FINAL ENVIRONMENTAL ASSESSMENT
for the proposed
Laverell's, Inc.
Land Application Site
Hilger, Montana

Solid Waste Section
PO Box 200901
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April 28, 2021

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ACRONYMS

LI – Laverell's, Inc.

ARM – Administrative Rules of Montana

AAR– Annual Application Rate

Draft EA – Draft version of an environmental assessment before public comment

DEQ – Montana Department of Environmental Quality

DNRC – Montana Department of Natural Resources and Conservation

EA – Environmental Assessment

EIS – Environmental Impact Statement

Final EA – Final version of an environmental assessment after public comment

GWIC – Ground Water Information Center

MBMG – Montana Bureau of Mines and Geology

MCA – Montana Code Annotated

MEPA – Montana Environmental Policy Act

MNHP – Montana Natural Heritage Program

O&M – Operation and Maintenance

Proposed Action – Approving a new septage land application site

Septic Rules– ARM Title 17, chapter 50, subchapter 8, "Cesspool, Septic Tank, and Privy Cleaners"

SDLA – "Septic Disposal Licensure Act", Title 75, chapter 10, part 12, MCA

Site – Approximately 40 acres of Tyler property located 3.7 miles west of Montana Highway 236 on Echo Drive in Fergus County in Hilger, Montana.

SWL – Static Water Level

USFWS – United States Fish and Wildlife Service

USGS – United States Geological Survey

1. NEED FOR PROPOSED ACTION

1.1 SUMMARY

This final environmental assessment (Final EA) was prepared for the septage land application site proposed by Laverell's, Inc. (LI), in accordance with the Montana Environmental Policy Act (MEPA). On March 27, 2020, the Department of Environmental Quality (DEQ) received an application from LI for licensing a new septage land application site (Proposed Action). LI proposes the land application of septage on approximately 40 acres of Tyler property located 3.7 miles west of Montana Highway 236 on Echo Drive in Fergus County in Hilger, Montana. (Site, **Figure 1**).

1.2 BACKGROUND

In July 1995, LI obtained a license from DEQ to pump and land apply septage in Montana. LI is currently approved to land apply septage on multiple land application sites in Sweet Grass County. LI is proposing to add the Site to their license.

This application was signature certified by Fergus County prior to DEQ's environmental review. According to the Administrative Rules of Montana (ARM), DEQ cannot review a new site disposal application unless it has been previously certified by the local county health officer or designated representative.

Septage is the liquid and solid material removed from a septic tank, cesspool, portable toilet, or similar treatment works that only receive domestic waste and wastewater collected from household or commercial operations. Septage is different than sewage, which is wastewater and excrement that has not been treated and is conveyed in sewer systems. Septage is what Montana's septic tank pumpers land apply.

Naturally occurring bacteria within wastewater reside in the typical septic tank, digesting organic matter over time. Pre-treated liquid, or effluent, typically exits the septic tank through a perforated pipe and enters its leach field, leaving floating materials and solids in the tank for further digestion. This method of treatment differs from that provided by publicly owned treatment works (POTWs). However, treatment of septage occurs in septic tanks nonetheless. The liquid leaving tank is further treated in the drainfield by soil microbes and sunlight .

Septic tanks are commonly pumped every 2 to 5 years, depending on tank capacity and number of users. Septage is then either delivered to a POTW for secondary treatment, land applied, or dewatered and landfilled at a licensed Class II municipal solid waste landfill facility.

As Montana's population and seasonal visitation grow, the demand for disposal of septage increases. Wastewater treatment plants can accept only limited amounts of septage from pumpers. Land application by pumpers allows for safe disposal of septage without overloading Montana's wastewater treatment plants. Land application also reduces Montana farmers' reliance on chemical fertilizers to improve soil. LI's application was submitted to DEQ under the laws and rules for licensing septic pumpers, demonstrating their intent to meet the minimum requirements for the pumping and land application of septage.

When properly managed, land application of septage is a beneficial resource, providing economic and environmental benefits with no adverse public health effects. A licensed land application program recognizes and employs practices that maximize those benefits. Septage does not include prohibited material (e.g., garbage or tampons) removed from a septic tank or similar treatment works by pumping.

1.3 PURPOSE AND NEED

DEQ must conduct an environmental review on LI's application by evaluating potential impacts of the Proposed Action. If DEQ approves the application, DEQ will add the Site to their existing license. DEQ's decision to approve or deny the application depends upon the consistency of the application with the following:

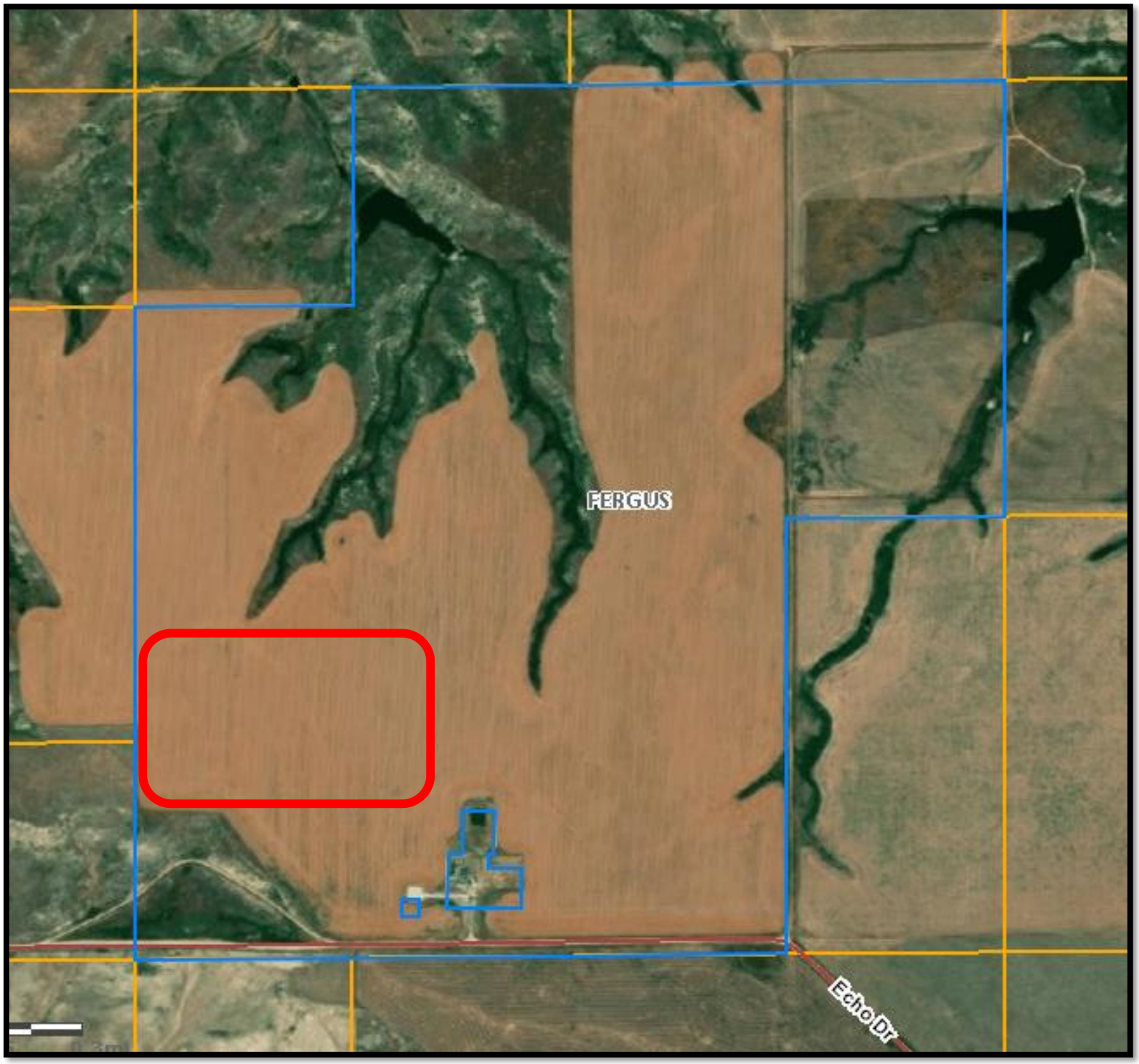
1. Septage Disposal Licensure Act (SDLA);
2. Administrative Rules of Montana (ARM) Title 17, chapter 50, subchapter 8, "Cesspool, Septic Tank, and Privy Cleaners" (Septic Rules);
3. the Clean Air Act of Montana; and
4. Montana Water Quality Act.

1.4 LOCATION DESCRIPTION AND STUDY AREA

The Site is in the SW ¼ of Section 34, Township 20 North, Range 18 East in Fergus County, Montana. The Site grows wheat, but is currently in summer fallow.

A private drive via Echo Road will be used to access the Site (**Figure 1**). The study area encompasses property that surrounds the Site. The study area depends on the resource under evaluation, as noted in the subparts of *Section 3*.

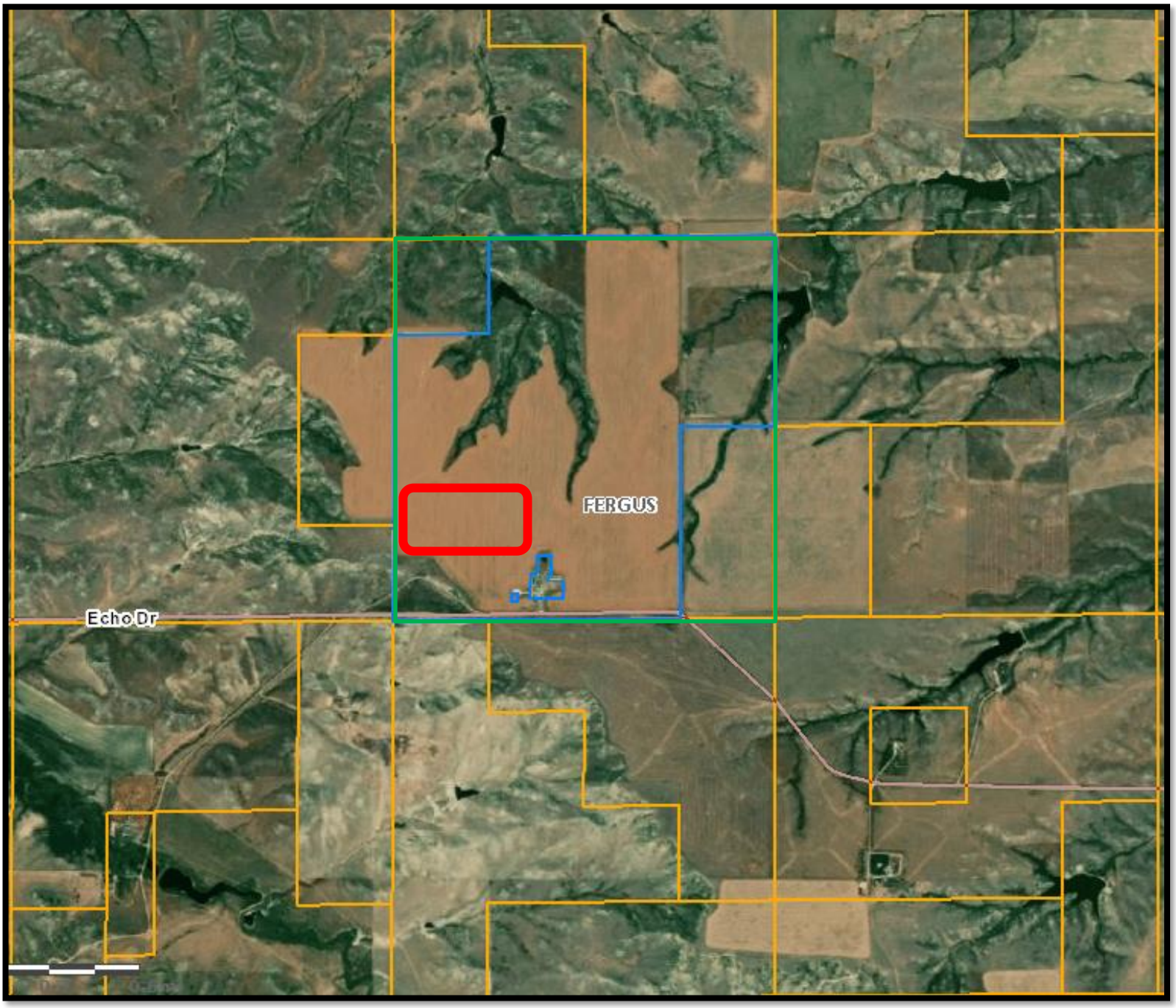
Figure 1: Proposed Land Application Site
(***approximate Site in red; Tyler property in blue; surrounding property boundaries in orange***)



*Source: Montana Cadastral (**NOT TO SCALE**)*

Figure 2: Study Area

(approximate Site in red; Section 34 in green; Tyler property in blue)



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*Source: Montana Cadastral (**NOT TO SCALE**)*

1.5 COMPLIANCE WITH MEPA

Under MEPA, Montana agencies are required to prepare an environmental review for state actions that may have an impact on the human environment. The Proposed Action is considered a state action that may have an impact on human health and the environment. Therefore, DEQ must prepare an environmental assessment. This Final EA analyzes the Proposed Action and reasonable alternatives to the Proposed Action and discloses potential impacts that may result from such actions. DEQ will determine the need for additional environmental reviews based on consideration of the criteria set forth in ARM 17.4.608.

1.6 PUBLIC INVOLVEMENT

DEQ is released the draft version of this environmental assessment (Draft EA) to present its initial findings described in *Section 4*. A 30-day public comment period began upon release of the document. The public comment period ended on March 25, 2021. No comments were received. A notice of availability for the Draft EA was sent to adjacent landowners and other interested parties. A public notice was published in the Lewistown News-Argus and a hard copy was sent to Lewistown Public Library in Lewistown, Montana. The public notice, Draft EA, and Final EA may be viewed at: https://deq.mt.gov/public/ea/SepticPumpers.

2. DESCRIPTION OF ALTERNATIVES

This Section describes the Proposed Action and No Action alternatives. MEPA requires the evaluation of reasonable alternatives to the Proposed Action. Reasonable alternatives are achievable under current technology and are economically feasible, as determined by the economic viability of similar projects with similar goals, conditions, and physical locations. Reasonable alternatives are determined without regard to the economic strength of the applicant, but may not include an alternative facility or an alternative to the proposed project itself.

According to ARM 17.4.609(3)(f), an environmental assessment (EA) must include alternatives whenever reasonable and prudent. DEQ has not considered any other alternatives to the Proposed Action because LI's application and operation and maintenance comply with the applicable laws and rules pertaining to land application of septage in Montana.

2.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, the Site would not be approved by DEQ. Therefore, the Site could not be used by LI, and disposal of septage would have to occur at another approved location or treatment works.

2.2 PROPOSED ACTION

LI is proposing the land application of septage on the Site, described in *Section 1.1*.

2.2.1 LAND APPLICATION SITE OPERATIONS

The operational and setback requirements for land application of septage at this Site are provided in **Tables 1** and **2**:

Table 1: Land Application Operational Requirements

ARM Reference	Specific Restrictions
17.50.809(10)	All non-putrescible litter must be removed from the land application site within 6 hours of application.
17.50.809(12)	Pumpings may not be applied at a rate greater than the crop's annual application rate (AAR) for nitrogen.
17.50.810(1)	Pumpings may not be applied to flooded, frozen, or snow-covered ground if the pumpings may enter state waters.
17.50.811(3)	Pumpings may be applied only if the person first performs one of the following vector attraction and pathogen reduction methods: • injection below the land surface so no significant amount remains on the land surface within one-hour of injection; • incorporation into the soil surface's plow layer within 6 hours of application; • addition of alkali material so that the pH is raised to and remains at 12 or higher for a period of at least 30 minutes; or, • management as required by 17.50.810 when the ground is frozen

Table 2: Land Application Site Setback Requirements

ARM Reference	Specific Restrictions
17.50.809(1)	Pumpings may not be applied to land within 500 feet of any occupied or inhabitable building.
17.50.809(2)	Pumpings may not be applied to land within 150 feet of any state surface water, including ephemeral or intermittent drainages and wetlands.
17.50.809(3)	Pumpings may not be applied to land within 100 feet of any state, federal, county, or city-maintained highway or road.
17.50.809(4)	Pumpings may not be applied to land within 100 feet of a drinking water supply source.
17.50.809(6)	Pumpings may not be applied to land with slopes greater than 6%.
17.50.809(8)	Pumpings may not be applied to land where seasonally high groundwater is 6 feet or less below ground surface.

Land application will be limited to areas approved by DEQ. Areas within the Site will not be used until their boundaries have been marked and approved by DEQ or the local county sanitarian.

LI will be required to log the type and amount of septage land applied annually as well as the dates applied. Disposal logs will be submitted to DEQ semiannually. DEQ will verify the Site's annual application rate (AAR) and may periodically monitor the soils for adherence to the proposed maximum AAR.

2.2.2 EQUIPMENT AVAILABLE AND PUMPER TRUCK REQUIREMENTS

LI has the following equipment available for land application activities:

1. 1987 Kenworth W900 pumper truck
2. 1976 Peterbilt 352 pumper truck
3. 2015 Ford F-350 pickup
4. Disk for incorporation (to be pulled by any of the above vehicles)

The Septic Tank, Cesspool, and Privy Cleaner Vehicle Inspection Form was created by DEQ to guide the vehicle inspection. The county health officer's (or designated representative's) signature on the vehicle inspection form certifies that the vehicle is equipped with the necessary equipment to adequately screen and spread septage while land applying. The following questions are on the form to verify compliance with the Septic Rules:

1. Does the vehicle show signs of leakage?
2. Is the vehicle equipped with the proper spreading equipment?
3. Is the spreading equipment mounted on the vehicle or separate?
4. If required to screen septage before land applying, is the vehicle, or site, equipped with the proper screening equipment?
5. Is the spreading equipment approved for use?
6. Is the screening equipment approved for use?
7. Make/Model of Vehicle
8. Tank Size

LI will be required to submit this form for each pump or vac truck to DEQ prior to land application.

2.2.3 AMOUNT AND EXTENT OF SEPTAGE APPLICATION

Land application must not exceed the AAR (gallons per acre per year) based on:

1. The nitrogen content of the waste applied at the Site; and
2. The crop nitrogen yield for the crop or other vegetation at the Site.

The AAR for septage is calculated as follows:

$$\textbf{AAR} = \frac{\text{minimum crop nitrogen requirement (lbs./acre/year)}}{0.0026 \text{ (lbs./gallon)}}$$

The Site grows wheat, but is currently in summer fallow. The nitrogen requirement for wheat is 130 pounds per acre per year based on a conservative yield expectation at the Site. The resulting AAR for septage is 50,000 gallons per acre per year, which is equal to approximately 1.82 inches of liquid applied annually per acre. For comparison, the average annual precipitation in the Lewistown area is 17.3 inches per year.

Land application of septage at the AAR is alternated annually between separate parcels to allow for agronomic crop uptake of the applied nitrogen. Plants can

utilize nitrogen available from the septage if the volume of septage applied each year does not exceed the AAR. When land application is rotated, one parcel is used every year. For example, if 100 acres are proposed for land application, 50 acres would be used one year and the other 50 acres be used similarly the next year. In this case, LI will designate two equal areas of approximately 20 acres and rotate parcels each year. The residual soil nutrient levels at each parcel will vary over time. DEQ may periodically monitor the soil for nutrient content to determine compliance with the AAR.

The Tyler property could annually treat the proposed 100,000 gallons of waste without exceeding the AAR on approximately 20 acres each year.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES BY RESOURCE

3.1 LOCATION DESCRIPTION AND STUDY AREA

The location description and study area are described in *Section 1.1* of this Final EA. The study area includes land and resources in and around the Site. The affected environment is described in each subsequent section depending on the resource.

3.2 IMPACTS

Table 3 shows a summary of the impacts of the No Action Alternative and the Proposed Action.

Table 3: Impacts

Resource	Alternative 1 – No Action	Alternative 2 – Proposed Action
Wildlife and Habitats	Minor impact.	Minor impact. Wildlife tend to avoid land application sites due to human scent and activities and will relocate (See Section 3.2.1)
Soils and Vegetation	Minor impact.	Minor beneficial impact. The quality of soils and crop yields will be enhanced by the Proposed Action (See Section 3.2.2)
Geology	No impact	No impacts. (See Section 3.2.3)
Hydrology and Hydrogeology	No impact.	No impacts. (See Section 3.2.4)

Aesthetics and Noise	Minor impact.	Minor impact. Land application activities resemble agricultural activities occurring in the surrounding area. Odor will largely be controlled by daily tilling. (See Section 3.2.5)
Human Health & Safety	No impact.	No impacts. (See Section 3.2.6)
Industrial, Commercial, and Industrial Activities	No impact.	No impacts. (See Section 3.2.7)
Cultural Uniqueness and Diversity	No impact.	No impacts. (See Section 3.2.8)
Demand for Government Services	Minor impact.	Minor impact. Fergus County sanitarian and DEQ will conduct periodic inspections of the Site. (See Section 3.2.9)
Socioeconomics	No impact.	No impacts. (See Section 3.2.10)
Traffic	Minor impact.	Minor impact. LI will access the Site via a private road off of Echo Drive, which currently supports traffic to homes and businesses in the area. (See Section 3.2.11)

3.2.1 WILDLIFE AND HABITATS

Impacts to wildlife and habitats from the Proposed Action will be minor.

Transient wildlife tends to avoid land application sites due to human scent and activities. Montana Fish, Wildlife & Parks (FWP) manages the overall wildlife populations of the region. Species of fish, amphibians, and aquatic invertebrates and plants are not included on the following lists because land application activities will not impact nearby perennial waters based on STP requirements for minimum setbacks, maximum slopes, and elimination of runoff (see *Sections 2.2.1* and *3.2.4.1*).

The applicant does not plan to expand the Site beyond the boundaries described in the application. Therefore, no habitats outside the land application area will be impacted. Parcels of land adjacent to the Site are primarily used for agricultural production and grazing. Some native grass acreage and several wooded drainages are located nearby. Beyond the immediate vicinity of the Site, a similar mix of agricultural lands, grasslands, and wooded areas provide habitat for species present in the region.

3.2.1.1 THREATENED AND ENDANGERED SPECIES

The U.S. Fish & Wildlife Service's (USFWS) online databases were used to identify plant and animal species at the Site and study area (USFWS, 2021). The USFWS species and status listings for Fergus County, Montana, are shown in **Table 4**:

Table 4: Federally Established Species List

Scientific Name	Common Name	Status
Canis lupus	Gray wolf	Recovery
Haliaeetus leucocephalus	Bald eagle	Recovery
Mustela nigripes	Black-footed ferret	Experimental population (non-essential)
Pinus albicaulis	Whitebark pine	Proposed threatened
Aquila chrysaetos	Golden eagle	Species of concern
Charadrius montanus	Mountain plover	Resolved taxon
Lynx canadensis	Canada lynx	Threatened
Centrocercus urophasianus	Greater sage grouse	Resolved taxon
Anthus spragueii	Sprague's pipit	Resolved taxon

The Site does not provide the habitat necessary to independently sustain the species listed above. Nearby grasslands and wooded drainages provide adequate habitat for any listed mammals and birds forced to relocate. Habitat for the whitebark pine exists southeast of the Site in the Judith Mountains and other high elevation areas in Fergus County. The greater sage grouse is addressed separately in *Section 3.2.1.2*. The Proposed Action may deter transient wildlife from passing through the active land application area, but impacts to these species are anticipated to be minor.

3.2.1.2 SPECIES OF CONCERN

No impacts to species of concern are anticipated to result from the Proposed Action.

Designation as a species of concern is not a statutory or regulatory classification. Instead, these designations provide a basis for resource managers and regulators to make proactive decisions regarding species conservation.

The Montana Natural Heritage Program's (MNHP) online databases were accessed for listed species (MNHP, 2021). The MNHP species and status listing for Township 20 North, Range 18 East is shown in **Table 5**.

Table 5: Montana Recognized Species List

Scientific Name	Common Name	Status	GRank/SRank
Centrocercus urophasianus	Greater sage grouse	Species of concern	G3/S2

The MNHP uses a standardized ranking system developed by The Nature Conservancy and maintained by NatureServe. Each species is assigned two ranks; one represents its global status (GRank), and one represents its status in the state (SRank). The scale is 1-5; 5 means common, widespread, and abundant; 1 means at high risk. Species with a GRank 5 are not included in **Table 5**.

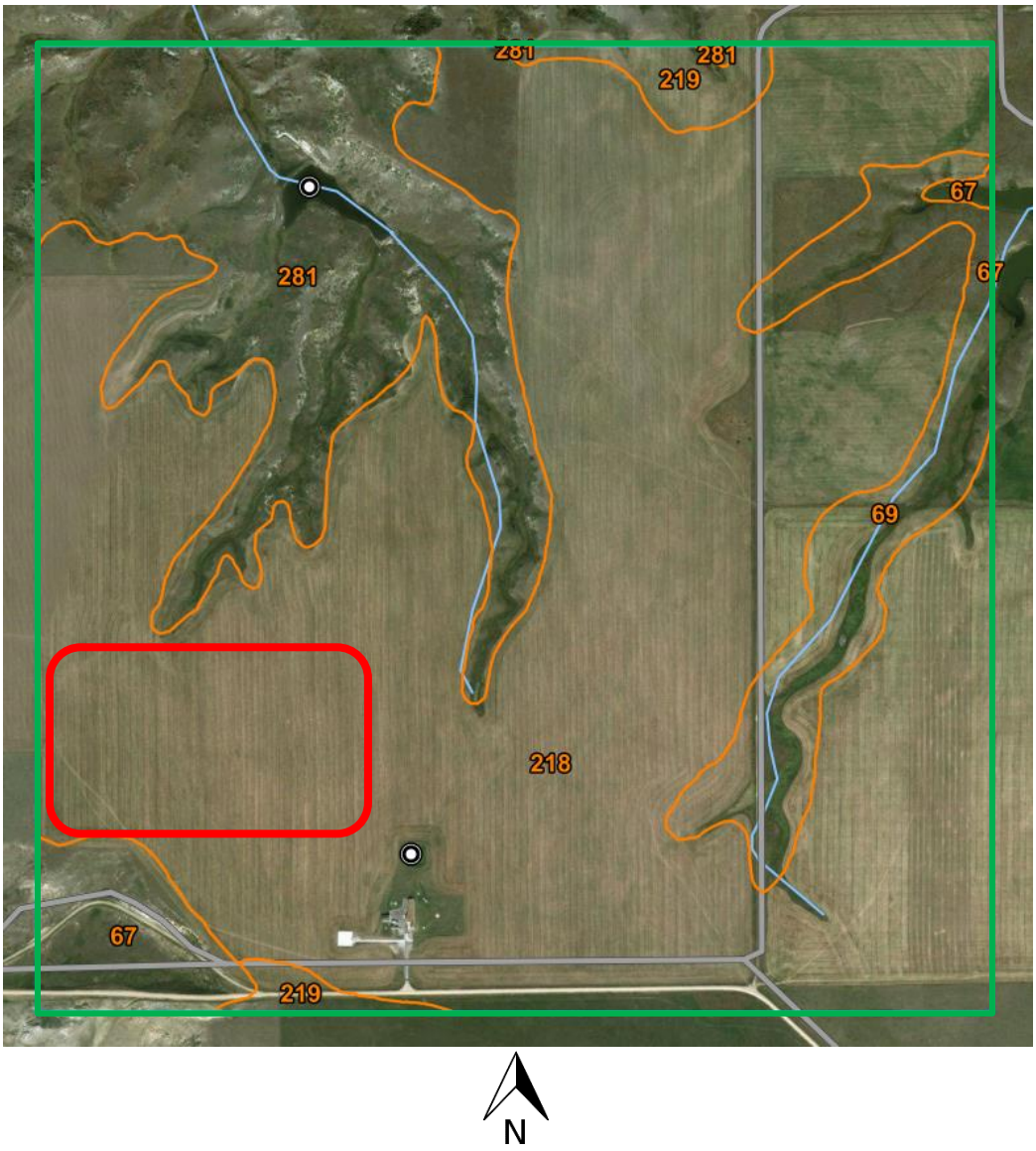
The Site is not located within a Core Area or any other recognized habitat level for the greater sage grouse, as designated by the Department of Natural Resources and Conservation (DNRC). Sage grouse "general habitat" is present one section east of the Site (Section 35, Township 20N, Range 18 E). The DNRC sage grouse habitat listings will be consulted in the future for any changes which might affect the Site.

3.2.2 SOILS AND VEGETATION

The impact of the Proposed Action to soils and vegetation will be minor.

The US Department of Agriculture (USDA) Natural Resources Conservation Service's (NRCS) National Cooperative Soil Survey databases were accessed for information about the shallow subsurface soils at the Site and surrounding area (**Figure 3** and **Table 6**).

Figure 3: Soil Resource Map
(*Soil unit with delineation in orange, approximate Site in red, Section 34 in green*)



*Source: USDA, Natural Resources Conservation Service (NRCS), 2021 (**NOT TO SCALE**)*

Table 6: USDA-NRCS, Custom Soil Resource Report, 2021

Map Unit Symbol	*Map Unit Name*	*Soil Rating*
218	*Tamaneen clay loam, 0 to 2 percent slopes*	*Somewhat limited*

The primary soil type where land application will occur is Tamaneen clay loam. The ratings shown in **Table 6** are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the septage is applied, and the method by which the septage is applied. "Not limited" indicates that a soil type has characteristics which are favorable for the specified use. Good performance and low maintenance can be expected. "Somewhat limited" indicates that a soil type has characteristics which are moderately favorable for the specified use. "Very limited" indicates that a soil type has one or more characteristics which are unfavorable for the specified use (NRCS, 2021).

The Site grows a wheat crop every other year and is fallow when a crop is not grown. The MNHP online databases were also accessed for listed plant species in the Township 20 North, Range 18 East study area (MNHP, 2021). No species of concern were listed. No impact on plant species of concern is expected to result from the Proposed Action.

Septage contains nutrients that can reduce the reliance of the farmer or land manager on chemical fertilizers to improve soil. The Proposed Action will add valuable moisture, organic matter, and nutrients to the topsoil, improving the Site's soil tilth and wheat crop. The quantity and quality of soils and vegetation at the Site will be enhanced by the Proposed Action.

DEQ analyzed how the land application of septage will impact the Site's environment given the weather of the region. The weather in the area is typical of central Montana, classified as warm summer continental climate. The average pan evaporation rate is listed as 43.92 inches per year. The hot months of June, July, and August coincide with the average Montana septic tank pumper's busy season. Dry soils, vegetation, and crops in this semi-arid zone will benefit from the added moisture.

3.2.3 GEOLOGY

No geological impacts are anticipated to result from the Proposed Action.

Periodic tilling of the surface topsoil to incorporate septage will not significantly affect the thickness or character of deeper glacial till found on the Site. Septage land application operations will not involve excavation.

The analysis area for geology is the Site and the surrounding area (beyond a mile from site boundary in **Figure 4**). Some discussion of regional geology is provided. The analysis methods include:

1. Field work;
2. Reviewing geology field guidebooks including Geologic Time Scale v. 5.0: Geological Society of America (Geissman and Bowring) and Roadside Geology of Montana (Hyndman and Alt);
3. Current United States Geological Survey (USGS) and Montana Bureau of Mines and Geology (MBMG) publications; and
4. Associated online maps accessed via the MBMG and DEQ ArcGIS portals.

The Site is situated on cultivated farmland. Streams near the Site flow from headwaters in the Moccasin Hills, west of Hilger, and the Judith Mountains. Central Montana is characterized by rolling high plains comprised of deeply eroded Mesozoic to Tertiary sedimentary rocks that are locally interrupted by isolated mountain highlands in the region approaching the Rocky Mountain Front range farther west.

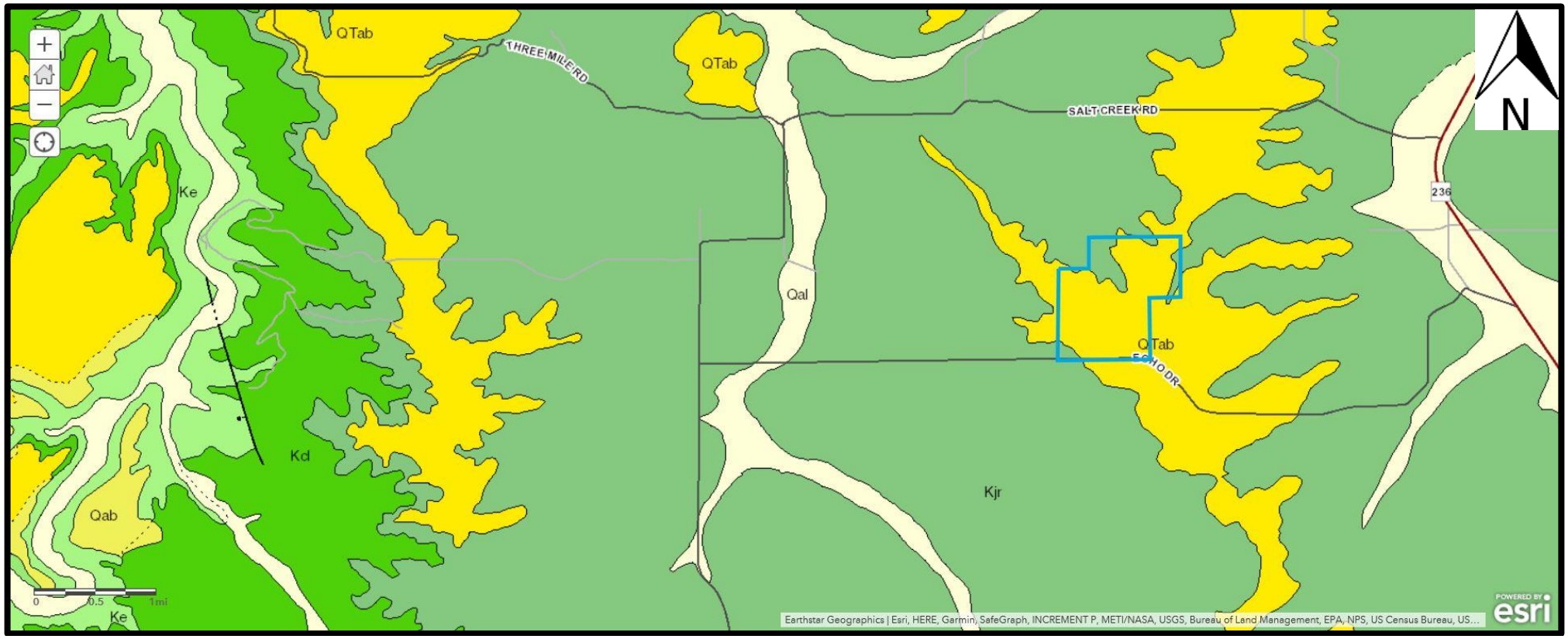
From the Late Mesozoic Era to the Early Tertiary Era, a shallow inland sea flooded the continent to form basins and sedimentary deposits in Montana, Wyoming, and North Dakota. Sandy to shaly marine sedimentary rocks are found at the surface and at depth in the area surrounding the Site. The Late Cretaceous Laramide tectonic episode initiated magmatism and the formation of the ancient Rocky Mountains to the west by subduction of sea floor in an oceanic trench offshore of the western margin of Montana. Subduction beneath the continental margin eventually became more shallow as the slab rose upward farther inland below the Site. This radical change generated a younger phase of Early Tertiary alkaline magma resulting in a network of isolated mountain groups exposed today in the nearby Judith Mountains and Moccasin Hills. The magma was emplaced between the shallow sedimentary strata to form large intrusive mounds with flat bottoms (laccoliths) that domed the overlying layers.

The network of ancient streams flowing eastward off the extensive Rocky Mountains (Rockies) combined with the ancestral Missouri River drainage network is the primary depositional and erosional mechanism responsible for the physiography of Central Montana as we see it today. The isolated Bearspaw, Little Belt, Judith, and Big Snowy mountain groups were first subject to rapid and prolonged erosion by numerous streams rushing down to the ancient Missouri River, as the inland sea retreated and the Fort Union Formation prograded eastward. These outlier mountains and bordering foothills were deeply dissected and worn down during this first erosional episode. The pediments which formed around those mountains groups, and the surrounding foreland plains extending eastward, were later deeply buried by coarse paleo-gravels from prograding alluvial fans and bajadas as uplift and erosion of the ancient Rockies peaked sometime in the Oligocene (Alden, 1932).

A second episode of deep erosion caused scattered exposure of the underlying older Paleozoic and Mesozoic sedimentary basement rocks such as those found at the Site

today. The largely buried outlying mountain groups were further uncovered in the process. Several levels of paleo-terraces (dark to light yellow in **Figure 4**) resulting from further reworking of the gravel alluvium by the ancient Missouri and Judith Rivers now surround these isolated mountain groups. Erosion of loose paleo-fluvial terraces and underlying older sedimentary rocks was rejuvenated after the Pleistocene to expose the resistant laccolithic core of the isolated mountain groups. Numerous local plateaus, mesas, and terrace benches found throughout the foothills area, some still capped by thin remains of the paleo-fluvial gravels, are evidence of ongoing erosion caused by isostatic post-glacial uplift.

Figure 4: Regional Geologic Map*
(Site property in blue)
Symbols listed younger to older:
Symbols: Qal – Alluvium, Qab – alluvium, terrace levels a and b, QTab – alluvium, older terrace levels a and b, Kjr – Judith River Formation (Sandstone with interbeds of carbonaceous shale), Kb – Bearpaw Shale (numerous thin bentonite beds), Kcl – Claggett Shale, Ke – Eagle Formation (sandstone/shale/coal).



* Fm (or Fms) means a Formation (or grouped Formations); purple fold axes; red crosses mafic volcanic dikes; solid red or orange igneous intrusive sills or laccoliths.
Source: MBMG, web mapping application and Montana Geologic Map 62 (2007); Montana Cadastral Map, NRIS; Esri/ArcGIS services (2020) **(NOT TO SCALE)**

3.2.4 HYDROLOGY AND HYDROGEOLOGY

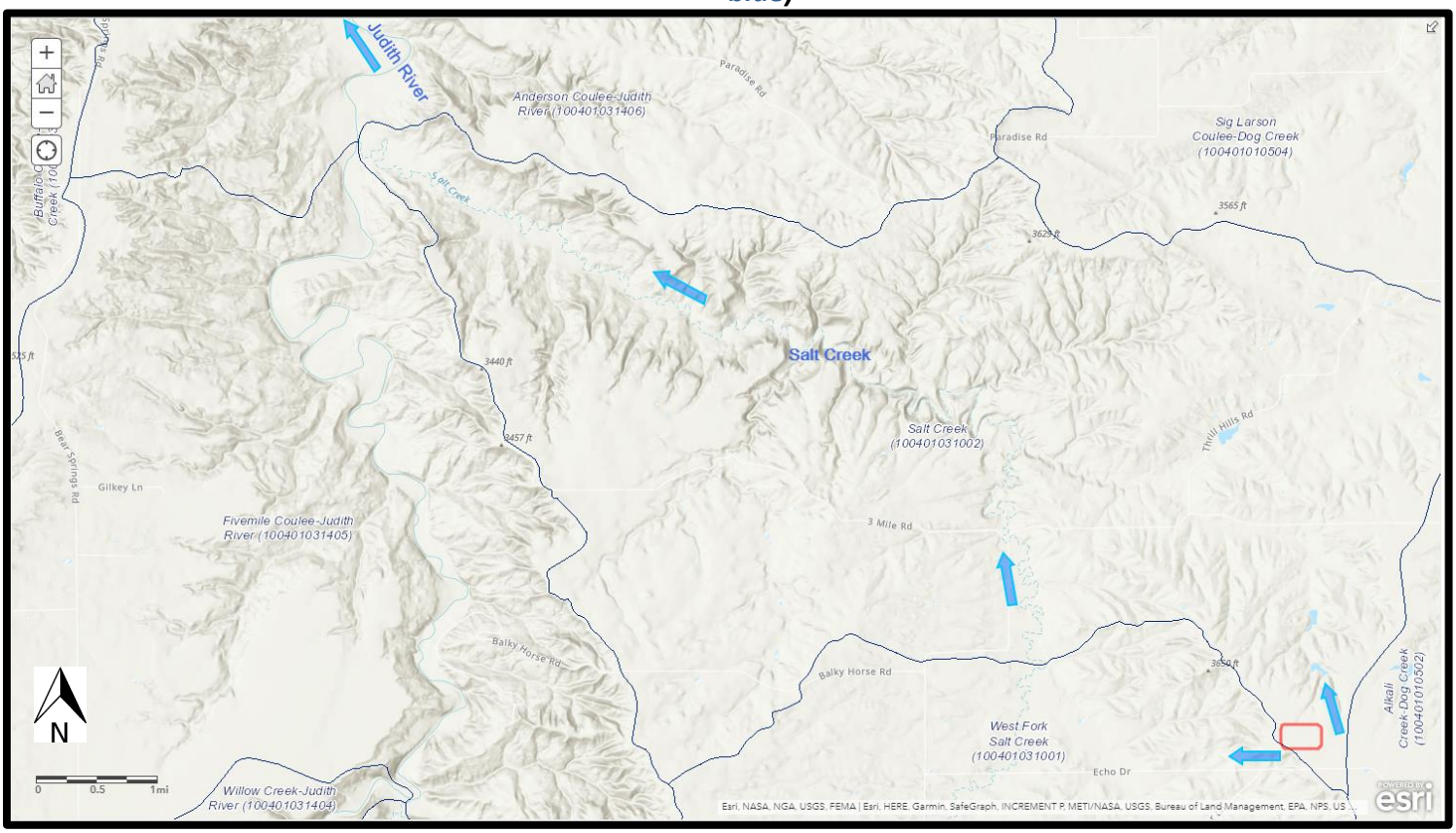
The analysis area for hydrology and hydrogeology is the Site and surrounding area (beyond a mile). Some discussion of regional geology, based upon published reports, is also provided. The analysis methods include reviewing wetland and jurisdictional waters information, onsite drilling reports, publications of the Montana Bureau of Mines and Geology (MBMG), and online maps (Esri/ArcGIS, 2021).

3.2.4.1 SURFACE WATER

No impacts to surface waters are anticipated to result from the Proposed Action.

The Site stretches across portions of the Salt Creek watershed, hydrologic unit code (HUC) 100401031002, and the West Fork Salt Creek watershed, HUC 100401031001 (**Figure 5**). During a major runoff event, surface water from the Site will travel west-northwest toward ephemeral drainages and through a series of small dams leading to Salt Creek. Salt Creek outlets to the Judith River approximately 10 miles northwest of the Site.

Figure 5: Surface Water
(approximate Site in red, flow direction arrow in blue, HUC-12 watershed boundaries in dark blue)



*Source: Esri/ArcGIS, Montana State Library, USGS, and NRCS (**NOT TO SCALE***

Periodic inspections by DEQ for compliance with setbacks near the Site borders, slope restrictions, and runoff patterns will ensure no septage enters nearby ephemeral drainages.

3.2.4.2 GROUNDWATER

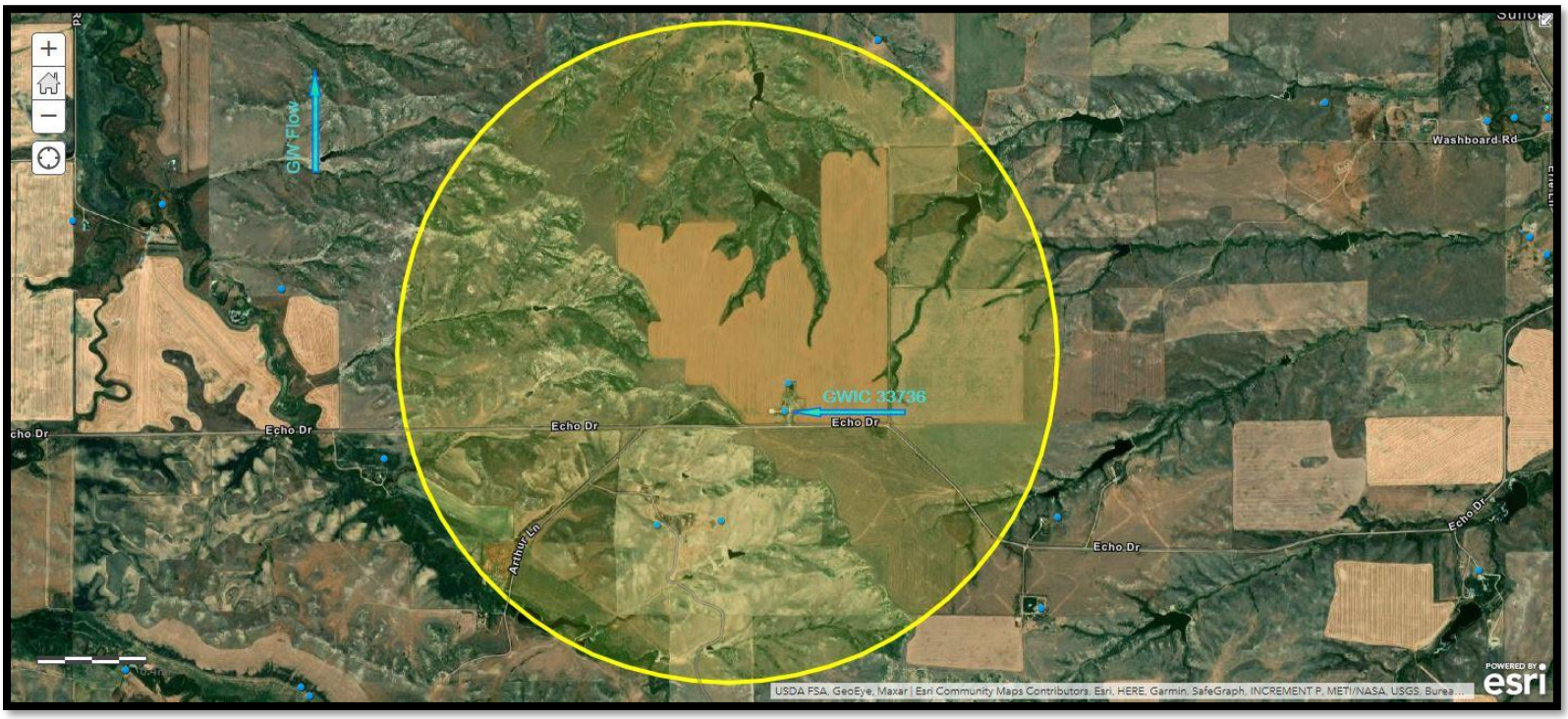
No impacts to groundwater or groundwater wells are anticipated to result from the Proposed Action.

The Montana Bureau of Mines and Geology's Ground Water Information Center (GWIC) is DEQ's reference for well data in Montana. All wells located within one mile of the Site and documented by GWIC when this Final EA was written were considered. Any well not documented in GWIC is not included in this Final EA, but if wells are proven to be within setbacks, the Site's boundaries will be adjusted to maintain the setbacks. See *Section 3.2.3* of this report for descriptions of the depositional environment beneath the Site.

There are 4 documented groundwater production wells within a 1-mile radius of the Site. No wells exist on the Site. Near the Site, groundwater flow direction is assumed to be north toward the Missouri River, mimicking the ancestral Judith and Missouri River drainage network (**Figure 6**). A Bureau of Land Management-owned domestic water supply well (GWIC 33736) is located approximately 500 feet southeast of the Site (**Figure 6**). The well log indicates that below approximately 14 feet of silty sand with gravels exists nearly 400 feet of alternating sandstone and shale layers, and approximately 410 feet below the ground surface is the water bearing zone. It can be assumed that the depth to groundwater at the Site is greater than the six feet minimum required by ARM 17.50.809(8).

Inspections and possible monitoring by DEQ will validate compliance with requirements for land application of septage at the AAR for the crops planted on the Site. This practice will be followed at the Site to ensure the absence of vertical percolation of septage below the soil treatment zone.

Figure 6: Location of Nearby Groundwater Production Wells
(GWIC wells in blue circles, 1-mile radius yellow shaded circle)



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*Source: Esri/ArcGIS and GWIC/MBMG (**NOT TO SCALE**)*

3.2.5 AESTHETICS AND NOISE

The impact to aesthetics and noise from the Proposed Action will be minor.

A private road will be used to access the Site via Echo Drive. The Site is not located on a prominent topographical feature. No other development is anticipated at the Site. The Site is located in a rural area, with very few homes within a mile.

DEQ and/or the local county sanitarian will respond to complaints about odor to determine if wastes were not properly managed. With proper management, odors will be minimal. The naturally occurring bacteria in the soil use carbon in the waste as a fuel source. This activity results in the breakdown of wastes, which include odors. Usually, odors are only detected at the time and immediate vicinity (within feet) of the land application activity and are further mitigated by tilling within six hours. Land application could occur daily. Dust caused by tillage activities during the dry season will be reduced by the moisture content of septage.

The Proposed Action will be visible from Echo Drive and resemble agricultural activities occurring in the surrounding area. Pumper trucks will access the Site to conduct land application activities. However, only one truck will access the Site at a time. Noise from the truck at the Site will resemble noises from agricultural activities currently occurring in the area. Therefore, impacts to aesthetics and noise will be minor.

3.2.6 HUMAN HEALTH & SAFETY

No impacts on human health and safety are anticipated to result from the Proposed Action.

Septage will be land applied at the Site. Septage will be incorporated into the soil surface within six hours of application and dust will be controlled. Livestock grazing is not anticipated at the Site. If grazing were to occur, it will not be permitted while land application activities occur or within 30 days of the most recent application, as per ARM 17.50.811 (5)(a).

Regarding COVID-19, the Environmental Protection Agency (EPA) expects a properly managed septic system to treat COVID-19 the same way it safely manages other viruses often found in wastewater. The World Health Organization (WHO) has indicated that "there is no evidence to date that COVID-19 virus has been transmitted via sewerage systems, with or without wastewater treatment." (EPA, 2020)

The Site is on private property and is accessed from Echo Drive.

3.2.7 INDUSTRIAL, COMMERCIAL, AND AGRICULTURAL ACTIVITIES

No impacts to industrial and commercial activities are anticipated to result from the Proposed Action. Minor positive impacts to agricultural activities are expected due to the Proposed Action.

The Site is rural land and will not accommodate industrial or commercial activities. When land application occurs on an annual rotation (*Section 2.2.3*), crop production can occur and agricultural activities on the Site can continue. Land application of septage will improve soil health.

3.2.8 CULTURAL UNIQUENESS AND DIVERSITY

No impacts to cultural uniqueness and diversity are anticipated to result from the Proposed Action.

The State Historic Preservation Office (SHPO) conducted a resource file search for Section 34, Township 20 North, Range 18 East, which indicated there have been no previously recorded sites within the area. Based upon ground disturbances in Section 34, Township 20 North, Range 18 East associated with agricultural activities and residential development, SHPO determined there is a low likelihood that cultural properties will be impacted.

3.2.9 DEMAND FOR GOVERNMENT SERVICES

The impact to demand for government services from the Proposed Action will be minor.

DEQ staff will provide guidance to LI for septage land application activities at the Site, with assistance from the Fergus County sanitarian as needed. Disposal logs showing volumes of waste applied by LI at the Site are submitted to DEQ twice a year. Disposal logs will be reviewed by DEQ to ensure the AAR is not exceeded. Periodic inspections are performed by DEQ at all septic tank pumper land application sites. DEQ may obtain periodic soil samples for testing of nutrient levels to ensure compliance with the AAR for the Site.

3.2.10 SOCIOECONOMICS

No impacts to socioeconomics are anticipated to result from the Proposed Action.

No additional employees will be hired because of the Proposed Action. Employees currently employed by LI will conduct necessary operations at the Site.

3.2.11 TRAFFIC

The impact to traffic from the Proposed Action will be minor.

There will be no significant increase in traffic on Echo Drive. One pumper truck will access the Site at a time. The Site will be accessed from Echo Drive. Echo Drive currently supports daily traffic to homes in the area.

3.3 REGULATORY RESTRICTIONS

MEPA requires state agencies to evaluate regulatory restrictions proposed for imposition on private property rights because of actions by state agencies, including alternatives that reduce, minimize, or eliminate the regulation of private property (Section 75-1-201(1)(b)(iii), MCA). Alternatives and mitigation measures required by federal or state laws and regulations to meet minimum environmental standards, as well as actions proposed by or consented to by the applicant, are not subject to a regulatory restrictions analysis.

No aspect of the alternatives under consideration will restrict the use of private lands or regulate their use beyond the permitting process prescribed by the SDLA. The conditions that will be imposed by DEQ in issuing the license will be designed to ensure conformance of the Proposed Action to minimum environmental standards or to uphold criteria proposed and/or agreed to by LI during application review. Thus, no further DEQ analysis is required beyond the LI application review for protection of human health and the environment.

3.4 CUMULATIVE IMPACTS

Cumulative impacts are the collective impacts on the human environment when a specific action is considered in conjunction with other past, present, and future actions by location

and type. Cumulative impact analysis under MEPA requires an agency to consider all past and present state and non-state actions. Related future actions must also be considered when these actions are under concurrent consideration by any state agency through pre-impact statement studies, separate impact statement evaluation, or permit processing procedures. Cumulative impact analyses help to determine whether an action, combined with other activities, will result in significant impacts.

The Site grows wheat, but is currently in summer fallow. The surrounding area consists of agricultural activities and residential homes. The cumulative impacts of the Proposed Action would include limitations on the utilization of the Site for agricultural, recreational, and other activities, upheld until the Proposed Action ceases (ARM 17.50.811(4) and (5)).

4. FINDINGS

The depth and breadth of the project are typical of a septage land application site. DEQ's analysis of potential impacts from the Proposed Action are sufficient and appropriate for the complexity, environmental sensitivity, degree of uncertainty, and mitigating factors provided by the Septic Rules for each resource considered.

To determine whether preparation of an EIS is necessary, DEQ is required to assess the significance of impacts associated with the Proposed Action. The criteria that DEQ is required to consider in making this determination are set forth in ARM 17.4.608(1)(a) through (g):

(a) The severity, duration, geographic extent, and frequency of occurrence of the impact;

(b) The probability that the impact will occur if the Proposed Action occurs; or conversely, reasonable assurance in keeping with the potential severity of an impact that the impact will not occur;

(c) Growth-inducing or growth-inhibiting aspects of the impact, including the relationship or contribution of the impact to cumulative impacts;

(d) The quantity and quality of each environmental resource or value that would be affected, including the uniqueness and fragility of those resources or values;

(e) The importance to the state and to society of each environmental resource or value that would be affected;

(f) Any precedent that would be set because of an impact of the Proposed Action that would commit DEQ to future actions with significant impacts or a decision in principle about such future actions; and

(g) Potential conflict with local, state, or federal laws, requirements, or formal plans.

The Site's location is described in *Section 1.4* of this Final EA, and includes approximately 40 acres of Tyler property located 3.7 miles west of Montana Highway 236 on Echo Drive in Fergus County in

Hilger, Montana. If LI renews their license and operations comply with the SDLA and its implementing rules, land application activities and DEQ site inspections will continue indefinitely. The Site is not within sage grouse core habitat, general habitat, or connectivity area. It has no special agricultural designation. Operations will not adversely affect any threatened or endangered species.

The Proposed Action is expected to improve soils and crops grown at the Site, as described in *Section 3.2.2*.

The Proposed Action is not expected to impact surface water resources. Operational standards ensure that all the setback requirements from surface water are met and that no slopes exceed 6%, as described in *Section 3.2.4.1* of this Final EA.

The Proposed Action is not expected to impact groundwater. The depth to groundwater is greater than six feet as required. Land application at agronomic rates will ensure that no septage could percolate below the surface treatment zone.

DEQ has not identified any growth-inducing or growth-inhibiting aspects of the Proposed Action. However, access to the parcels on the Site for utilization by human recreation, crops, and livestock will be limited to meet the regulatory restrictions necessary to protect human health (ARM 17.50.811(4) and (5)). DEQ's approval is not a decision regarding, in principle, any future actions that DEQ may perform. Furthermore, approval doesn't set any precedent or commit DEQ to any future action. Finally, the Proposed Action does not conflict with any local, state, or federal laws, requirements, or formal plans.

The Proposed Action will meet the requirements of the SDLA, the Clean Air Act of Montana, the Montana Water Quality Act, ARM, and county ordinances. Based on a consideration of the criteria set forth in ARM 17.4.608, DEQ has determined that LI's proposal to add the Site to its septic pumper license is not anticipated to significantly impact the quality of the human environment. Therefore, preparation of an EA is the appropriate level of review under MEPA.

The land application site is approved.

5. OTHER GROUPS OR AGENCIES CONTACTED OR CONTRIBUTING TO THE EA

Fergus County Environmental Health Department
United States Environmental Protection Agency
World Health Organization
United States Department of Agriculture
Montana Natural Heritage Program
Montana Historical Society State Historic Preservation Office
United States Geological Survey
Montana Bureau of Mines and Geology
US Fish & Wildlife Service
Montana Sage Grouse Habitat Conservation Program

6. AUTHORS

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Date: April 28, 2021

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