



DRAFT ENVIRONMENTAL ASSESSMENT
for the proposed
Pitstop, LLC
Land Application Site
Toston, Montana

Solid Waste Section
PO Box 200901
Helena, MT 59620-0901

April 2, 2021

TABLE OF CONTENTS

TABLE OF CONTENTS	2
TABLES	3
FIGURES	3
ACRONYMS	4
1. NEED FOR PROPOSED ACTION	5
1.1 SUMMARY	5
1.2 BACKGROUND	5
1.3 PURPOSE AND NEED	5
1.4 LOCATION DESCRIPTION AND STUDY AREA.....	6
1.5 COMPLIANCE WITH MEPA	9
1.6 PUBLIC INVOLVEMENT	9
2. DESCRIPTION OF ALTERNATIVES	9
2.1 NO ACTION ALTERNATIVE	9
2.2 PROPOSED ACTION	9
2.2.1 LAND APPLICATION SITE OPERATIONS.....	9
2.2.2 EQUIPMENT AVAILABLE AND PUMPER TRUCK REQUIREMENTS.....	10
2.2.3 AMOUNT AND EXTENT OF SEPTAGE APPLICATION.....	11
3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES BY RESOURCE.....	12
3.1 LOCATION DESCRIPTION AND STUDY AREA.....	12
3.2 IMPACTS.....	12
3.2.1 WILDLIFE AND HABITATS	13
3.2.1.1 THREATENED AND ENDANGERED SPECIES	14
3.2.1.2 SPECIES OF CONCERN.....	14
3.2.2 SOILS AND VEGETATION	15
3.2.3 GEOLOGY.....	18
3.2.4 HYDROLOGY AND HYDROGEOLOGY	19
3.2.4.1 SURFACE WATER	19
3.2.4.2 GROUNDWATER.....	20
3.2.5 AESTHETICS AND NOISE	21
3.2.6 HUMAN HEALTH & SAFETY	22

3.2.7	INDUSTRIAL, COMMERCIAL, AND AGRICULTURAL ACTIVITIES.....	22
3.2.8	CULTURAL UNIQUENESS AND DIVERSITY	22
3.2.9	DEMAND FOR GOVERNMENT SERVICES.....	23
3.2.10	SOCIOECONOMICS	23
3.2.11	TRAFFIC.....	23
3.3	REGULATORY RESTRICTIONS.....	23
3.4	CUMULATIVE IMPACTS	24
4.	FINDINGS.....	24
5.	OTHER GROUPS OR AGENCIES CONTACTED OR CONTRIBUTING TO THE EA.....	25
6.	AUTHORS.....	26
7.	REFERENCES:.....	26

TABLES

Table 1:	Land Application Operational Requirements	10
Table 2:	Land Application Site Setback Requirements.....	10
Table 3:	Impacts	12
Table 4:	Federally Established Species List.....	14
Table 5:	Montana Recognized Species List.....	15
Table 6:	USDA-NRCS, Custom Soil Resource Report, 2021	17

FIGURES

Figure 1:	Proposed Land Application Site.....	7
Figure 2:	Study Area	8
Figure 3:	Soil Resource Map.....	16
Figure 4:	Regional Geologic Map*	18
Figure 5:	Surface Water	19
Figure 5:	Location of Nearby Groundwater Production Wells.....	21

ACRONYMS

PS – Pitstop, LLC

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

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 870 acres of Kolberg property located 4.4 miles south of Toston in Broadwater County, 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 draft environmental assessment (Draft EA) was prepared for the septage land application site proposed by Pitstop, LLC (PS), in accordance with the Montana Environmental Policy Act (MEPA). On July 21, 2020, the Department of Environmental Quality (DEQ) received an application from PS for licensing a new septage land application site (Proposed Action). PS proposes the land application of septage, portable toilet waste, and graywater on approximately 870 acres of Kolberg property located 4.4 miles south of Toston in Broadwater County, Montana (Site, **Figure 1**). The application was deemed complete on January 29, 2021.

1.2 BACKGROUND

In December 2019, PS obtained a license from DEQ to pump and land apply septage in Montana. PS is proposing to add the Site to their license. The Site is on private property.

This application was signature certified by Broadwater 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.

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. PS'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 environmental review on PS'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:

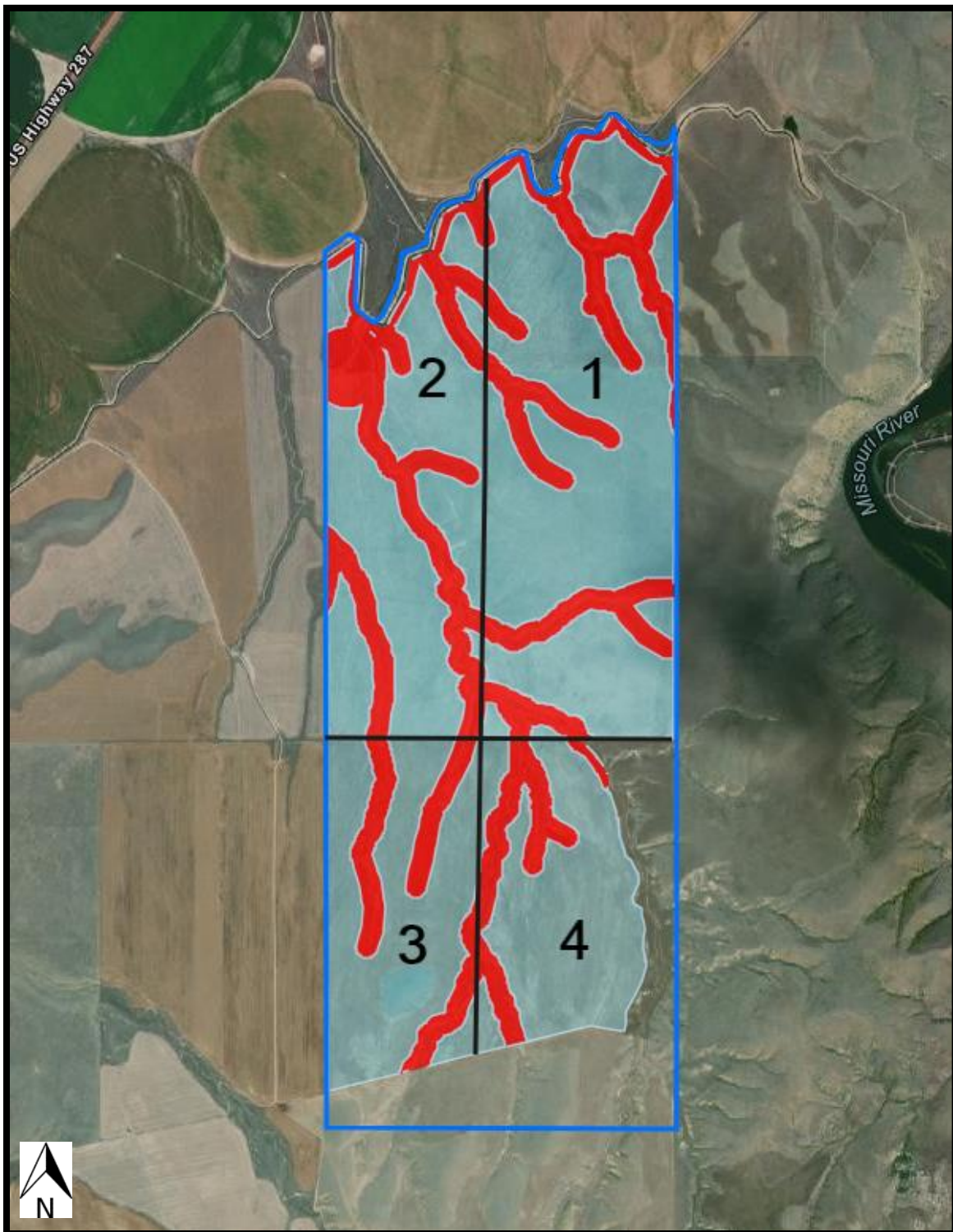
1. Septage Disposal Licensure Act (SDLA);
2. Administrative Rules of Montana (ARM) Title 17, chapter 50, subchapter 8, “Cesspool, Septic Tank, and Privy Cleaners” (Septic Rules);
3. the Clean Air Act of Montana; and
4. Montana Water Quality Act.

1.4 LOCATION DESCRIPTION AND STUDY AREA

The Site is in Sections 3, 10, and 15, Township 4 North, Range 2 East, in Broadwater County, Montana. The Site is covered by pasture grasses.

A private drive east off Montana Highway 287 would 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 shaded **light blue**; Kolberg property outlined in **dark blue**; surrounding property boundaries in **orange**, applicable setbacks in **red**, approximate fence and parcel numbers in **black**)



Source: ESRI, MT DEQ, Montana Cadastral (NOT TO SCALE)

Figure 2: Study Area
(approximate Site shaded light blue; Kolberg property outlined in dark blue; Sections 3, 10, and 15 in green)



Source: ESRI, MT DEQ, 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 Draft 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 releasing this Draft EA to present its initial findings described in *Section 4*. A 30-day public comment period begins upon release of the document. The public comment period ends on **May 3, 2021**. A notice of availability for the Draft EA was sent to adjacent landowners and other interested parties. A public notice was published in the Broadwater Reporter and a hard copy was sent to Broadwater Community Library in Townsend, Montana. The public notice and Draft 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 reasonable alternatives whenever reasonable and prudent. DEQ has not considered any other alternatives to the Proposed Action because PS'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 PS, and disposal of septage would have to occur at another approved location or treatment works.

2.2 PROPOSED ACTION

PS 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: <ul style="list-style-type: none">• 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 would be limited to areas approved by DEQ. Areas within the Site would not be used until their boundaries have been marked and approved by DEQ or the local county sanitarian.

PS would be required to log the type and amount of septage land applied annually as well as the dates applied. Disposal logs would be submitted to DEQ semiannually. DEQ would 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

PS has the following equipment available for land application activities:

1. Dodge Ram 3500 with 300-gallon waste tank and 100-gallon clean water tank
2. Tractor
3. Harrow (pulled by either truck or tractor for incorporation)
4. Litter screen (for portable toilet waste)

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

This form was certified by the Broadwater County sanitarian and submitted by PS with their 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 portable toilet waste is calculated as follows:

$$\text{AAR} = \frac{\text{minimum crop nitrogen requirement (lbs./acre/year)}}{0.0052 \text{ (lbs./gallon)}}$$

The Site grows grass. The nitrogen requirement for grass at the Site is 50 pounds per acre per year. The resulting AAR for septage is 9,615 gallons per acre per year, which is equal to approximately 0.35 inches of liquid applied annually per acre. For comparison, the average annual precipitation in the Toston area is 20.5 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, only 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 would be used similarly the next year. In this case, the available 870 acres would be divided into four general parcels for rotation. Parcels 1 and 2 are each approximately 275 acres and parcels 3 and 4 are approximately 160 acres each (**Figure 1**). 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 Kolberg property could annually treat the proposed 14,000 gallons of waste without exceeding the AAR on as few as 1.5 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 Draft 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 would relocate (See Section 3.2.1)
Soils and Vegetation	Minor impact.	Minor beneficial impact. The of soil quality and vegetation would 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 would 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. Broadwater County sanitarian and DEQ would 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. PS would access the Site via a private road off Montana Highway 287, 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 would 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 would 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 would be impacted. Parcels of land adjacent to the Site are primarily used for agricultural production and grazing. The Missouri River provides a riparian corridor approximately 0.4 miles east of the Site. Beyond the immediate vicinity of the Site, a similar mix of

agricultural lands, grasslands, and riparian 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 Broadwater County, Montana, are shown in **Table 4**:

Table 4: Federally Established Species List

Scientific Name	Common Name	Status
<i>Canis lupus</i>	Gray wolf	Recovery
<i>Haliaeetus leucocephalus</i>	Bald eagle	Recovery
<i>Gulo gulo luscus</i>	North American wolverine	Resolved taxon
<i>Pinus albicaulis</i>	Whitebark pine	Proposed threatened
<i>Aquila chrysaetos</i>	Golden eagle	Species of concern
<i>Charadrius montanus</i>	Mountain plover	Resolved taxon
<i>Lynx canadensis</i>	Canada lynx	Threatened
<i>Spiranthes diluvialis</i>	Ute ladies’-tresses	Threatened
<i>Anthus spragueii</i>	Sprague’s pipit	Resolved taxon

The Site does not provide the habitat necessary to independently sustain the species listed above. Nearby grasslands and riparian areas provide adequate habitat for any listed mammals and birds forced to relocate. Ute ladies’-tresses, a species of orchid, is typically found in riparian areas and is not known to be present at the Site. Habitat for the whitebark pine is not present at the Site, but is available at points of higher elevation in Broadwater County. 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 4 North, Range 2 East is shown in **Table 5**.

Table 5: Montana Recognized Species List

Scientific Name	Common Name	Status	GRank/SRank
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	Species of concern	G4/S3
<i>Euderma maculatum</i>	Spotted bat	Species of concern	G4/S3
<i>Lasiurus cinereus</i>	Hoary bat	Species of concern	G3/S3
<i>Myotis lucifugus</i>	Little brown myotis	Species of concern	G3/S3
<i>Myotis thysanodes</i>	Fringed myotis	Species of concern	G4/S3
<i>Gymnorhinus cyanocephalus</i>	Pinyon jay	Species of concern	G3/S3
<i>Oreoscoptes montanus</i>	Sage thrasher	Species of concern	G4/S3

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 known to contain roosting sites for the listed bat species. The pinyon jay and sage thrasher prefer sage and mixed conifer habitats. Adequate roosting sites and habitat for the listed species can be found in nearby riparian corridors and mixed sage-grasslands. 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).

3.2.2 SOILS AND VEGETATION

The impact of the Proposed Action on soils and vegetation would 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 clipped to Site in orange, Sections 3, 10, and 15 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
<i>ChC</i>	<i>Chinook sandy loam, 4 to 9 percent slopes</i>	<i>Not limited</i>
<i>AmC</i>	<i>Amesha sandy loam, 4 to 9 percent slopes</i>	<i>Not limited</i>
<i>AmB</i>	<i>Amesha sandy loam, 1 to 4 percent slopes</i>	<i>Not limited</i>
<i>MxE</i>	<i>Musselshell-Crago cobbly loams, 8 to 20 percent slopes</i>	<i>Somewhat limited</i>
<i>MwE</i>	<i>Musselshell-Crago channery loams, 15 to 35 percent slopes</i>	<i>Very limited</i>
<i>ReE</i>	<i>Rencot channery loam, 15 to 35 percent slopes</i>	<i>Very limited</i>
<i>RtC</i>	<i>Rootel channery loam, 3 to 9 percent slopes</i>	<i>Somewhat limited</i>

The primary soil types where land application is a variety of families of sandy, cobbly, and channery loams. 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). Most of acreage listed as "very limited" will be excluded from the land application area because it falls in an excluded drainage area.

The Site is used for grazing and is continually covered by pasture grasses. The MNHP online databases were also accessed for listed plant species in the Township 4 North, Range 2 East study area (MNHP, 2021). Two plant species of concern were listed; neither is included in this assessment as both were aquatic plants. Because the Proposed Action is not anticipated to impact nearby surface waters (see *Sections 2.2.1* and *3.2.4.1*), no impact on plant species of concern is expected.

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

DEQ analyzed how the land application of septage would 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 35.46 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 would 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 would not significantly affect the thickness or character of deeper glacial till found on the Site. Septage land application operations would not involve excavation.

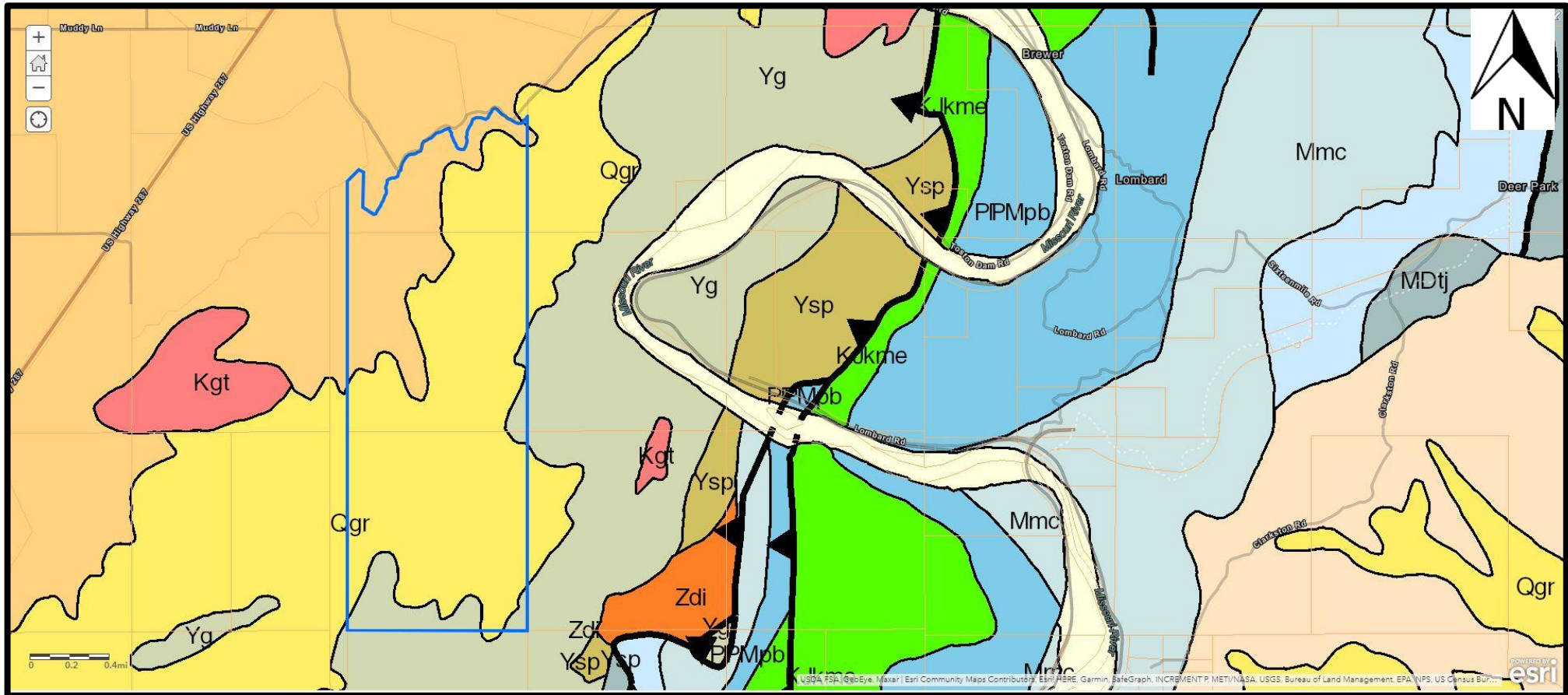
The analysis area for geology is the Site and the surrounding area (beyond a mile outside the Kolberg property bounded by blue perimeter in **Figure 4**). Some discussion of regional geology is provided. Analysis methods include review of geology field guidebooks, current United States Geological Survey (USGS) and Montana Bureau of Mines and Geology (MBMG) publications, and associated online maps accessed via the MBMG ArcGIS portal. Much of the geologic assessment that follows is derived from professional experience of the authors in the region and general interpretation of relationships shown on the latest geologic maps of the southern Townsend basin, Broadwater and Gallatin Counties, and Montana (Vuke, 2009, and Vuke *et al.* 2007).

The Proposed Site is located one-half mile west of the Missouri River on rangeland accessed via a private drive heading east from the MT HWY 287 approximately four miles south of Toston. West-central Montana is characterized by graben valleys that separate high mountain ranges comprised of a complex variety of deeply eroded Archean, Proterozoic, Paleozoic, and Tertiary rocks locally interrupted by folds and thrust faults (*e.g.* shown by the major Lombard thrust fault as black barbs cutting across **Figure 4**) formed during the Late Cretaceous Sevier-Laramide mobile belt. A radical change in surface geology extends roughly north to south across the region west of the Site, as marked by the Boulder Batholith and Elkhorn Mountains Volcanics formed during melting processes during Laramide convergence. The Site lies between the Belt and Elkhorn Mountains within the Toston-Townsend Valley near the seismically active Toston Normal Fault graben system. The valley at the Site is filled by glacio-alluvial sediments of the ancient Missouri River drainage derived from alpine glaciation. The valley basement is composed of older Miocene sedimentary rocks also exposed at the surface in a wide area surrounding the site.

**Figure 4: Regional Geologic Map*
(Kolberg Site Property in blue)**

Map symbols (on and adjacent to Site):

Symbols: Qgr – gravel deposits, Kgt – Georgetown Limestone, Yg – granitic gneiss, Ysp – Spokane Formation,



* 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 plugs.
Source: MBMG, web mapping application and Montana Geologic Map 62 (2007); Montana Cadastral Map, NRIS; Esri/ArcGIS services (2021) **(NOT TO SCALE)**

3.2.4 HYDROLOGY AND HYDROGEOLOGY

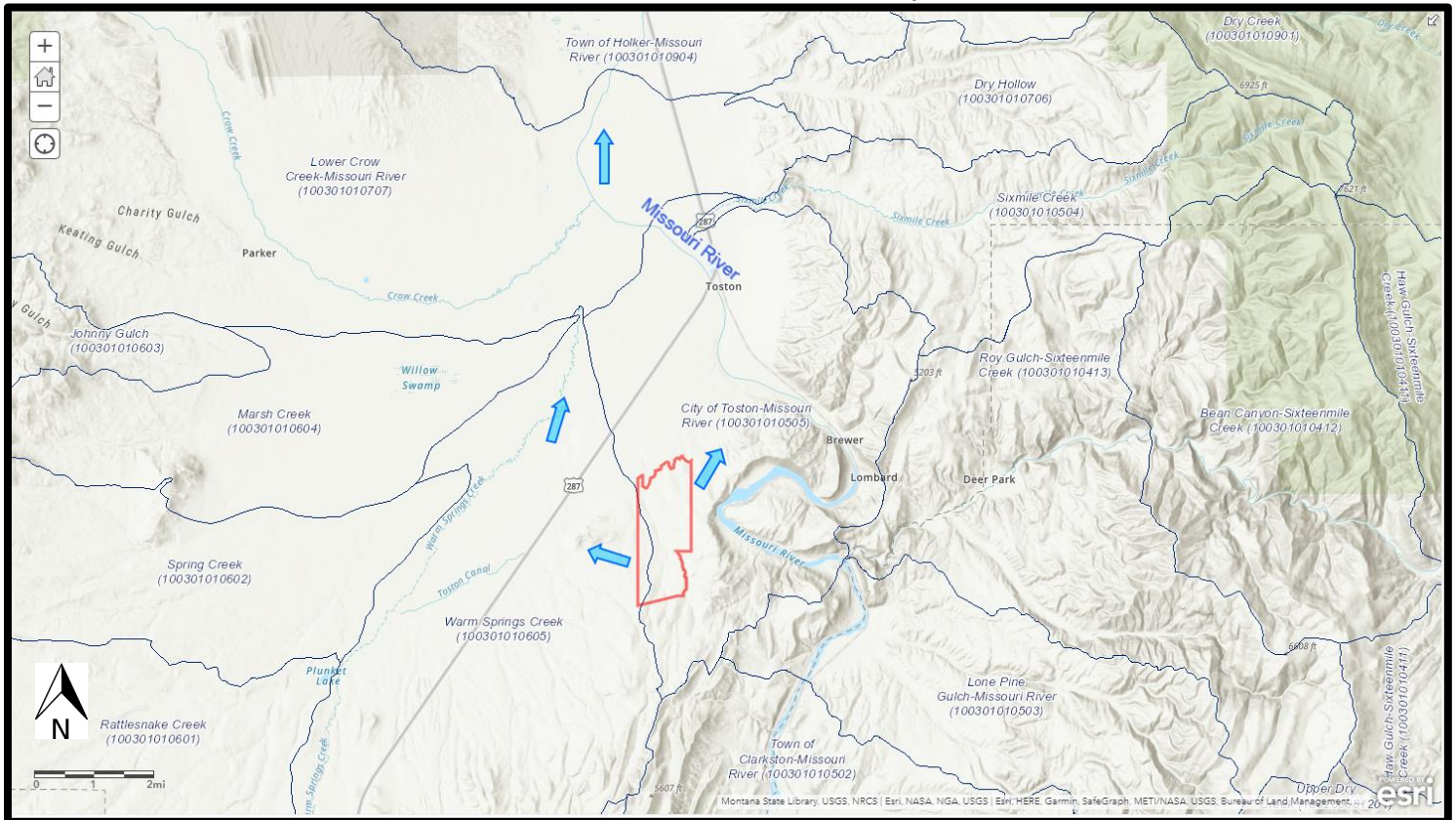
The analysis area for hydrology and hydrogeology is the Site and surrounding area (beyond a mile). Some discussion of regional geology, based upon published reports, is also provided. The analysis methods include reviewing wetland and jurisdictional waters information, onsite drilling reports, publications 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 expected due to the Proposed Action.

The Site stretches across portions of the City of Toston-Missouri River watershed, hydrologic unit code (HUC) 100301010505, and the Warm Springs Creek watershed, HUC 100301010605 (**Figure 5**). During a major runoff event, surface water from the Site would generally travel north and east through ephemeral drainages to the Missouri River or Toston Canal. The mainstem Missouri River reservoir created by Toston Dam lies approximately 0.4 miles east of the proposed Site's boundaries.

Figure 5: Surface Water
(approximate Site outline 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 surface waters or ephemeral drainages.

3.2.4.2 GROUNDWATER

No impacts to groundwater or groundwater wells are expected due to the Proposed Action.

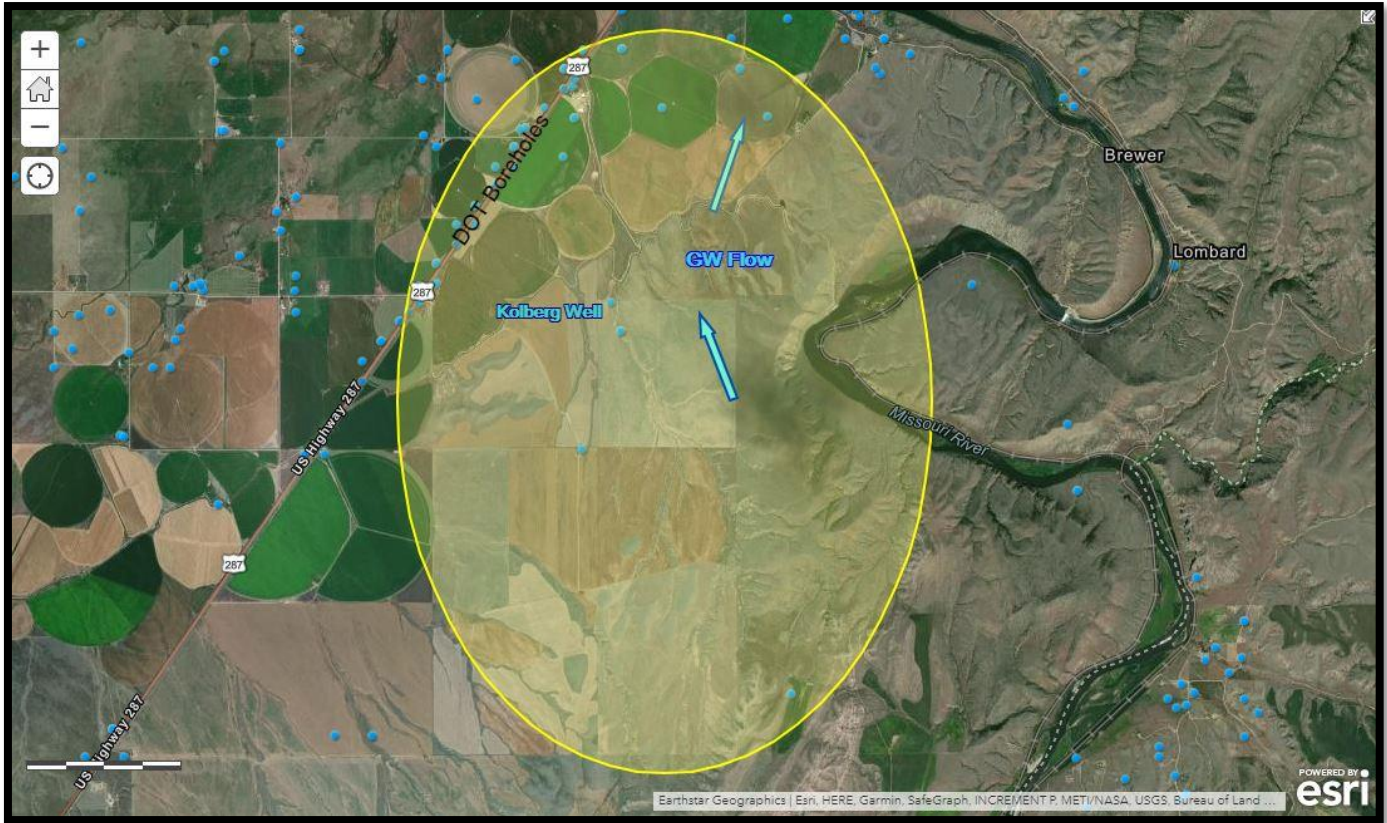
The Montana Bureau of Mines and Geology's Ground Water Information Center (GWIC) is DEQ's reference for well data in Montana. All wells located within one mile of the Site and documented by GWIC when this Draft EA was written were considered. Any well not documented in GWIC is not included in this Draft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

GWIC reports nine groundwater production wells within a 1-mile radius of the Site. Included in the GWIC database are 21 soil boreholes (appear as wells on **Figure 5**) drilled for the Department of Transportation located along US Highway 287. Well logs from nearby wells indicate that silty sands, minor gravels and occasional interbedded clays are the predominant deposits present in the subsurface to the basement sedimentary formation first encountered at approximately 90 feet below ground surface (BGS) in the Kolberg Well (**Figure 5**). Groundwater data in the GWIC database for nearby wells was used to interpolate hydrologic gradients and groundwater flow directions. Groundwater flows beneath the Site recharged from nearby hills to the east toward the Toston Canal to the north-northwest at a gradient of 0.015 feet/foot, and then migrates to the north-northeast at a gradient of 0.019 feet/foot toward the Missouri River (**Figure 5**). The Kolberg Well, located within setbacks in the northwest corner of the Site, is used for stock water and reports a static water level of approximately 113 feet BGS. 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 would validate compliance with requirements for land application of septage at the AAR for the crops planted on the Site. This practice would be followed at the Site to ensure the absence of vertical percolation of septage below the soil treatment zone.

No impacts to groundwater or groundwater wells are expected due to the Proposed Action.

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



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 would be minor.

A private road would be used to access the Site via Montana Highway 287. The Site is not located on a prominent topographical feature. No other development is anticipated at the Site. The Site is in a rural area, with few homes within a mile.

DEQ and/or the local county sanitarian would respond to complaints about odor to determine if wastes were not properly managed. With proper management, odors would 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 includes odors. Usually, odors are only detected at the time and in the immediate vicinity (within feet) of the land application activity and are controlled by tilling within six

hours. Land application could occur daily. Dust caused by tillage activities during the dry season would be reduced by the moisture content of septage.

The Proposed Action would be visible from Montana Highway 287 and would resemble agricultural activities occurring in the surrounding area. The pumper truck would access the Site to conduct land application activities. Noise from the truck at the Site would resemble noises from agricultural activities currently occurring in the area. Therefore, impacts to aesthetics and noise would be minor.

3.2.6 HUMAN HEALTH & SAFETY

No impacts on human health and safety are expected because of the Proposed Action.

Septage would be land applied at the Site. Septage would be incorporated into the soil surface within six hours of application and dust would be controlled. No livestock grazing is occurring on the Site, but if it were to occur, no livestock grazing would occur 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, is fenced, and is accessed via private drive.

3.2.7 INDUSTRIAL, COMMERCIAL, AND AGRICULTURAL ACTIVITIES

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

The Site is considered rural land and would 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 would improve soil health.

3.2.8 CULTURAL UNIQUENESS AND DIVERSITY

No impacts to cultural uniqueness and diversity are expected due to the Proposed Action.

The State Historic Preservation Office (SHPO) conducted a resource file search for Sections 3, 10, and 15, Township 4 North, Range 2 East, which indicated there have been no previously recorded sites within the area. Based upon ground disturbances in Sections 3, 10, and 15, Township 4 North, Range 2 East, associated with agricultural

activities and residential development in the area, SHPO determined there is a low likelihood that cultural properties would be impacted.

3.2.9 DEMAND FOR GOVERNMENT SERVICES

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

DEQ staff would provide guidance to PS for septage land application activities at the Site, with assistance from the Broadwater County sanitarian as needed. Disposal logs showing volumes of waste applied by PS at the Site are submitted to DEQ twice a year. Disposal logs would 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 expected due to the Proposed Action.

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

3.2.11 TRAFFIC

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

There would be no significant increase in traffic on Montana Highway 287. One pumper truck would access the Site. The Site would be accessed via private road. Montana Highway 287 currently supports daily traffic to homes and businesses in the area and is a thoroughfare between Helena and Bozeman.

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 would restrict the use of private lands or regulate their use beyond the permitting process prescribed by the SDLA. The conditions that would be imposed by DEQ in issuing the license would be designed to ensure conformance of the Proposed Action to minimum environmental standards or to uphold criteria proposed and/or agreed to by PS during application review. Thus, no further DEQ analysis is required beyond the PS 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, would result in significant impacts.

The Site grows grass. 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 Draft EA, and includes approximately 915 acres of property located 4.4 miles south of Toston in Broadwater County, Montana. If PS renews their license and operations comply with the SDLA and its implementing rules, land application activities and DEQ site inspections would continue indefinitely. The Site is not within sage grouse core habitat, general habitat, or connectivity area. It has no special agricultural designation. Operations would not adversely affect any threatened or endangered species.

The Proposed Action is expected to improve soils and vegetation 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 Draft 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 would 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 would 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 would 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 PS's proposal to add the Site to its septic pumper license is not predicted to significantly impact the quality of the human environment. Therefore, preparation of an EA is the appropriate level of review under MEPA.

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

Broadwater 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

Draft EA prepared by:

Fred Collins, Mike Eder, Tim Stepp, and Andy Ulven
Septic Tank Pumper Program

Date: April 2, 2021

7. REFERENCES:

Montana Tech of the University of Montana, Montana Bureau of Mines and Geology (MBMG), https://mbmgmap.mtech.edu/arcgis/rest/services/geology_100k/geology_100k_seamless/MapServer

Montana Tech of the University of Montana, Montana Bureau of Mines and Geology (MBMG), Ground Water Information Center <http://mbmgwic.mtech.edu/>

Geologic map of the southern Townsend basin, Broadwater and Gallatin Counties, and Geologic Map of Montana, Montana Bureau of Mines and Geology (MBMG), Vuke, 2009, and Vuke *et al.* 2007.

United States Department of the Interior, Geological Survey Professional Paper 174, Physiography and Glacial Geology of Eastern Montana and Adjacent Areas, William C. Alden, 1932

Alt, David D., and Donald Hyndman, *Roadside Geology of Montana*, Mountain Press Publishing, 1986

Montana Tech of the University of Montana, Montana Bureau of Mines and Geology (MBMG), Ground Water Information Center <http://mbmgwic.mtech.edu/>

Esri, "Imagery Hybrid" Basemap, Scale Not Given, ArcGIS Online Group: DEQ Solid Waste, "Pit Stop EA", Last Modified: March 12, 2021
<https://gis.deq.mt.gov/portal/home/webmap/viewer.html?webmap=08c0c543c648447a998831db45cdec11>

USGS Professional Paper 231, Physiography and Glacial Geology of Western Montana and Adjacent Areas, W. C. Alden, 1953

Alt, David D., and Donald Hyndman, *Roadside Geology of Montana*, Mountain Press Publishing, 1986

Alt, David, *Glacial Lake Missoula and Its Humongous Floods*, Mountain Press Publishing, 2001

Alt, David D., and Donald Hyndman, *Roadside Geology of Montana*, Mountain Press Publishing, 1986

Walker, J.D., Geissman, J.W., Bowring, S.A., and Babcock, L.E., compilers, 2018, Geologic Time Scale v. 5.0: Geological Society of America, CTS005R3C, 2018
<https://doi.org/10.1130/2018>

United States Fish & Wildlife Service, Environmental Conservation Online System, 2021
<https://ecos.fws.gov/ecp/report/species-listings-by-current-range-county?fips=30007>

Montana Natural Heritage Program, 2021
<http://mtnhp.org/default.asp>

Montana Cadastral
<http://svc.mt.gov/msl/mtcadastral>

Townsend, Montana Weather Averages Summary
<http://www.weatherbase.com/weather/weather.php3?s=35457&cityname=Townsend-Montana-United-States-of-America>

Average Pan Evaporation Data by State
https://wrcc.dri.edu/Climate/comp_table_show.php?type=pan_evap_avg

Fertilizer Guidelines for Montana Crops
<http://landresources.montana.edu/soilfertility/documents/PDF/pub/FertGuideIMTCropsEB161.pdf>

Administrative Rules of Montana
<http://deq.mt.gov/Portals/112/deqadmin/dir/documents/Legal/Chapters/CH50-08.pdf>

NRCS National Cooperative Soil Survey for Sections 3, 10, and 15, Township 4 N, Range 2 E, Broadwater County, Montana, 2021
<https://websoilsurvey.sc.egov.usda.gov/App/WebSoilsurvey.aspx>