FINAL ENVIRONMENTAL ASSESSMENT
for the .
M and H Septic Pumping and Porta Potties
Land Application Site
Troy, Montana

Solid Waste Section
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ACRONYMS

M and H – M and H Septic Pumping and Porta Potties

ARM – Administrative Rules of Montana

AAR– Annual Average Rate

Draft EA – Draft version of an environmental assessment

DEQ – Montana Department of Environmental Quality

EA – Environmental Assessment

EIS – Environmental Impact Statement

GWIC – Ground Water Information Center

MCA – Montana Code Annotated

MEPA – Montana Environmental Policy Act

MNHP – Montana Natural Heritage Program

O&M – Operation and Maintenance

Proposed Action – Licensing 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

Site – The proposed land application of septage on approximately 2.4 acres of property located approximately one mile south of Troy, Montana, east of Iron Creek Road.

SWL – Static Water Levels

USFWS – United States Fish and Wildlife Service

1. NEED FOR PROPOSED ACTION

1.1 SUMMARY

This is the final version of an environmental assessment (EA), prepared in accordance with the Montana Environmental Policy Act (MEPA). On December 7, 2018, the Department of Environmental Quality (DEQ) received an application from M and H Septic Tank Pumping and Porta Potties (M and H) for licensing a new application site (Proposed Action). M and H proposes the land application of septage on approximately 2.4 acres of property located approximately one mile south of Troy, Montana, east of Iron Creek Road, in Lincoln County, Montana (Site).

1.2 BACKGROUND

The applicant solely selected the Site, and Lincoln County approved the Site. DEQ's role is to ensure the Proposed Action complies with state laws. Through the process of developing the EA, DEQ determines the potential for impacts to the environment due to the Proposed Action. The MEPA process is a method that informs the public about project alternatives and potential impacts and allows for public input on the Proposed Action.

1.3 STATE ACTION

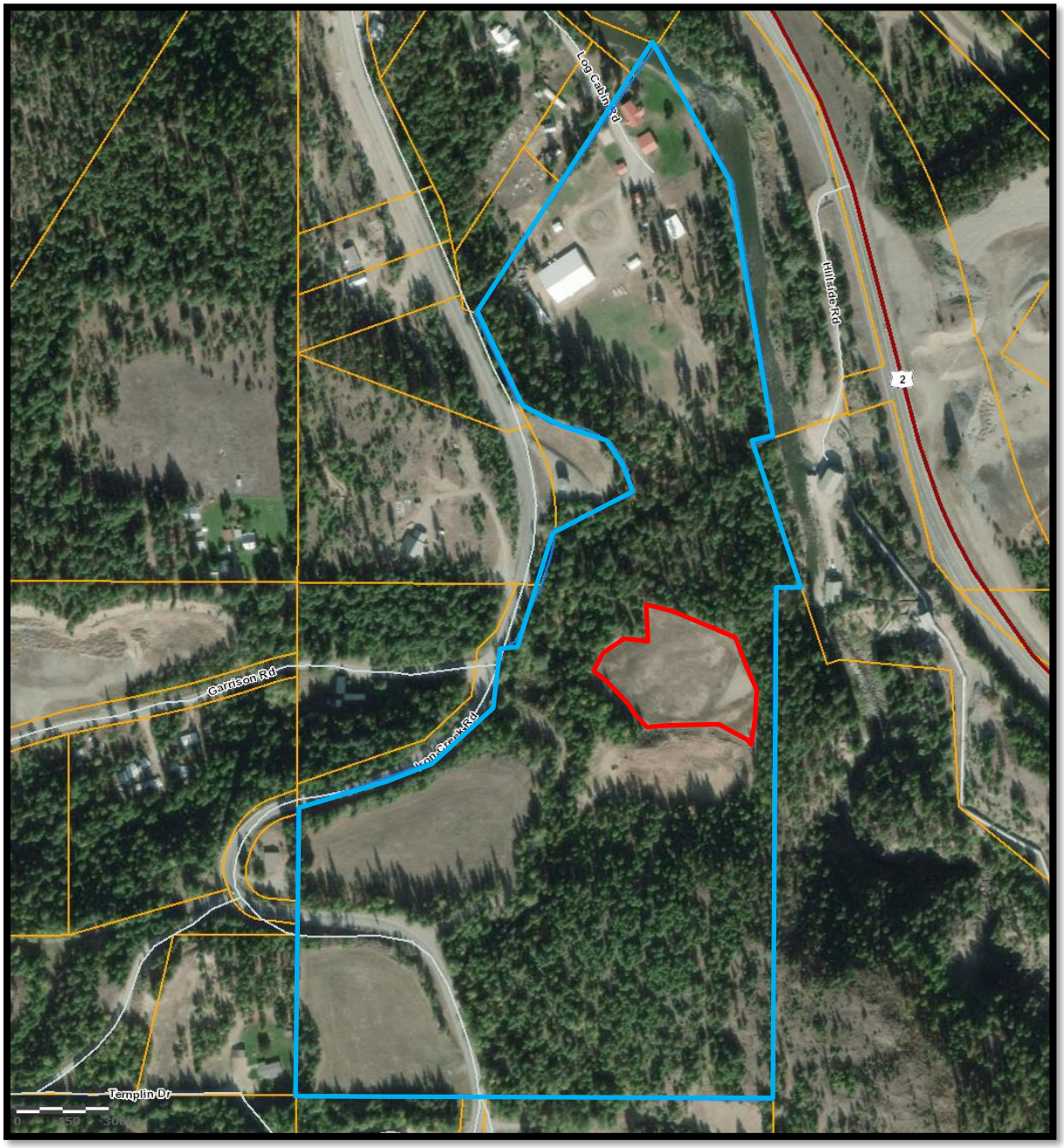
M and H must obtain a license issued by DEQ before it may pump or land apply septage in Montana. DEQ's decision to approve or deny the Site depends upon the consistency of the applicant's Proposed Action with the Septage Disposal Licensure Act (SDLA); the Administrative Rules of Montana (ARM) Title 17, chapter 50, subchapter 8, "Cesspool, Septic Tank, and Privy Cleaners" (Septic Rules); the Montana Clean Air Act; and the Montana Water Quality Act.

1.4 PURPOSE AND NEED

M and H has applied for a license to spread and treat septage by land application (**Figure 1**). 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 from humans or household operations. The Septic Rules establish minimum requirements for the pumping and land application of septage. The request is assessed by DEQ to approve or deny the Proposed Action.

When properly managed, land application of septage is a beneficial resource, providing economic and environmental benefits with no adverse public health effects. A properly managed land application program recognizes the benefits of septage and employs practices to maximize those benefits. Septage contains nutrients that can reduce the reliance of the farmer on chemical fertilizers to improve soil. Septage, when land applied as a soil conditioner, is beneficial use rather than a disposal. The Proposed Action will add valuable moisture, organic matter, and nutrients to the topsoil, improving the soil tilth and crop production on the Site. Septage does not include prohibited material (e.g., garbage or tampons) removed from a septic tank or similar treatment works.

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



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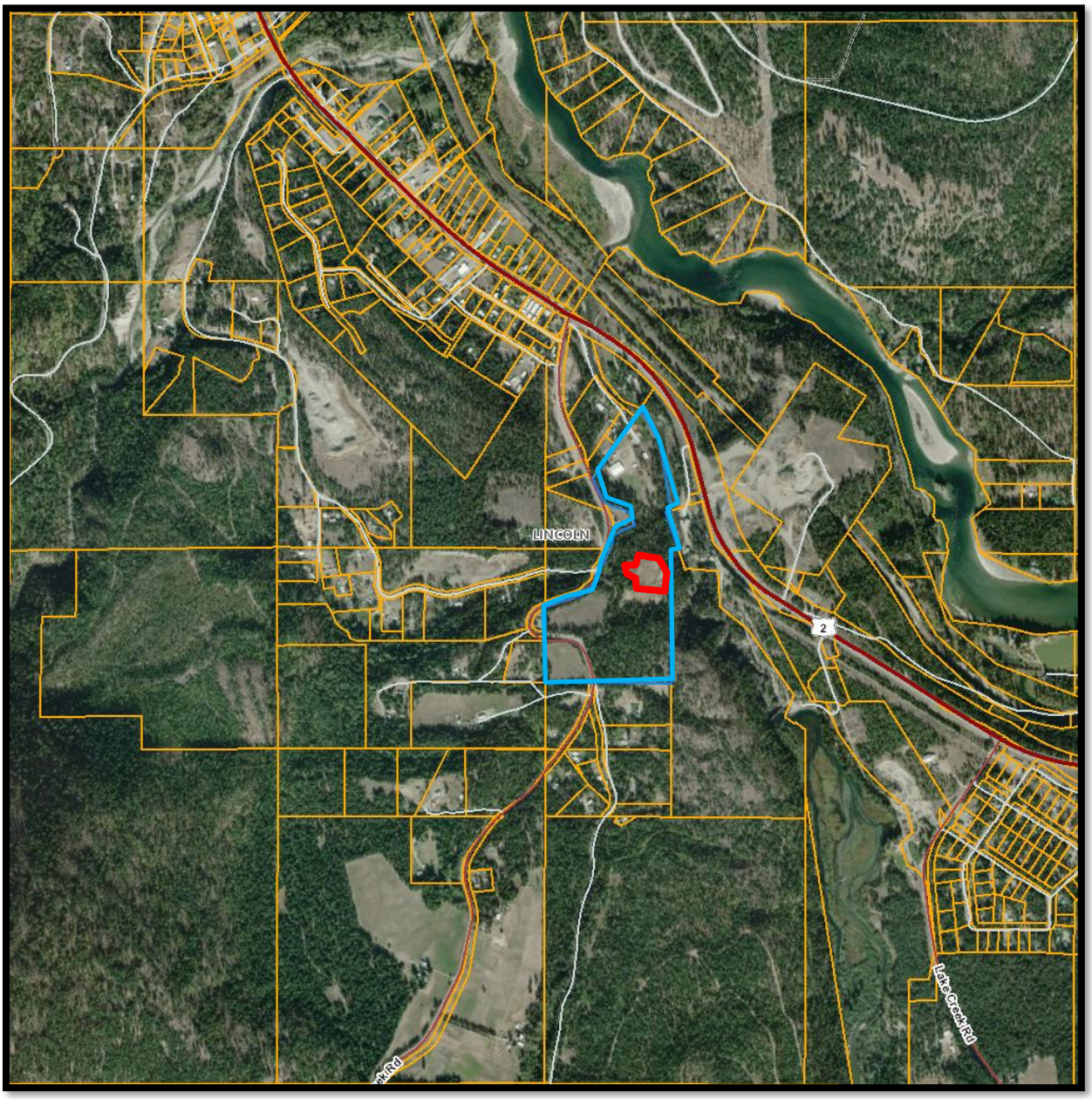
*Source: Montana Cadastral (**NOT TO SCALE**)*

1.5 LOCATION DESCRIPTION AND STUDY AREA

Troy is located approximately 17 miles northwest of Libby on US Highway 2. The Site is located one mile southeast of Troy, east of Iron Creek Road. A private road will be used to access the Site (**Figure 1**).

Figure 2: Study Area
(Site in red, McDougall property in blue)



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

The study area perimeter (not shown) extends approximately one mile beyond the boundaries of the Site (**Figure 2**).

The Site is located on approximately 2.4 acres of the McDougall property, located in Sections 18 and Section 19, Township 31 North, Range 33 West, in Lincoln County, Montana (**Figure 1**). Currently, the Site is leveled and tilled soil. The Site will be split into two parcels. Land application will be rotated annually between the parcels. The McDougall property's boundary is shown in **Figures 1** and **2**.

1.6 REGULATORY RESPONSIBILITIES AND REQUIREMENTS

In reviewing M and H's application for a new land application site, DEQ must comply with MEPA and the SDLA, including applicable Septic Rules. MEPA procedures direct DEQ to:

- Analyze the Proposed Action for potential environmental impacts
- Publish its findings in an EA for public review
- Solicit public comments prior to its decision in accordance with § 75-1-102 of the Montana Code Annotated (MCA).

Upon completing the draft version of this EA (Draft EA), DEQ may:

- Approve the site application
- Deny the site application
- Expand upon the Draft EA
- Write an environmental impact statement (EIS)

If the Proposed Action is approved, DEQ will be responsible for conducting inspections of the Site to ensure compliance with the Septic Rules. If violations are noted, DEQ will assist the applicant in returning to compliance. If the applicant fails to comply, DEQ may rescind licensure of the Proposed Action at the Site.

1.7 PUBLIC PARTICIPATION

DEQ is releasing this EA to present the initial findings described in Section 4.2. A 30-day public comment period began on July 5 and ended August 4. The Draft EA, or notice of how to access it, was been sent to adjacent landowners and other interested parties, and there was a public notice in *The Western News*. This EA may be viewed at:
https://deq.mt.gov/public/ea/SepticPumpers

DEQ is required by MEPA to disclose any potential impacts to the physical environment that could result from the Proposed Action. The EA's function is to:

1. Report the results of DEQ's environmental review to the public
2. Determine if an EIS is needed

The EA is a procedural document that outlines the processes DEQ followed during its assessment. The EA identifies the potential impacts of the Proposed Action. The MEPA

process does not extend DEQ's regulatory authority beyond the SDLA and Septic Rules. It does, however, assist agencies in making balanced decisions by seeking public review and input.

DEQ released the Draft EA to:

- Inform interested and affected parties
- Increase public understanding of the SDLA and Septic Rules
- Discuss the applicant's objectives and operational procedures
- Evaluate compliance with applicable laws and rules
- Disclose the significance of potential environmental impacts
- Seek public input regarding the Proposed Action
- Seek public input regarding DEQ's assessment of potential impacts

2. DESCRIPTION OF ALTERNATIVES

2.1 INTRODUCTION

This chapter summarizes alternatives to M and H's Proposed Action, including the No Action alternative required by MEPA. MEPA may require the evaluation of reasonable alternatives to the Proposed Action, according to ARM 17.4.609(3)(f). However, § 75-1-220, MCA states that unless a project is state-sponsored, DEQ's assessment of an alternative site is not required.

DEQ has not considered mitigation alternatives for potential impacts because they're contained in M and H's application and a public record.

2.2 NO ACTION

Under the No Action alternative, DEQ would deny the Site. Therefore, the Site could not be used by M and H, and treatment or disposal of septage pumped by them would occur at another approved location. The McDougall property would remain as is.

2.3 PROPOSED ACTION

Under the Proposed Action alternative, DEQ approves the Site.

2.3.1 LAND APPLICATION SITE OPERATIONS

The operational requirements for land application of septage at M and H's Site are provided in **Table 1**:

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 annual application rate (AAR) of the site for crop nitrogen requirement on an annual basis.

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

The land application site setback requirements are provided in **Table 2**:

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.

To prevent septage from migrating offsite, a berm will be constructed along the east side of the Site.

M and H will be required to log the type and amount of septage they land applied and the date they applied it. These logs will be submitted twice a year to DEQ. DEQ will verify the Site's annual application rate (AAR).

2.3.2 EQUIPMENT AVAILABLE AND PUMPER TRUCK REQUIREMENTS

M and H has the following equipment available for land application activities:

1. Ford F600 pumper truck (for septage disposal)

2. International 4900 pumper truck (for septage disposal)
3. D5 Cat with a 10-foot disc (remains at the Site for incorporation of septage)
4. Backhoe 580 Super L
5. Skid steer
6. Brush hog
7. Massey Ferguson 255 tractor
8. 10-foot pull-type broadcast spreader (for fertilizer)
9. Seeder (for pasture grass seeds)

The pumper trucks (numbers 1 and 2) have been inspected by the county health officer or their designated representative.

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. See below for questions used 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? Specify
3. Is the spreading equipment mounted on the vehicle or separate? Specify
4. If required to screen septage before land applying, is the vehicle, or site, equipped with the proper screening equipment? Specify
5. Is the spreading equipment approved for use?
6. Is the screening equipment approved for use?
7. Make/Model of Vehicle
8. Tank Size

2.3.3 AMOUNT AND EXTENT OF SEPTAGE APPLICATION

Land application will occur at a rate not exceeding the AAR in gallons per acre. For septage, the AAR is calculated based upon uptake by a specific crop or grass, as follows:

AAR = crop nitrogen requirement/0.0026 for septage waste;
AAR = crop nitrogen requirement/0.0052 for portable toilet waste

Because septage and portable toilet waste will be land applied, the AAR is adjusted for the portable toilet waste as it has higher nitrogen concentrations.

The grass at this location has a crop nitrogen requirement of 125 pounds per acre. Because portable toilet waste has higher concentrations of nitrogen, the AAR was calculated accordingly. The resulting AAR for portable toilet waste is 24,039 gallons per acre, which is equal to approximately .89 inches of liquid applied per acre. For

comparison, the average annual precipitation received during a calendar year in Troy, Montana, is 35.6 inches over any acre.

When land application is rotated, the same location isn't used every year. For example, if 100 acres is proposed for land application, 50 of those acres would be used one year and the other 50 acres would be used the next year. In this case, the applicant will designate two areas to rotate, using each one every other year (**Figure 1**). Land application is alternated amongst parcels to allow crop uptake of excess nitrogen.

The approximately 2.4 acres of McDougall property will accommodate the estimated 30,000 gallons per year. Land application activities will not exceed the AAR.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES BY RESOURCE

3.1 LOCATION DESCRIPTION AND STUDY AREA

The Site is referenced in Section 1.1 of this EA. The study area includes land and resources in and around the Site. DEQ staff visited the Site to observe resources, habitats, land uses, and species.

3.2 WILDLIFE AND HABITATS

The impact to wildlife and habitats will be minor.

Transient wildlife tends to avoid land application sites due to human scent and activities. Fish, Wildlife and Parks (FWP) manages the overall wildlife populations in the region. Species of fish and amphibians are not included on the following lists because land application activities will not impact nearby waters (see Section 3.4.1).

The Montana Sage Grouse Habitat Conservation Program's map of the area shows the Site and surrounding properties are not located within a Sage Grouse core, connectivity, or general habitat.

The applicant does not plan to expand the site. Therefore, no habitat outside the land application area will be impacted.

3.2.1 THREATENED AND ENDANGERED SPECIES

U.S. Fish and Wildlife Service's (USFWS) online databases were used to identify plant and animal species at the Site and the study area. The USFWS species and status listings for Lincoln County, Montana, are shown in **Table 3**:

Table 3: Federally Established Species List

Scientific Name	Common Name	Status
Canis lupus	Gray wolf	recovery
Lynx canadensis	Canada lynx	threatened

Gulo gulo luscus	North American wolverine	proposed threatened
Haliaeetus leucocephalus	Bald eagle	recovery
Ursus arctos horribilis	Grizzly bear	under review
Pinus albicaulis	Whitebark pine	candidate
Silene spaldingii	Spalding's Catchfly	threatened

The Site has been cleared of trees, reducing potential habitat, and the Proposed Action will also deter listed species from inhabiting the Site. The Site lies outside of the Cabinet-Yaak grizzly bear recovery area (designated by the USFWS/FWP, 2016).

3.2.2 SPECIES OF CONCERN

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

The Montana Natural Heritage Program's (MNHP) online databases were accessed for listed species. The MNHP species and status listing for Township 31 North, Range 33 West is shown in **Table 4**:

Table 4: Montana Recognized Species List

Scientific Name	Common Name	Status	GRank/SRank
Gulo gulo	Wolverine	species of concern	G4/S3
Lasiurus cinereus	Hoary bat	species of concern	G3/S3
Falco peregrinus	Peregrine falcon	species of concern	G4/S3
Histrionicus histrionicus	Harlequin duck	species of concern	G4/S2

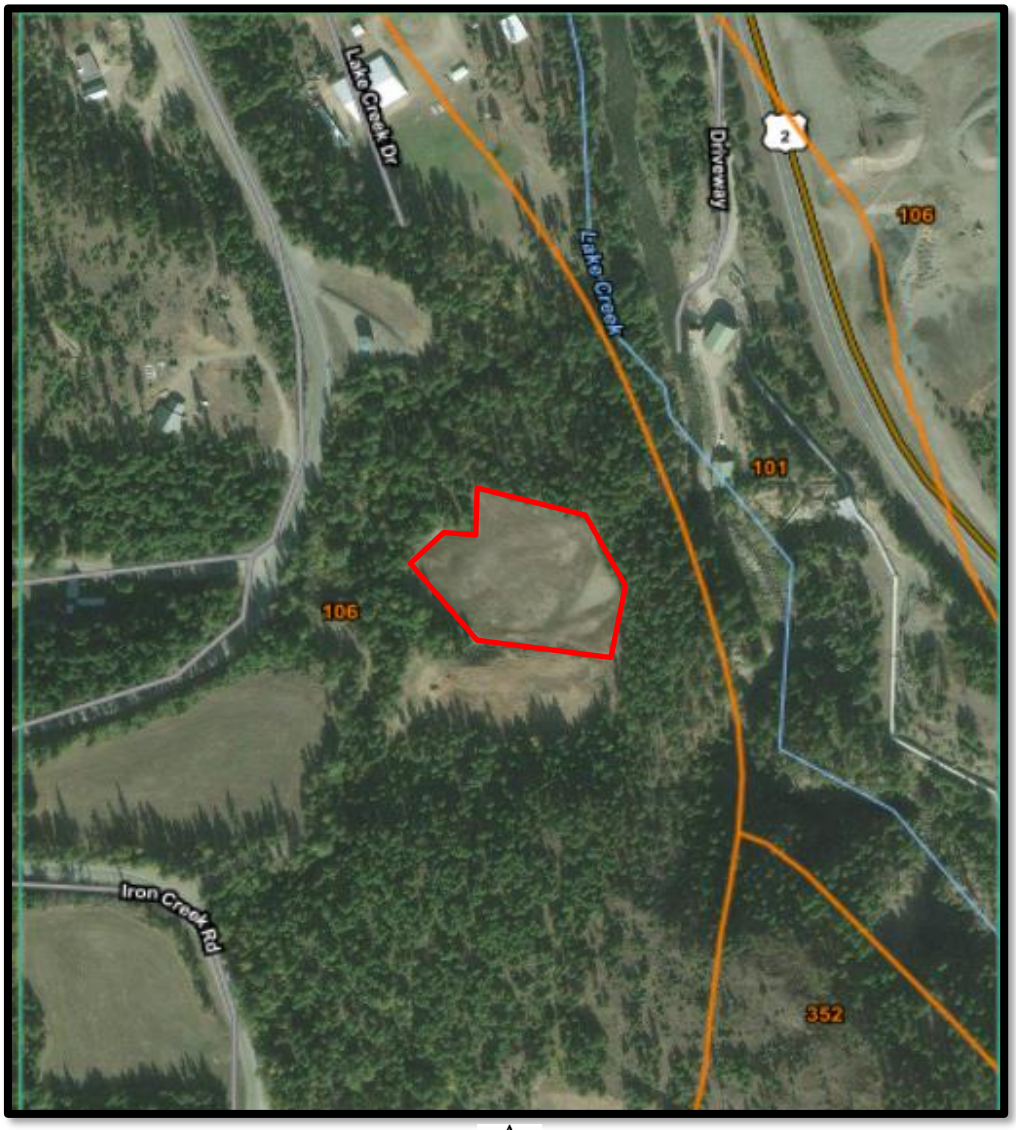
The MNHP uses a standardized ranking system developed by The Nature Conservancy and maintained by NatureServe. Each species is assigned two ranks; one representing its global status (GRank), and one representing its status in the state (SRank). The scale is 1-5; 5 is common, widespread, and abundant; 1 means at high risk. Species with a GRank 5 are not included in **Table 4**.

The Site does not provide the habitat necessary for the hoary bat or harlequin duck. Wolverines are solitary creatures, rarely seen, who avoid areas with human activity. Peregrine falcons prefer cliffs near major rivers (Marks, 2016), which do exist nearby, but no desirable habitats exist at the Site. Because of the limited development and low human population in the area, an adequate amount of similar habitat remains near the Site and can accommodate any species forced to relocate due to the Proposed Action.

3.3 SOILS AND VEGETATION

The US Department of Agriculture's (USDA) web soil survey was accessed for information about the shallow subsurface soils at the Site and surrounding area. **Figure 3**, on the next page, shows the approximate locations of soil units at the Site.

Figure 3: USDA, Natural Resources Conservation Service (NRCS), Web Soil Survey, 2019 (*Site in red*)



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*Source: NRCS Web Soil Survey (**NOT TO SCALE**)*

Table 5: USDA, NRCS, Web Soil Survey, 2019

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
101	Fluvents, flood plains	25.8	24.8%
106	Andic Dystrochrepts, glacial outwash terraces	73.2	70.4%
352	Andic Dystrochrepts, glaciated mountain slopes	5.0	4.8%
Totals for Area of Interest		**104.0**	**100.0%**

The predominant soil type where the land application will occur is Andic dystrochrepts, glacial outwash terraces. The setting of the Site is a flat terrace adjacent to mountain slopes, with the parent material being sandy, gravelly outwash. It is considered prime farmland. Also, it is rated as well-drained and has an available water storage of about 4.8 inches. There is little to no incidence of flooding or ponding with this soil type.

The quantity and quality of vegetation grown will be enhanced by the Proposed Action.

3.4 HYDROLOGY

The analysis area for hydrology is the Site and the surrounding area. Some discussion of regional geology, based upon published reports, is also provided. The analysis methods for hydrology include reviewing wetland and jurisdictional waters information, onsite drilling reports, publications of the Montana Bureau of Mines and Geology, and topographic maps. DEQ staff visited the Site to identify potentially concerning topographical features.

3.4.1 SURFACE WATER

No impacts to surface water are expected because of land application activities.

The Site is located on a relatively flat terrace approximately a half-mile west of the lower Kootenai River, which flows northwest through a narrow mountain valley, and is approximately 240 feet west of Lake Creek. The Kootenai River watershed (USGS Hydrologic Unit Code 17010101) is the primary drainage basin for northwestern Montana and is located within the Westslope, or Columbia River Watershed Management Region for Montana. The floodplain area near the Site is generally flat, while the mountains provide significant relief to the area. The topography of the region is mountainous, with a large amount of vertical relief. The area is primarily forested except for bare regions at high elevations. The geologic setting is shown in **Figure 5.**

3.4.2 GROUNDWATER

No impacts to groundwater or groundwater wells are expected because of land application activities.

The hydrogeology of the area reflects both consolidated bedrock and overlying glacial strata. The bedrock geology of the watershed area comprises PreCambrian metasedimentary rocks of the Shepard Group. These rocks have little primary porosity because of regional metamorphism, consistent with other rocks of the Belt Supergroup. Quaternary alluvium is present, filling the base of stream valleys, with glacial deposits comprising predominantly tills with limited coarser-grained outwash seams present along the margins of the valley mantling bedrock, and beneath the alluvium. Many geologic studies have been performed on the region; however, the focus of these was mineral exploration and none of these studies included any hydrogeologic assessment. A generalized geologic map of the area is shown in **Figure 5**.

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

GWIC's database locates wells by "Section" and identified 20 wells in Section 18, and 21 wells in Section 19. The Site is on the western portion of Section 19. Most of these wells lie outside of the general downgradient groundwater flow toward the lower Kootenai River. For this EA, DEQ evaluated GWIC's information on all wells within proximity to the Site (**Figure 4**). Three wells are on the McDougall property, outside of the Site. While there are other wells within a half-mile of the Site, these wells were

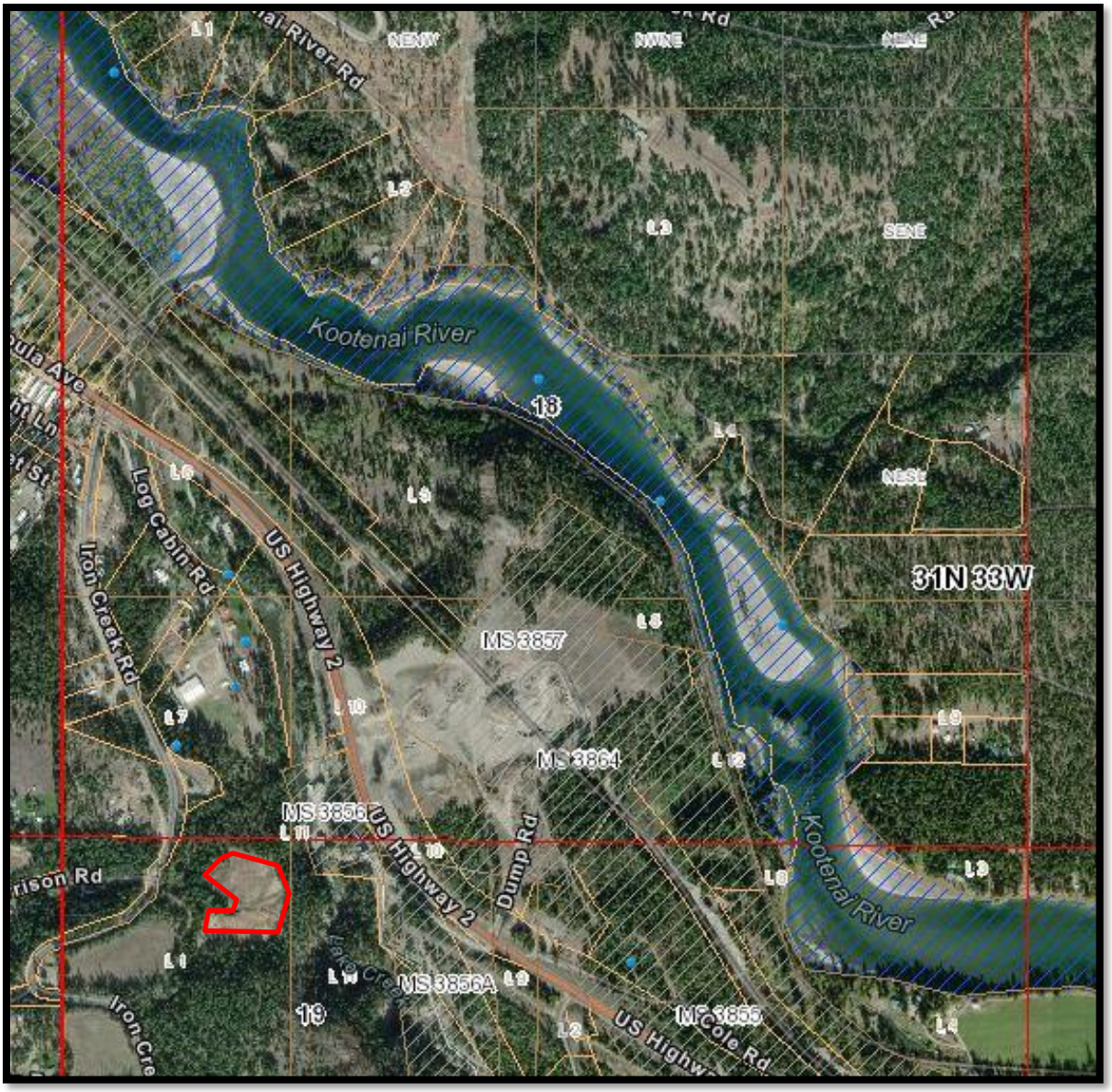
evaluated for the sole purpose of approximating static groundwater levels beneath the Site.

Table 6 summarizes information for the wells that were identified near the Site. Because the data in GWIC is based on well drillers' records, the details are not field verified for accuracy. Furthermore, the contents of GWIC's database rely only on information from submitted drilling records. There may be additional wells in the area that are not in the database because the records were not submitted to GWIC. This analysis is based on the information contained in GWIC's database.

According to GWIC's database, groundwater in this area is determined to be an average of 52 feet below the ground's surface. This is determined by averaging the documented static water levels (SWL) of the forty-one wells nearest to the Site (in Sections 18 and 19). The Site sits at an elevation of 2,065 feet above sea level. The thickness of the alluvium deposits overlying the groundwater aquifer is approximately 37 feet. The data for the well closest to the Site shows there is approximately 0 - 45 feet of gravel and boulders and 45 - 65 feet of gravel and sand below ground surface (bgs). Water was encountered at 37 feet bgs, followed by gravel and brown clay mix. From studies of aquifers in the area, we can determine that groundwater sits in an unconfined aquifer within a gravel sand and brown clay mix. DEQ concludes that there is no groundwater above the six-foot minimum required by ARM 17.50.809(8).

As required, SWLs are more than six feet bgs. Septage may not be applied within 100 feet of a drinking water source. There are three documented wells on the McDougall property. If any wells are drilled within the 100-foot setback, the Site will adjust its borders to maintain the setbacks. Due to the overlying sediments and the need for moisture, all septage will be absorbed by the soils and not migrate past 52 feet to contaminate wells.

Figure 4: Location of Nearby Documented Downgradient Water Supply Wells
(wells in blue circles, approximate Site boundaries outlined in red)



*Source: ArcGIS and GWIC, Montana Bureau of Mines and Geology (**NOT TO SCALE**)*

Table 6: Summary of Nearby Wells

Well ID	Township	Range	Section	Total Depth	Static Water Level	Completion Date	Use
235964	31N	33W	18	700	27	4/29/2007	DOMESTIC
299166	31N	33W	18	--	--	--	--
187864	31N	33W	18	58	25	11/3/2000	DOMESTIC
88664	31N	33W	18	24	16	7/1/1950	UNKNOWN
218736	31N	33W	18	80	37	4/11/2005	DOMESTIC
88665	31N	33W	18	--	35	1/1/1958	COMMERCIAL
280774	31N	33W	18	280	100	4/4/2013	DOMESTIC
217753	31N	33W	18	270	--	2/10/2005	TEST WELL
6662	31N	33W	18	46	18	8/11/1977	DOMESTIC
88667	31N	33W	18	40	20	12/10/1984	DOMESTIC
174717	31N	33W	18	140	20	1/26/1999	DOMESTIC
300534	31N	33W	19	177	150	7/6/2018	DOMESTIC
'--' No data							

Source: GWIC, Montana Bureau of Mines and Geology

Note: The total depth column is the depth drilled, which may be deeper than the bottom of the completed well. Static water level is the level of water measured in the well at the time of installation. All data is based upon the driller's logs and may not be reported for every well.

3.5 GEOLOGY

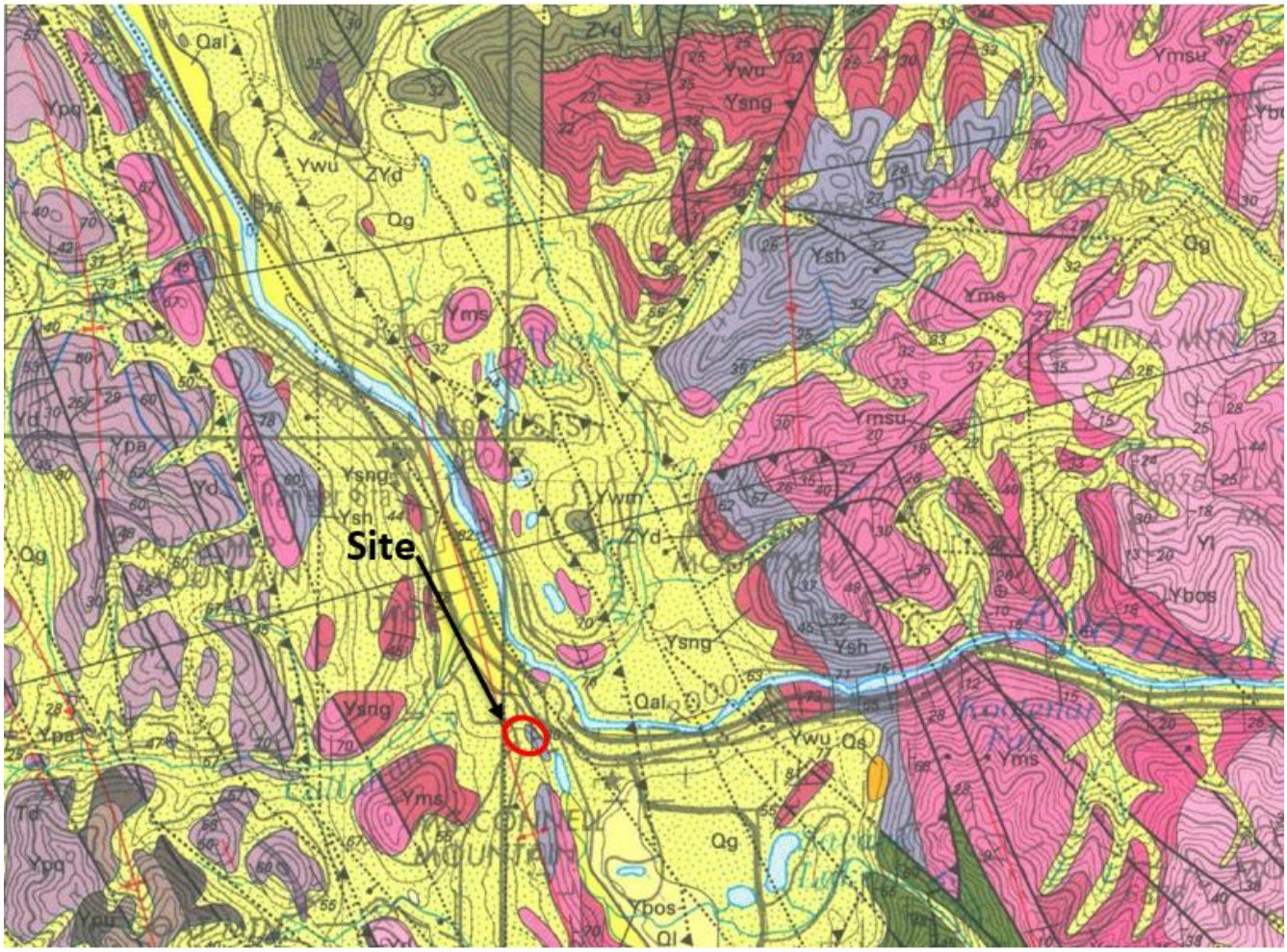
The Site is located within the northern Rocky Mountain physiographic province and lies in a narrow intermontane valley (Lake Creek Valley) that incises the Cabinet Mountains. The mountains are composed predominately of metasedimentary rocks from the late Precambrian Belt Supergroup which were deposited in a fault-bounded rift basin about 1,400 - 900 million years ago (Ma). The Site sits on an erosional terrace above Lake Creek to the west, and on the east side of the valley is the Bull Lake Fault. The Bull Lake Fault is part of a large system of faults comprising the Libby thrust belt that trends north into Canada. The Libby thrust belt was formed where one of the old anticlines had its limbs steepened and thrust eastward toward the west flank of the Purcell anticlinorium. Structure in the area is complex and includes Proterozoic folds; Cretaceous thrust faults and associated folds; hundreds of Eocene and younger high-angles; and listric normal extension faults (Harrison and Cressman, 1993).

Glaciation is the primary mechanism responsible for the depositional setting and topography near the Site. The Cordilleran ice sheet covered much of the northern continent during the late Pleistocene (less than 1 Ma) era, and periodic melting formed "glacial lakes." Clay, silt, and coarser materials from glacial till washed into glacial lake Kootenai and settled to form lakebed deposits. Downcutting by the Kootenai River and its tributaries through the lakebed deposits eventually formed prominent, flat-topped terraces (Alden, 1953). Beneath the Site is

a thin erosional veneer covering mappable bedrock (Ysh – Shepard Formation, see **Figure 5**) which outcrops on the steep valley face leading down to Lake Creek.

Figure 5: Regional Geology Map

Symbols: Qal – Alluvium (Holocene), Qg – Glacial and fluvioglacial deposits (Pleistocene), Ql – Lake sediments (Pleistocene), Yms/Ysh/Ysng – Mount Shields/Shepard/Snowslip (green facies) Formations (Middle Proterozoic)



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Source: USGS Professional Paper 1524, Plate 1, 1993

3.6 CLIMATE

DEQ analyzed how the land application of septage will impact the Site's environment given the climate of the region.

Analysis methods for climate included a site visit and researching data from this link: *http://www.weatherbase.com/weather/weather.php3?s=593842&cityname=Troy-Montana-United-States-of-America.*

The climate in the area is typical of Montana and is classified as warm summer continental climate. **Table 7** summarizes climate data for Troy, Montana. The average temperature for the year in Troy is 43 degrees, with August being the warmest month. The coolest month is January. The annual precipitation is 35.6 inches, with November being the wettest month at 5.2 inches. The least precipitation occurs from July through September.

Table 7: Climate Data for Troy, Montana

MONTHLY - WEATHER AVERAGES SUMMARY [Show All Data] [°C] °F

Average Temperature — Years on Record: 34

	ANNUAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
F	43	23	29	35	43	51	58	63	64	55	43	32	24

Average High Temperature — Years on Record: 34

	ANNUAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
F	55.9	30.2	38	46.1	56.5	66.9	74.1	81.7	82.4	71.2	55.4	38.4	30.2

Average Low Temperature — Years on Record: 34

	ANNUAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
F	31.4	16.1	20	24.4	29.7	36.6	43.1	46.2	45.7	38.9	31.8	25.8	18.6

Average Precipitation — Years on Record: 34

	ANNUAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
in.	35.6	4.3	2.9	2.7	2.3	2.5	2.6	1.5	1.6	2.2	3	5.2	4.9

Average Number of Days With Precipitation — Years on Record: 34

	ANNUAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Days	137	14	10	11	10	12	12	8	8	10	11	15	16

Source: www.weatherbase.com

Net evaporation rates were obtained and evaluated from the Western Regional Climate Center to ensure the Site could properly utilize the increase in moisture. The net evaporation rates for the Hungry Horse Dam location were used due to its proximity to the site and similarity in climate. The monthly average pan evaporation is listed as 29.72 inches per year.

Data was recorded from 1948 - 2005. On average, there is zero evaporation shown between November and April, but averages per month include 4.83 inches for May, 5.62 inches for June, 7.81 inches for July, 6.63 inches for August, 3.46 inches for September, and 1.37 inches for October. These averages correlate with to the hot, dry months of a Montana summer.

The hot, dry months of July, August, and September correlate to the average Montana septic tank pumper's busy season. Dry soils, vegetation, and crops will benefit from the added moisture.

3.7 AESTHETICS

No impacts on aesthetics are expected because of land application activities.

The Site is not visible from Iron Creek Road. The Site is not located on a prominent topographical feature, and is surrounded by trees. No other development is anticipated at the Site.

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 minimized. The naturally occurring bacteria in the soil uses carbon in the waste as a fuel source. This activity results in the breakdown of wastes, including odors. Usually, odors are only detected close to the land application activity.

3.8 HUMAN HEALTH & SAFETY

No impacts on human health and safety are expected because of land application activities.

Septage will be land applied at the Site. The dispersive mechanism that will be on the truck will apply waste in a wide, thin, even layer. Septage will be incorporated into the soil surface within six hours of application, per the Septic Rules. No livestock grazing areas exist on the Site. No crops are harvested from the Site.

Typically, land application will occur during the same times that fertilizer is applied.

Access into the Site, via a private drive, is controlled by a chain with a padlock.

3.9. DEMAND FOR GOVERNMENT SERVICES

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

The government resources that will be utilized for the oversight of the operation and maintenance of this Site will be the Lincoln County sanitarian and DEQ. The Lincoln County sanitarian and DEQ staff will conduct periodic inspections of land application activities at the Site. Volumes of waste applied at the Site from will also be monitored by DEQ to ensure the AAR is not exceeded. Site inspections are performed at all septic tank pumper land application locations.

3.10 TRAFFIC

The impact to traffic will be minor.

There will not be a significant increase in traffic on Iron Creek Road. M and H will be operating one pumper truck at a time. The Site is located approximately 1 mile south of Troy, Montana, in a wooded area of residential homes and some businesses. The Site will be accessed from Iron Creek Road. The roads that will be used by the applicant's truck currently support traffic to homes and businesses in the area.

4. CONCLUSIONS AND FINDINGS

4.1 EVALUATION OF MITIGATIONS, STIPULATIONS, AND OTHER CONTROLS ENFORCEABLE BY DEQ OR ANOTHER GOVERNMENT AGENCY

The Site and the O&M plan meet the requirements of the SDLA, Air and Water Quality Acts, and other applicable Montana environmental laws and regulations, as well as county ordinances. Adherence to the regulations and to the approved O&M plan will mitigate the potential for harmful releases and impacts to human health and the environment from the Proposed Action at the Site.

4.2 FINDINGS

Based on consideration of all the criteria set forth in ARM 17.4.608, DEQ has determined operation of the site will not impact human health. Therefore, an EA is the appropriate level of environmental review, and an EIS is not required.

The depth and breadth of the project are typical of a land application site. DEQ's analysis of potential impacts from the Proposed Action are 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 determine 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 1.5 of this EA. It encompasses approximately 5 acres of the McDougall property.

The location is not within sage grouse core habitat, general habitat, or connectivity area. It has no special agricultural designation. Operation will not adversely impact any wildlife species or habitats.

Operation of the site is not expected to impact surface water resources. Operational standards require all the setback requirements from surface water and slopes exceeding 6% are met, as described in Section 3.4.1 of this EA.

Operation of the site is not expected to impact groundwater. The site is well within the setback requirements for groundwater, as described in Section 3.4.2 of this EA.

DEQ has not identified any growth-inducing or growth-inhibiting aspects of the Proposed Action. 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, operation of the Site does not conflict with any local, state, or federal laws, requirements, or formal plans.

5. OTHER GROUPS OR AGENCIES CONTACTED OR THAT MAY HAVE OVERLAPPING JURISDICTION

Lincoln County Environmental Health Department
United States Department of Agriculture
Montana Natural Heritage Program
Montana Department of Environmental Quality
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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Septic Tank Pumper Program

Date: August 7, 2019

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