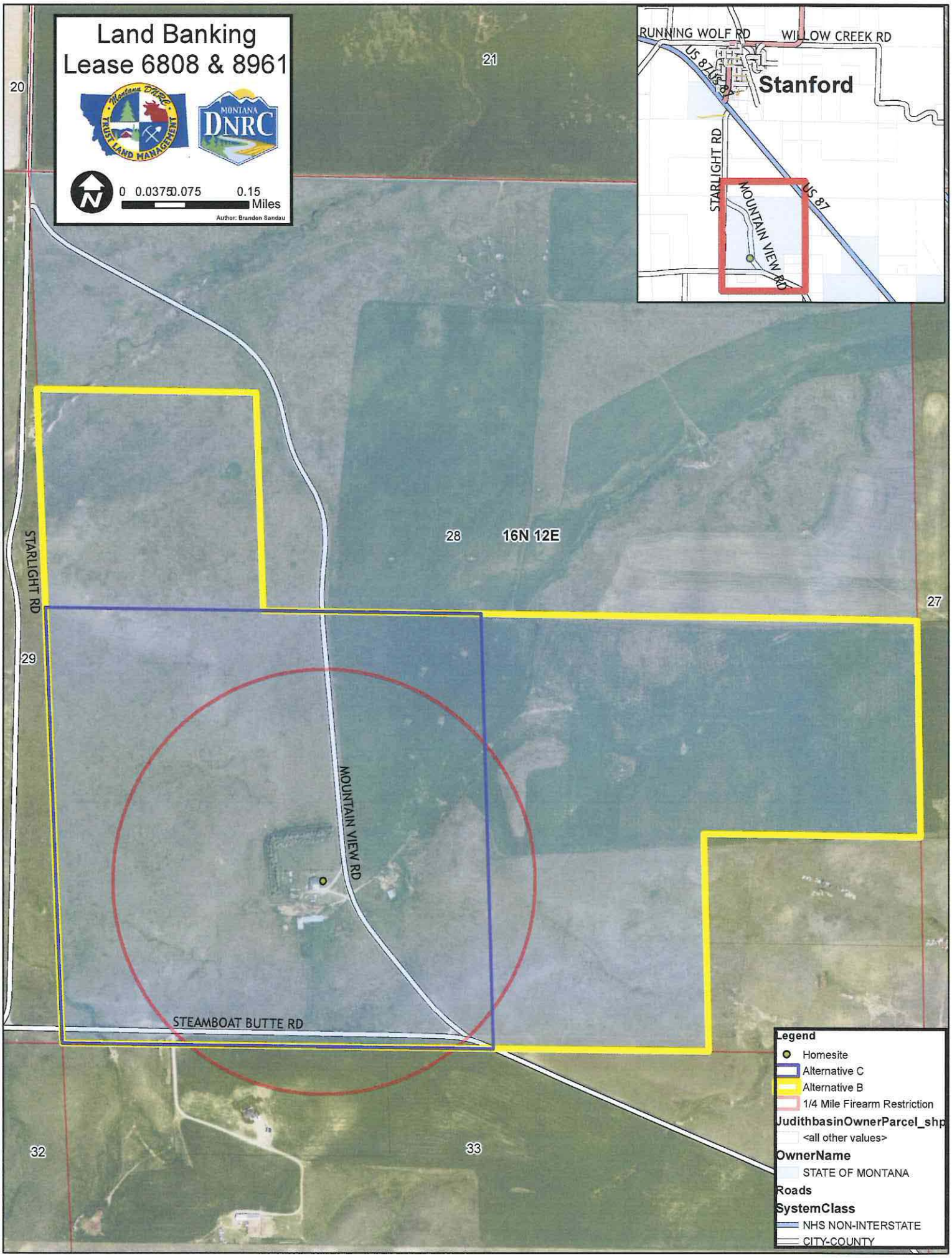

Land Banking
Lease 6808 & 8961
Montana DNRC
TRUST LAND MANAGEMENT
MONTANA
DNRC
0 0.0375 0.075 0.15
Miles
Author: Brandon Sandau
RUNNING WOLF RD
WILLOW CREEK RD
US 87
Stanford
STARLIGHT RD
MOUNTAIN VIEW RD
US 87
20
21
28
16N 12E
27
29
STARLIGHT RD
MOUNTAIN VIEW RD
STEAMBOAT BUTTE RD
32
33
Legend
Homesite
Alternative C
Alternative B
1/4 Mile Firearm Restriction
JudithbasinOwnerParcel_shp
<all other values>
OwnerName
STATE OF MONTANA
Roads
SystemClass
NHS NON-INTERSTATE
CITY-COUNTY

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	**Land Banking Sale**
Proposed Implementation Date:	2016
Proponent:	Rick Caquelin
Location:	16N 12E Sec.28
County:	Judith Basin
Trust:	Common Schools

I. TYPE AND PURPOSE OF ACTION

Rick Caquelin has submitted a land banking sale nomination for all land leased by him in 16N 12E sec. 28, which includes a home site that is also leased to Rick. The land is currently held in trust for the benefit of Common Schools.

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)
Rick Caquelin (Proponent)
MFWP
Neighbors: Skelton Ranch Company; James Galt; Leonard Proctor; Rodney Ridgeway, Kent Ridgeway & Lea Mitchell
All parties associated with Land Banking Scoping List (see attached)

NELO received one comment from Kent Ridgeway, see attached document for details.

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) – The DNRC would retain all land associated with leases 6808 & 8961 (320 ac.).

Alternative B- The DNRC would request and recommend approval by the Land Board to sell all land (320 ac.) leased by the proponent in 16N 12E sec.28.

Alternative C (Preferred Alternative) – The DNRC would request and recommend approval by the Land Board to sell all land (160 ac.) leased by the proponent in the SW4 of 16N 12E sec. 28.

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.

Soils on the tract are a complex of clays and clay loams. Two soils are classified as "farmland of statewide importance."

The State owns certain minerals under this tract and would retain ownership if the surface acres are sold.

See attached documents for location and classification of specific soils.

Alternative A (No Action)- No effect anticipated.

Alternative B - No effect anticipated.

Alternative C (Preferred Alternative)- No effect anticipated.

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 - No effect anticipated.

Alternative C (Preferred Alternative)- 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 - No effect anticipated.

Alternative C (Preferred Alternative)- 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 vegetative community is native short grass prairie and tame grass fields that were once enrolled in CRP.

Alternative A (No Action) - No effect anticipated.

Alternative B – The Department would lose the management of the current vegetative community. There is 110 acres of tame grass that was once enrolled in CRP, 194 acres of native, short grass prairie with a high amount of tame grass invaders (smooth brome & Kentucky bluegrass), and 9 acres associated with the home place with tame grass and a shelterbelt.

Alternative C (Preferred Alternative) - The Department would lose the management of the current vegetative community that lies in the SW4. There is 30 acres of tame grass that was once enrolled in CRP, 121 acres of native, short grass prairie with a high amount of tame grass invaders (smooth brome & Kentucky bluegrass), and 9 acres associated with the home place with tame grass and a shelterbelt.

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.

Alternative A (No Action)- No effect anticipated.

Alternative B - No effect anticipated.

Alternative C (Preferred Alternative) - No effect anticipated.

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).

Two species were listed as potentially in the area; Hoary bat and Little Brown Myotis. Both species are distributed throughout the entire state of Montana.

Alternative A (No Action)- No effect anticipated.

Alternative B - No effect anticipated.

Alternative C (Preferred Alternative)- No effect anticipated.

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

An historic search was conducted on the Montana State Antiquities database on 1/13/2016. A low profile cairn is located on section 28 but it isn't located on the tract leased to the proponent. No historical sites have been found in the previous lease evaluations.

Alternative A (No Action)- No effect anticipated.

Alternative B - No effect anticipated.

Alternative C (Preferred Alternative) - No effect anticipated.

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 - No effect anticipated.

Alternative C (Preferred Alternative)- 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 - No effect anticipated.

Alternative C (Preferred Alternative)- 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 - No effect anticipated.

Alternative C (Preferred Alternative)- 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 - No effect anticipated.

Alternative C (Preferred Alternative)- 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 – Land would continue to be used for agricultural production. No effect anticipated.

Alternative C (Preferred Alternative)- Land would continue to be used for agricultural production. 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 - No effect anticipated.

Alternative C (Preferred Alternative)- 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.

State School Trust Lands are currently exempt from property tax. If State Trust Lands represent 6% or greater of the total acres within a county then a payment in lieu of taxes (PLT) is made to the counties to mitigate for the State Trust Land tax exempt status. This is not the case for Judith Basin County.

Alternative A (No Action) –DNRC will continue to manage all Trust Lands in 16N 12E section 28. The tax base and revenues will not be impacted as a result.

Alternative B – Judith Basin would receive additional property tax revenue for the associated home site as well as for the 320 acres sold.

Alternative C (Preferred Alternative)- Judith Basin would receive additional property tax revenue for the associated home site as well as the 160 acres sold.

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

All state and private lands in this area are protected by the Stanford Rural fire department in conjunction with the County Coop Fire Program and mutual aid agreements with adjacent county fire departments.

Alternative A (No Action)- No effect anticipated for government services regarding fire protection would occur.

Alternative B - The transfer of ownership would have no effect for government services regarding fire protection.

Alternative C (Preferred Alternative)- The transfer of ownership would have no effect for government services regarding fire protection.

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.

The Trust parcel is surrounded by private land and the DNRC is not aware of any zoning plans that would affect the parcel.

Alternative A (No Action)- No effect anticipated.

Alternative B - No effect anticipated.

Alternative C (Preferred Alternative)- 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.

The majority of hunting is mainly limited to upland game birds. Big game hunting would be minimal with occasional animals passing through.

Alternative A (No Action)- No effect anticipated. Sportsmen would still have access to 217 acres. 114 acres are unavailable due to the ¼ mile weapons restriction from a home site.

Alternative B – The entire tract (331 acres) would be lost to recreation and hunting. Money from the sale may increase access elsewhere with land banking, but there is no guarantee it would be spent locally.

Alternative C (Preferred Alternative)- A total of 160 acres would be sold. 110 Acres are under the weapons restriction buffer currently and 50 acres that are accessible would be lost to sportsman. The sale of the SW4 would make it easier for sportsmen to navigate the ¼ mile buffer with the remaining restriction zone being limited to 7 acres.

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 - No effect anticipated.

Alternative C (Preferred Alternative)- 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 - No effect anticipated.

Alternative C (Preferred Alternative)- 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 - No effect anticipated.

Alternative C (Preferred Alternative)- 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.

In the last 5 years lease 6808 & 8691 has returned $22,214.28 to the state trust, an average of $4,442.86 per year.

Economic Analysis for Land Banking lease 6808 & 8961

Grazing	**Acres**	AUMS	Rate	
2016	189.78	80	$19.57	$1,565.60
2015	189.78	80	$14.41	$1,152.80
2014	189.78	80	$11.41	$912.80
2013	189.78	80	$9.94	$795.20
2012	189.78	80	$7.90	$616.20
Ag				
2016	115.6		$18.00	$2,080.80
2015	115.6		$18.00	$2,080.80
2014	115.6		$18.00	$2,080.80
2013	115.6		$18.00	$2,080.80
2012	115.6		CRP	$2,296.39
Homesite				
2016	9.17			$1,436.68
2015	9.17			$1,378.04
2014	9.17			$1,308.00
2013	9.17			$1,247.97
2012	9.17			$1,181.40

Total	$22,214.28
Avg per year	$4,442.86

Alternative C

Grazing	68.78	29	19.57*	$567.53
Ag	85.6		$18.00	$1,540.80

Total	$2,108.33

* Changing Rate

Alternative A (No Action)- No effect anticipated.

Alternative B – The sale of the entire tract would give no annual return to the state. The only return to the state would be the sale of leases 6808 & 8691.

Alternative C (Preferred Alternative)- In addition to the money received from the sale of the SW4, lease 6808 would return around $2,108.33 per year under the current rate.

EA Checklist Prepared By:	Name: Brandon Sandau Title: Land Use Specialist
Signature:	Date: April 14, 2016

V. FINDING

25. ALTERNATIVE SELECTED:

Alternative C (Preferred Alternative) – The DNRC would request and recommend approval by the Land Board to sell all land (160 ac.) leased by the proponent in the SW4 of 16N 12E section 28.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

The process of completing this EA did not identify any significant potential impacts of the sale of the SW4 in 16N 12E section 28.

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: April 14, 2016

DNRC	**Sonya Germann** Forest Management Bureau MT DNRC – TLMD 2705 Spurgin Road Missoula, MT 59804 sgermann@mt.gov **Monte Mason** Minerals Management Bureau MT DNRC – TLMD 1625 11th Ave Helena, MT 59620 mmason@mt.gov **Kevin Chappell** Ag & Grazing Bureau MT DNRC – TLMD 1625 11th Ave Helena, MT 59620 kchappell@mt.gov **Amy Randall** Real Estate Management Bureau MT DNRC – TLMD 1625 11th Ave Helena, MT 59620 arandall@mt.gov
OTHER INTERESTED PARTIES	
All persons holding a License on the Parcel	TLMS
Any surface lessees	TLMS
All adjacent landowners of record	Mailing addresses for adjacent landowners can be derived from the Montana Cadastral Mapping site @ http://gis.mt.gov/
Other parties that have expressed interest of being notified of Land Banking sales	Addresses for these parties would be kept locally.
Craig Sharpe and Larry Copenhaver, Montana Wildlife Federation	lcopenhaver@mtwf.org csharpe@mtwf.org PO Box 1175 Helena, MT 59624
Glen Marx, Executive Director Montana Association of Land Trust (MALT)	PO Box 892 Helena, MT 59624 montanamalt@q.com

LAND BANKING SCOPING LIST

NAME OR AGENCY	ADDRESS
NEGOTIATED RULEMAKING COMMITTEE	
Anne Hedges	Montana Environmental Information Center PO Box 1184 Helena, MT 59624
Bill Orsello/Stan Frasier	Montana Wildlife Federation PO Box 1175 Helena, MT 59624
Bob Vogel	Montana School Boards Association 863 Great Northern Blvd., Ste 301 Helena, MT 59601-3398
Daniel Berube	27 Cedar Lake Dr. Butte, MT 59701
Julia Altermus	Montana Wood Products PO Box 1967 Missoula, MT 59806
Harold Blattie	Montana Association of Counties 2715 Skyway Dr. Helena, MT 59601
Jack Atcheson, Sr.	3210 Ottawa Butte, MT 59701
Janet Ellis	Montana Audubon PO Box 595 Helena MT 59624
Kellie Peterson	MSU Bozeman P.O. Box 172440 Bozeman, MT 59717-0001
Jake Cummins	MT Farm Bureau Federation 502 S 19th, SUITE 104 BOZEMAN MT 59718
Kyle Hardin	Matador Cattle Co. 9500 Blacktail Rd. Dillon, MT 59725
Rosi Keller	University of Montana 32 Campus Dr. Missoula, MT 59812-0001

Smith, Barny

From: Ridgeway, Kent W (RCIS) <Kent.Ridgeway@RCIS.com>
Sent: Monday, March 07, 2016 2:15 PM
To: Smith, Barny
Subject: Land sale

To whom it may concern, I am a private land owner who neighbors the tract of land that is proposed to be sold legal description SW ¼, Section 28, T16N, R12E. I oppose this sale, it has been state land and should be left that way. If it does come up for sale it better be up for public bid process and not a private sale. I don't believe the state of Montana needs to be in the reality business of selling and buying land!

Kent Ridgeway
RCIS Crop Adjuster
406-366-5689
Kent.ridgeway@rcis.com

Animal Species of Concern

Species List Last Updated **06/23/2015**

2 Species of Concern
Filtered by the following criteria:
Species = Mammals, Birds, Reptiles, Amphibians, Fish, Invertebrates
Heritage State Rank = S1, S2, S3
Township = 16 N Range = 12 E (based on mapped Species Occurrences)

Montana Natural Heritage Program

A program of the Montana State Library's Natural Resource Information System operated by the University of Montana.

Species of Concern

2 Species
Filtered by the following criteria:
Species = Mammals, Birds, Reptiles, Amphibians, Fish, Invertebrates
Heritage State Rank = S1, S2, S3
Township = 16 N Range = 12 E (based on mapped Species Occurrences)

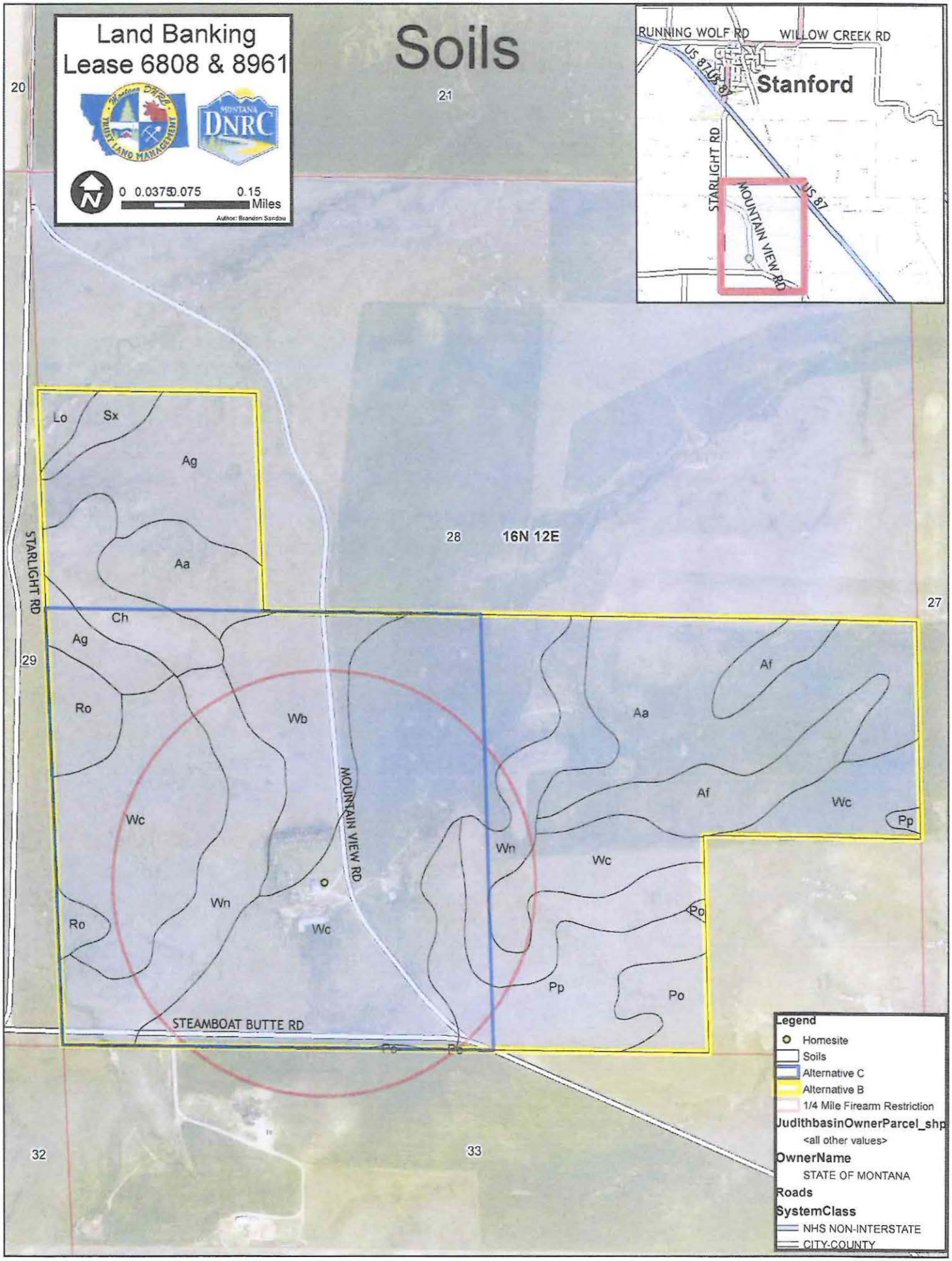
MAMMALS (MAMMALIA)

2 SPECIES

FILTERED BY THE FOLLOWING CRITERIA:
SPECIES = MAMMALS, BIRDS, REPTILES, AMPHIBIANS, FISH, INVERTEBRATES
HERITAGE STATE RANK = S1, S2, S3
TOWNSHIP = 16 N RANGE = 12 E (BASED ON MAPPED SPECIES OCCURRENCES)

SCIENTIFIC NAME COMMON NAME TAXA SORT	FAMILY (SCIENTIFIC) FAMILY (COMMON)	GLOBAL RANK	STATE RANK	USFWS	USFS	BLM	FWP SWAP	% OF GLOBAL BREEDING RANGE IN MT	% OF MT THAT IS BREEDING RANGE	HABITAT
Lasiurus cinereus Hoary Bat	Vespertilionidae Bats	G5	S3				SGCN3	2%	100%	Riparian and forest
		Species Occurrences verified in these Counties: Beaverhead, Big Horn, Blaine, Broadwater, Carbon, Carter, Cascade, Chouteau, Custer, Daniels, Dawson, Deer Lodge, Fallon, Fergus, Flathead, Gallatin, Garfield, Glacier, Golden Valley, Granite, Hill, Jefferson, Judith Basin, Lake, Lewis and Clark, Liberty, Lincoln, Madison, Mccone, Meagher, Mineral, Missoula, Musselshell, Park, Petroleum, Phillips, Pondera, Powder River, Powell, Prairie, Ravalli, Richland, Roosevelt, Rosebud, Sanders, Sheridan, Silver Bow, Stillwater, Sweet Grass, Teton, Toole, Treasure, Valley, Wheatland, Wibaux, Yellowstone								
Myotis lucifugus Little Brown Myotis	Vespertilionidae Bats	G3	S3				SGCN3	3%	100%	Generalist
		Species Occurrences verified in these Counties: Beaverhead, Big Horn, Blaine, Broadwater, Carbon, Carter, Cascade, Chouteau, Custer, Daniels, Dawson, Deer Lodge, Fallon, Fergus, Flathead, Gallatin, Garfield, Glacier, Golden Valley, Granite, Hill, Jefferson, Judith Basin, Lake, Lewis and Clark, Lincoln, Madison, Mccone, Meagher, Mineral, Missoula, Musselshell, Park, Petroleum, Phillips, Pondera, Powder River, Powell, Prairie, Ravalli, Richland, Roosevelt, Rosebud, Sanders, Sheridan, Silver Bow, Stillwater, Sweet Grass, Teton, Toole, Treasure, Valley, Wheatland, Wibaux, Yellowstone								

Citation for data on this website:
Montana Animal Species of Concern Report. Montana Natural Heritage Program and Montana Fish, Wildlife and Parks. Retrieved on 1/13/2016, from http://mtnhp.org/SpeciesOfConcern/?AorP=a


Land Banking
Lease 6808 & 8961
Soils
0 0.0375 0.075 0.15
Miles
Author: Brandon Sandau
RUNNING WOLF RD
WILLOW CREEK RD
US 87
US 87
Stanford
STARLIGHT RD
MOUNTAIN VIEW RD
US 87
20
21
28
16N 12E
27
29
32
33
STARLIGHT RD
MOUNTAIN VIEW RD
STEAMBOAT BUTTE RD
Lo
Sx
Ag
Aa
Ch
Ag
Ro
Wb
Wc
Wn
Ro
Wc
Wn
Wc
Aa
Af
Af
Wc
Pp
Wc
Po
Pp
Po
Legend
Homesite
Soils
Alternative C
Alternative B
1/4 Mile Firearm Restriction
JudithbasinOwnerParcel_shp
<all other values>
OwnerName
STATE OF MONTANA
Roads
SystemClass
NHS NON-INTERSTATE
CITY-COUNTY

Farmland Classification

Aggregation Method: No Aggregation Necessary
Tie-break Rule: Lower

Judith Basin Area, Montana
Survey Area Version and Date: 12 - 09/08/2014

Map symbol	Map unit name	Rating	Map unit percent
Aa	Absarokee clay loam, 2 to 8 percent slopes	Farmland of statewide importance	100
Af	Absarokee-Cheadle channery loams, 8 to 15 percent slope s	Not prime farmland	100
Ag	Absarokee-Cheadle stony loams	Not prime farmland	100
Ch	Cheadle-Big Timber-Rock outcrop complex	Not prime farmland	100
Lo	Loamy alluvial land	Not prime farmland	100
Po	Promise clay, 2 to 8 percent slopes	Not prime farmland	100
Pp	Promise clay, 8 to 15 percent slopes	Not prime farmland	100
Ro	Rhoades-Arvada complex	Not prime farmland	100
Sx	Straw clay loam, 2 to 4 percent slopes	Prime farmland if irrigated	100
Wb	Winifred clay loam, 0 to 4 percent slopes	Prime farmland if irrigated	100
Wc	Winifred clay loam, 4 to 8 percent slopes	Farmland of statewide importance	100
Wn	Winifred-Utica complex	Not prime farmland	100

Soil Taxonomy Classification

Aggregation Method: Dominant Condition
Tie-break Rule: Lower

Judith Basin Area, Montana
Survey Area Version and Date: 12 - 09/08/2014

Map symbol	Map unit name	Rating	Map unit percent
Aa	Absarokee clay loam, 2 to 8 percent slopes	Fine, montmorillonitic Typic Argiborolls	95
Af	Absarokee-Cheadle channery loams, 8 to 15 percent slope s	Fine, montmorillonitic Typic Argiborolls	70
Ag	Absarokee-Cheadle stony loams	Fine, montmorillonitic Typic Argiborolls	50
Ch	Cheadle-Big Timber-Rock outcrop complex	Loamy-skeletal, mixed, superactive Lithic Haploborolls	40
Lo	Loamy alluvial land	Fine-loamy, mixed, superactive, calcareous, frigid Typic Fluvaquents	80
Po	Promise clay, 2 to 8 percent slopes	Fine, montmorillonitic, frigid Udorthentic Chromusterts	100
Pp	Promise clay, 8 to 15 percent slopes	Fine, montmorillonitic, frigid Udorthentic Chromusterts	100
Ro	Rhoades-Arvada complex	Clayey, montmorillonitic, shallow Borollic Natrargids	45
Sx	Straw clay loam, 2 to 4 percent slopes	Fine-loamy, mixed, superactive Cumulic Haploborolls	85
Wb	Winifred clay loam, 0 to 4 percent slopes	Fine, montmorillonitic, frigid Typic Haploborolls	90
Wc	Winifred clay loam, 4 to 8 percent slopes	Fine, montmorillonitic, frigid Typic Haploborolls	85
Wn	Winifred-Utica complex	Fine, montmorillonitic, frigid Typic Haploborolls	50

Ecological Site Name

Class: NRCS Rangeland Site
Aggregation Method: Dominant Condition
Tie-break Rule: Lower

Judith Basin Area, Montana
Survey Area Version and Date: 12 - 09/08/2014

Map symbol	Map unit name	Rating	Map unit percent
Aa	Absarokee clay loam, 2 to 8 percent slopes	Draft Silty (Si) RRU 46-C 13-19" p.z.	100
Af	Absarokee-Cheadle channery loams, 8 to 15 percent slope s	Draft Silty (Si) RRU 46-C 13-19" p.z.	100
Ag	Absarokee-Cheadle stony loams	Draft Silty (Si) RRU 46-C 13-19" p.z.	50
Ch	Cheadle-Big Timber-Rock outcrop complex	Draft Shallow (Sw) RRU 46-C 13-19" p.z.	40
Lo	Loamy alluvial land	Saline Lowland (SL) RRU 46-C 15-19" p.z.	80
Po	Promise clay, 2 to 8 percent slopes	Clayey (Cy) RRU 46-C 10-14" p.z.	100
Pp	Promise clay, 8 to 15 percent slopes	Clayey (Cy) RRU 46-C 10-14" p.z.	85
Ro	Rhoades-Arvada complex	Panspots (Ps) RRU 46-C 15-19" p.z.	90
Sx	Straw clay loam, 2 to 4 percent slopes	Draft Silty (Si) RRU 46-C 13-19" p.z.	100
Wb	Winifred clay loam, 0 to 4 percent slopes	Clayey (Cy) RRU 46-C 10-14" p.z.	100
Wc	Winifred clay loam, 4 to 8 percent slopes	Clayey (Cy) RRU 46-C 10-14" p.z.	85
Wn	Winifred-Utica complex	Thin Clayey (TCy) RRU 46-C 15-19" p.z.	85