists of alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R052XN166MT Overflow (ov) 10-14" P.z. ecological site. Nonirrigated land capability classification is 6w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent.

Map unit: 654F - Fleak-Twilight-Rock outcrop complex, 25 to 70 percent slopes

Component: Fleak (35%)

The Fleak component makes up 35 percent of the map unit. Slopes are 25 to 70 percent. The parent material consists of residuum. Depth to a root restrictive layer, bedrock, paralithic, is 10 to 20 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Twilight (30%)

The Twilight component makes up 30 percent of the map unit. Slopes are 25 to 45 percent. The parent material consists of residuum. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R052XN165MT Sandy-steep (systp) 10-14" P.z. ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 8 percent.

Component: Rock outcrop (20%)

Generated brief soil descriptions are created for major soil components. The Rock outcrop is a miscellaneous area.

Map unit: 971F - Neldore-Bascovy silty clays, 25 to 60 percent slopes

Component: Neldore (45%)

The Neldore component makes up 45 percent of the map unit. Slopes are 25 to 60 percent. The parent material consists of residuum. Depth to a root restrictive layer, bedrock, paralithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is very low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R052XN179MT Shallow Clay (swc) 10-14" P.z. ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Bascovy (40%)

The Bascovy component makes up 40 percent of the map unit. Slopes are 25 to 45 percent. The parent material consists of residuum.