

**MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY**  
Waste Management and Remediation Division  
Waste and Underground Tank Management Bureau  
Solid Waste Section  
PO Box 200901  
Helena, MT 59620-0901

**FINAL ENVIRONMENTAL ASSESSMENT (EA)**

**SOLID WASTE SECTION ROLES AND RESPONSIBILITIES**

The Department of Environmental Quality’s (DEQ), Solid Waste Section (SWS), is responsible for ensuring that activities proposed under the Solid Waste Management Act, the Septage Disposal Licensure Act, the Integrated Waste Management Act, and the Motor Vehicle Disposal & Recycling Act comply with current regulations. A land application site must first be approved by the county in which the site is located, before the request for approval is submitted to the SWS. Each licensee is responsible for following the Administrative Rules of Montana (ARM) for Cesspool, Septic Tank, and Privy Cleaners, as well as other restrictions and requirements put in place by the county in which the land application site is located.

**1. PURPOSE AND NEED FOR ACTION**

**1.1 SUMMARY**

On February 5, 2018, Carbon County Sewer (CCS) submitted an application for a new 122-acre septage land application site (Site) to DEQ. CCS proposes using 122 acres of property owned by Robert Devries for the land application of septage, portable toilet waste, grease trap waste, and graywater. The Site is located near Roberts, Montana, in Carbon County. The Site was selected solely by the applicant. The purpose of this final environmental assessment (EA) is to determine if the Site meets the requirements of the Septage Disposal and Licensure Laws (SDLL).

**1.2 PURPOSE AND NEED**

In accordance with Montana Code Annotated (MCA), Section 75-1-102, the Montana Environmental Policy Act (MEPA) is procedural, and requires the “adequate review of state actions in order to ensure that environmental attributes are fully considered by the legislature in enacting laws to fulfill constitutional obligations; and the public is informed of the anticipated impacts in Montana of potential state actions.” According to MEPA, EAs are procedural documents that communicate the process agencies follow in their decision-making. An EA does not result in a certain decision; but serves to identify the potential effect of a state action within the confines of existing laws and rules governing such proposed activities, so that agencies make balanced decisions. The MEPA process does not provide regulatory authority beyond the authority explicitly provided in the existing statute.

The SDLL regulations establish minimum requirements for the land application of septage. The EA is the mechanism DEQ uses to perform the following:

- Disclose whether a proposed land application site complies with current laws and rules;
- Assist the public in understanding the SDLL;

- Identify and discuss the potential environmental effects of the proposed land application activity;
- Discuss actions taken by the applicant, and the enforceable measures and conditions of the license, designed to mitigate effects identified by DEQ during review of the application; and
- Seek public input to ensure DEQ identified substantive environmental effects associated with the proposed land application of septage, portable toilet waste, grease trap waste, and graywater.

Septage is the liquid and solid material removed from a septic tank, cesspool, portable toilet, or similar treatment works receiving only waste and wastewater from humans or household operations. The land application of septage is an economical and environmentally sound practice. When properly managed, septage is a resource. Septage contains nutrients that can reduce the reliance on chemical fertilizers, acting as a soil conditioner. A properly managed land application program recognizes the benefits of septage, and employs practices maximizing the value. Land application of septage provides benefits to agricultural land by adding moisture, organic matter, and nutrients to the soil, improving the soil tilth. Septage does not adversely affect public health. When the septage is applied as a soil conditioner, the use is considered an application rather than a disposal. This improves growth of crops or grasses grown on the Site.

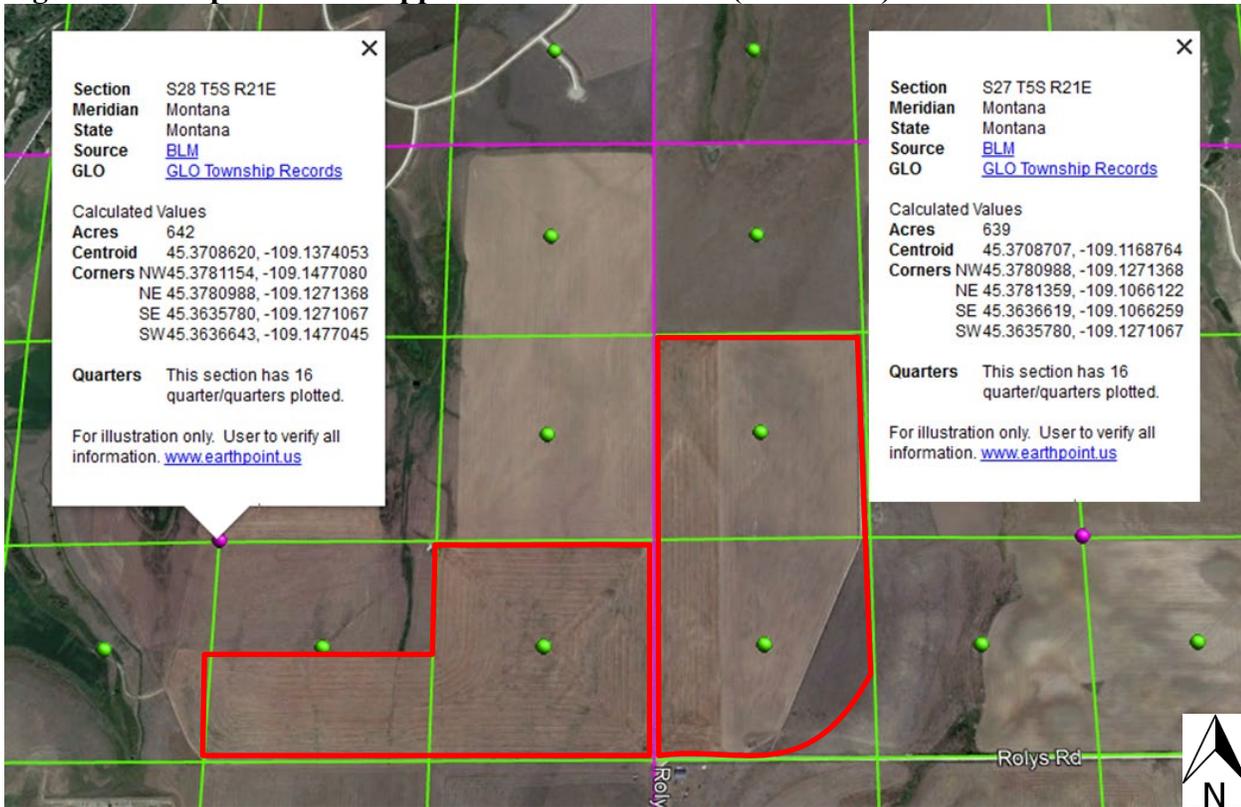
### **1.3 PROJECT LOCATION AND STUDY AREA**

Sam Langager, of CCS, submitted an application for DEQ's approval of the Site for the land application of septage, portable toilet waste, grease trap waste, and graywater. The Site is located within 674 acres of Robert Devries' property in Carbon County. At the present time, the property is being used for agricultural purposes. The applicant will use the Site as needed for the land application of septage portable toilet waste, grease trap waste, and graywater.

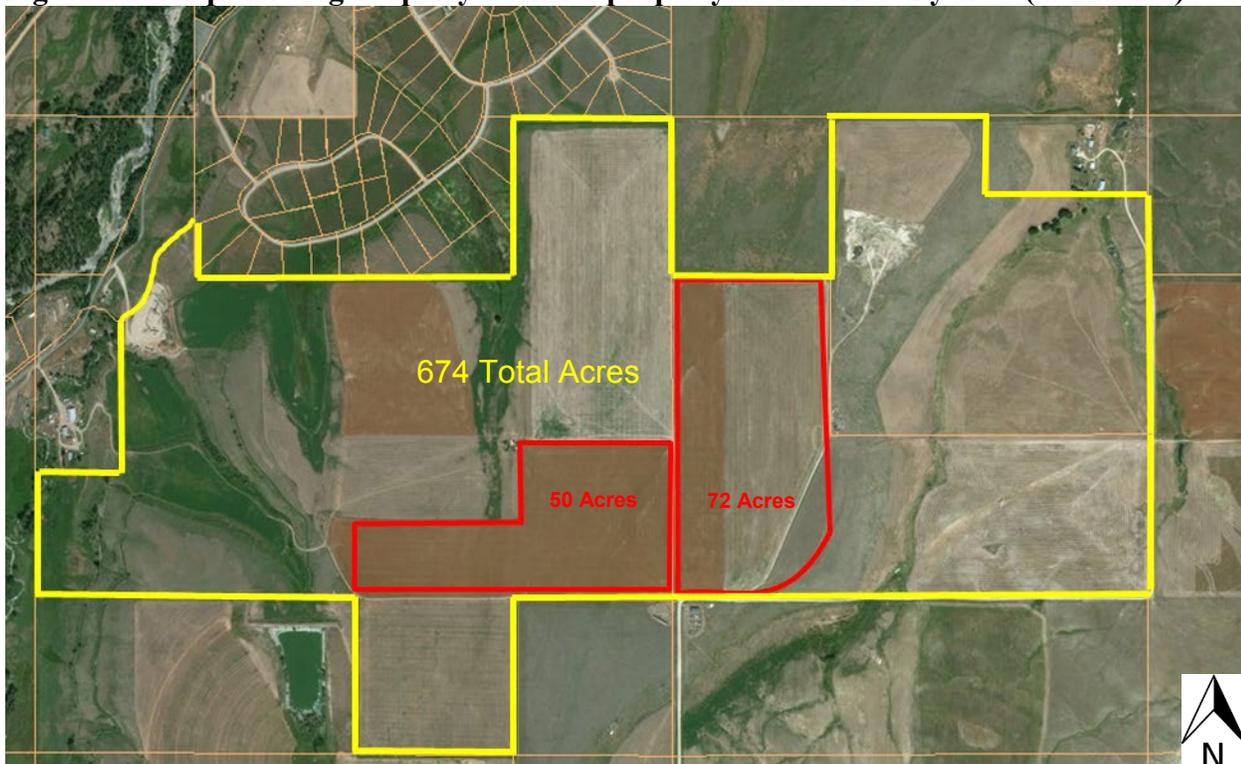
The Site is located on private property in Sections 28 and 29, Township 5 South, Range 21 East, Montana Principal Meridian, Carbon County, Montana (Figure 1.1). As shown in Figure 1.2, the area to be used for land application, within Section 28, consists of 50 acres, and the area in Section 29 is 72 acres. Land application is proposed in the NW and NE  $\frac{1}{4}$  of the SE  $\frac{1}{4}$  of Section 28, T5S, and R21E. The other area is located in the western half of Section 29, T5S, and R21E. The total 122 acres, will be split into two parcels. The two parcels are proposed to be used for land application on a yearly rotational basis (Figure 1.3).

The City of Roberts is located in south central Montana, approximately 46 miles south of Billings on US Hwy 212 West (Figure 1.4). Roberts sits in northern Carbon County, 12 miles north of Red Lodge. The Site is located east of Roberts out Cherry Springs Road, and then north on Rolys Road. The Site is in a privately owned agricultural area located east of Roberts, directly north of Rolys Road (Figure 1.5). Figures 1.6 through 1.11 are photographs taken during DEQ's site visit.

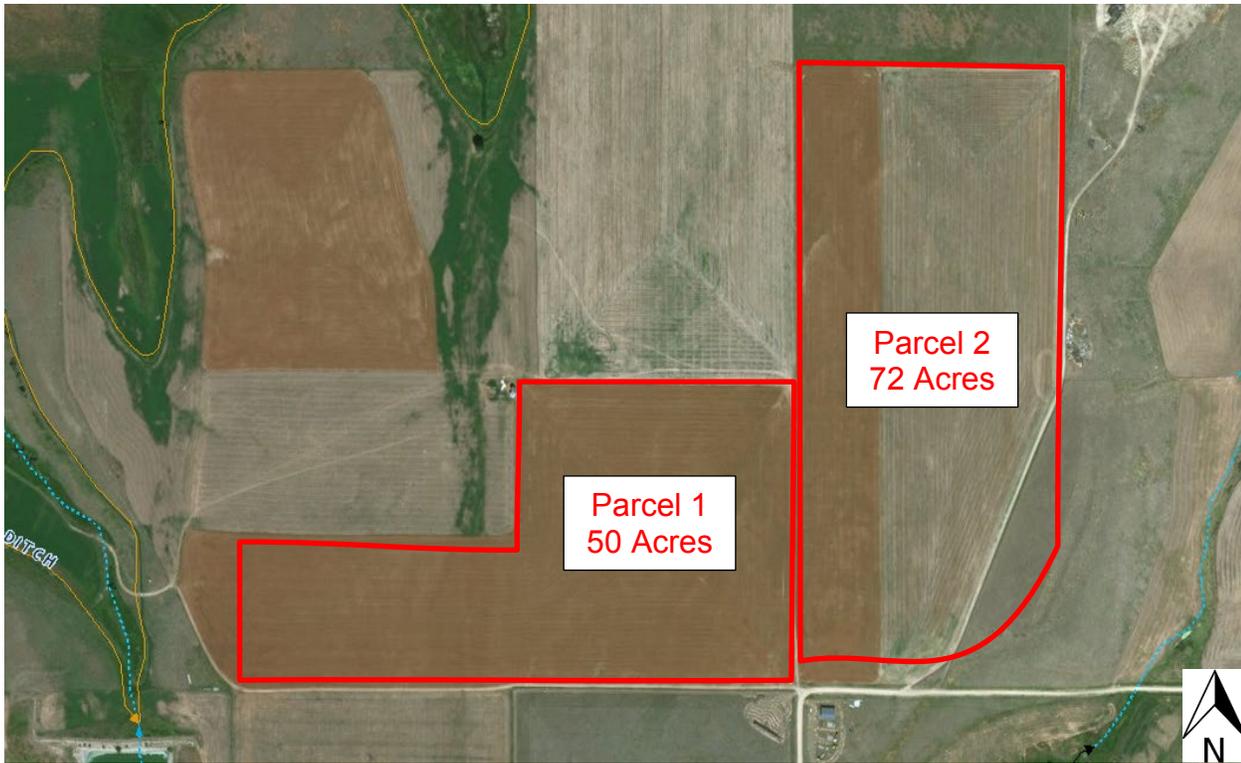
**Figure 1.1: Proposed Land Application Site Location (Site in red)**



**Figure 1.2: Map showing Property Owner's property boundaries in yellow (Site in red)**



**Figure 1.3: Map of parcels within Site (parcels in red)**

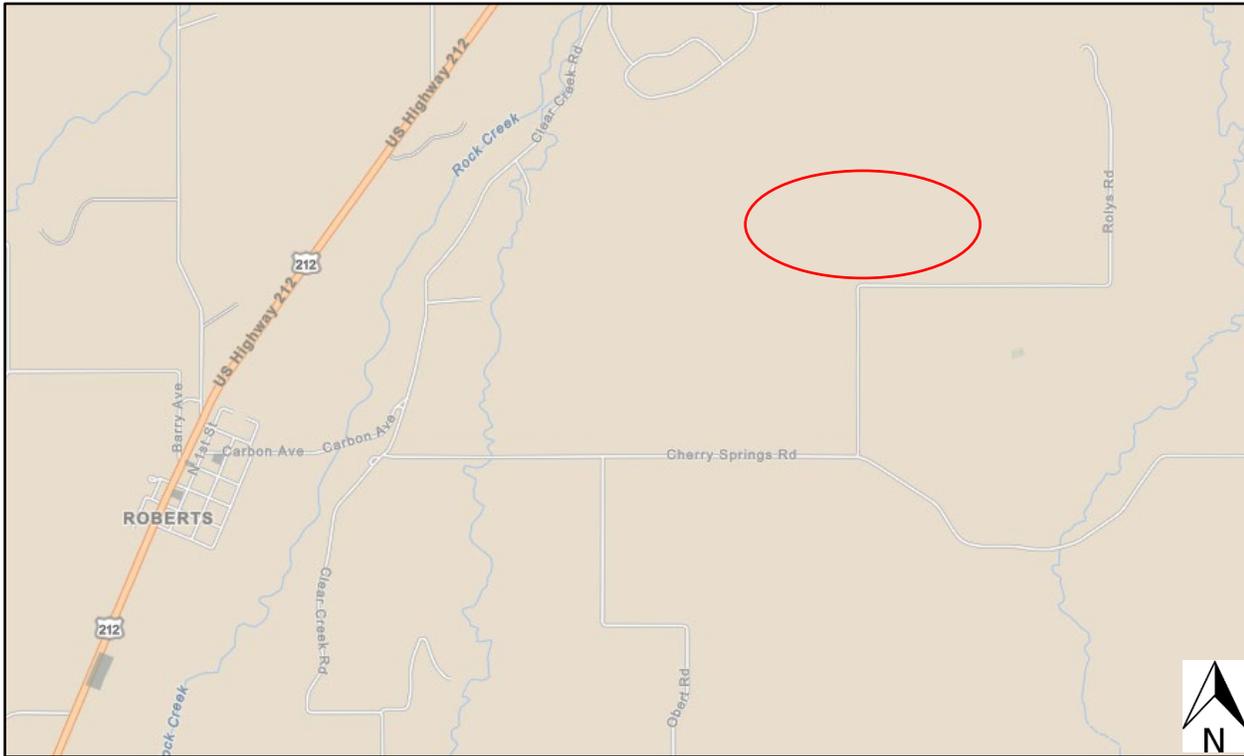


<https://mtdeq.maps.arcgis.com/home/webmap/viewer>

**Figure 1.4: Site Location in relation to the State of Montana (circled in red)**



**Figure 1.5: Site Location in relation to Roberts, Montana (circled in red)**



**Figure 1.6: View of the Site facing East**



**Figure 1.7: View of Site facing East**



**Figure 1.8: View of Site facing Northeast**



**Figure 1.9: View of Site facing North**



**Figure 1.10: View of Site facing Northwest**



**Figure 1.11: View of Site facing North**



#### **1.4 REGULATORY RESPONSIBILITIES AND REQUIREMENTS**

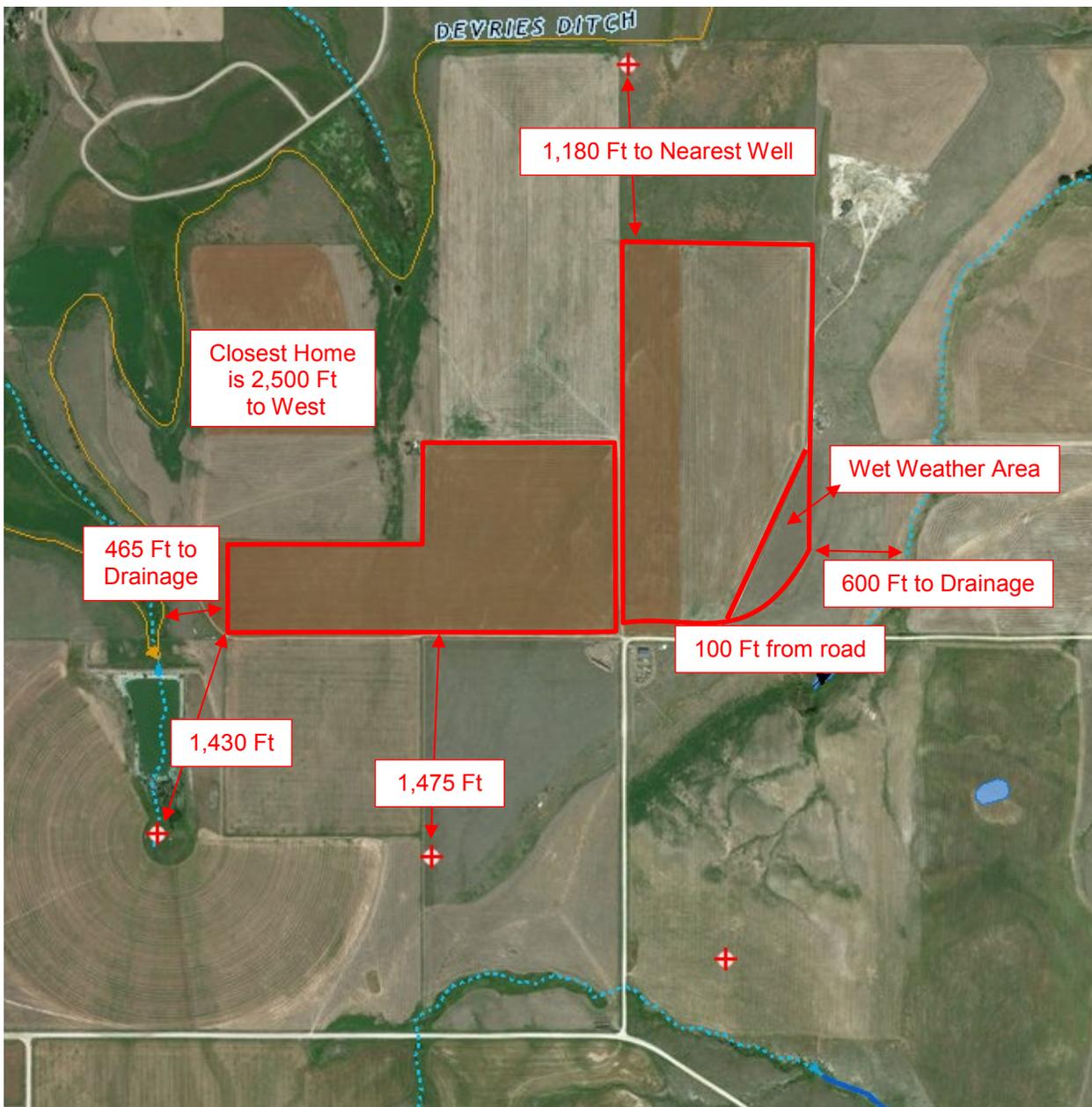
The applicant will maintain the setbacks during all land application activities, according to the requirements of ARM 17.50.809. The setback requirements, provided in Table 1.1, prohibit the application of pumpings within 500 feet of an inhabitable building, 150 feet of any state surface water (including wetlands and intermittent drainages), 100 feet of any county-maintained road, and 100 feet of any drinking water source. Land application is also prohibited on slopes greater than 6%, as well as where seasonally high ground water is six feet or less below the ground’s surface.

**Table 1.1: Land Application Site Setback Requirements**

<b>ARM Reference</b>	<b>Setback Requirements</b>
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 ground water is 6 feet or less below ground surface.

Figure 1.12 provides an aerial view of the Site showing setbacks from nearby homes, water features, and from the road bordering the Site to the south. The location meets the setback requirements in ARM, 17.50.809. If homes are constructed in the future, and are within 500 feet of the land application site's boundaries, the land application site boundaries will be relocated so they comply with the setback requirements. The ephemeral drainage is indicated in Figure 1.12 in blue. The land application site maintains a 150-foot setback from the drainage at all points throughout the site. All distances on the map were measured using the esri ArcGis program.

**Figure 1.12: Site with Setbacks (site in red)**



<https://mtdeq.maps.arcgis.com/home/webmap/viewer>

## **1.5 PUBLIC INVOLVEMENT**

DEQ published the draft EA on June 27, 2018, beginning a 30-day public comment period. DEQ distributed the draft EA to adjacent landowners, interested persons, and the Carbon County sanitarian. A notice about the document's availability has been posted on the DEQ website <https://deq.mt.gov/public/ea/SepticPumpers>, and published in the local newspaper.

## **2 DESCRIPTIONS OF ALTERNATIVES**

### **2.1 INTRODUCTION**

This chapter summarizes alternatives to the proposed plan, including the No Action Alternative required by MEPA. MEPA requires evaluating 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 conditions and physical locations. Reasonable alternatives are determined without regard to the economic strength of the applicant.

According to ARM 17.4.609(3)(f), an EA must include reasonable alternatives whenever reasonable and prudent. DEQ has not included any alternatives to mitigate impacts because CCS's application, and their operation and maintenance plan, already contain mitigation preventing significant impacts. The application, and associated documents, are public record and may be viewed at any time during normal business hours, in the SWP office.

#### **2.1.1 NO ACTION ALTERNATIVE**

Under the No Action Alternative, the proposed septage land application site would not be approved by DEQ. Therefore, the Site could not be used by CCS, and disposal of septage would have to occur at another approved location.

#### **2.1.2 PROPOSED ACTION**

The Proposed Action would be approval of the Site for land application of septage.

### **2.2 LAND APPLICATION SITE OPERATIONS**

The land application of septage, portable toilet waste, grease trap waste, and graywater is considered beneficial use of a waste product (when the material is applied according to land application regulations). The operational requirements for a land application site (see Table 2.1) include: removal of all non-putrescible litter within six hours of application; no septage application on frozen, flooded, or snow-covered ground if the pumpings may enter state waters; and application at a rate not exceeding the nitrogen requirement of the Site's vegetation. Pumpings must be injected below the land surface, incorporated within six hours of application, or pH adjusted for at least 30 minutes prior to land application.

**Table 2.1: Land Application Site Operational Requirements**

ARM Reference	Site Restrictions/Requirements
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: <ul style="list-style-type: none"><li>• injection below the land surface so no significant amount remains on the land surface within one-hour of injection;</li><li>• incorporation into the soil surface's plow layer within 6 hours of application;</li><li>• 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,</li><li>• management as required by 17.50.810 when the ground is frozen</li></ul>

**Figure 2.1 Carbon County Sewer's truck to be used for land application**



The Site will be divided into two parcels, rotated annually for land applications. The parcel not used for land application will have crops grown on it. The landowner currently cultivates crops on the property. The rules do not require the harvesting of a crop or vegetation from the Site, but rather that vegetation be grown which utilizes the nitrogen applied during the land application process. The landowner plans to continue growing wheat on the Site while utilizing the positive effects from land application. The area between the farm road and the southeast corner of the Site will be used in bad weather, if the rest of the site is unavailable. The bad weather area is indicated in Figure 1.12.

Septage will be land applied using a tow-behind screening trailer that disperses liquid in a wide, thin, even layer. The screening device will be attached to the truck through the camlock fittings, screening the septage before dispersion. The screening device screens out remaining solids, such as hair, wipes, and fabrics. The screening device will be cleaned out and the litter dried and bagged before disposal at a municipal landfill. Septage will be incorporated into the soil's surface ("plow layer") using a tractor and tillage equipment, within six hours of application. Septage may be applied on frozen or snow covered ground only if no other reasonable treatment method is available. Reasonable treatment method options include hauling the waste to a wastewater treatment plant, or to a septage storage, treatment, or dewatering facility that will accept the waste, and is within 25 miles of the point of generation. If application to frozen or snow-covered ground is necessary, pumpings may be land applied. If applied, the site must meet all of the following criteria; a slope of less than or equal to 3%, the land is not within a 100-year floodplain, and when the pumpings are either alkali-stabilized immediately or incorporated into the soil as soon as the weather permits.

Land application will occur as needed, at a rate not exceeding the Annual Application Rate (AAR) in gallons per acre. For septage, the AAR is calculated based upon production of a specific crop or grass, as follows:

$$\text{AAR} = \text{Crop Nitrogen Requirement}/0.0026 \text{ for septage waste}$$
$$\text{AAR} = \text{Crop Nitrogen Requirement}/0.0052 \text{ for portable toilet waste}$$

The wheat at this location has a nitrogen requirement of 160 pounds/acre. The resulting AAR for septage is 61,538 gallons per acre, equal to approximately 2.26 inches of liquid applied per acre. For comparison, the average annual precipitation received during a calendar year in Roberts, Montana is 14 inches of rain. The applicant is estimating yearly totals of 650,000 gallons of septage, 15,000 gallons of portable toilet waste, 10,000 gallons of grease trap waste, and 36,000 gallons of graywater. This equates to 696,000 gallons of septage waste and 15,000 gallons of portable toilet waste applied annually. 711,000 gallons equates to approximately 26.2 inches of liquid applied to one acre. The applicant will use only one parcel, or a section of one parcel, each year, and spread the septage over multiple acres. If spread over a 50 acre area, this equates to 0.5 inches of liquid applied to the Site per year. This amount of septage is minimal compared to the precipitation that will occur in this area, but will provide much needed nutrients to the soil and crops. With a yearly estimation of 696,000 gallons of septage waste, and an AAR of 61,538 gallons per acre for septage, the applicant needs approximately 11.3 acres per year for the land application activities. With an estimation of 15,000 gallons of portable toilet waste and a correlating AAR of 30,769 gallons per acre, the land application would need approximately one half acre for portable toilet waste. These two acreage

requirements total approximately 12 acres needed per year, well within the limits of the 50 and 72 acre parcels. Due to the larger fields and the possibility of business growth, the applicant will spread the septage over a larger acreage to better fertilize the soils, and not exceed the AAR. The Site will accommodate the proposed volumes, and land application activities will not exceed the AAR.

Land application will be limited to areas approved by DEQ. CCS will mark the approved boundaries of the Site with flags, stakes, or rock cairns, ensuring wastes are applied only in approved areas. The Site will not be used until the boundaries have been marked and approved by DEQ or the local county sanitarian.

### **3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES BY RESOURCE**

#### **3.1 LOCATION DESCRIPTION AND STUDY AREA**

The proposed site location and associated study area for the Proposed Action include all lands and resources in and around the Site, plus those additional areas identified by technical disciplines as “resource analysis areas” that are beyond the site area. Resource analysis areas are identified for each technical discipline.

#### **3.2 TERRESTRIAL AND AQUATIC LIFE AND HABITATS**

The analysis area for wildlife is within the boundaries of Robert Devries’ property. Analysis methods included DEQ’s research of the Montana Natural Heritage Program’s (MNHP) database, to determine the presence of threatened, listed, and/or endangered plant and animal species. DEQ personnel also visited the site to observe resources, habitats, land uses, and species. The following analysis provides a habitat-based approach to determine effects of the proposed site on listed species.

The proposed land application site is located in the Big Sagebrush Steppe and Great Plains Mixed grass Prairie ecosystem of Central and Eastern Montana. The area seen as farm fields, where the applicant plans to land apply, is also recognized as cultivated crops land cover by the MNHP. The areas surrounding the farm fields are dominated by perennial grasses and shrubs with primarily fine and medium textured soils. The proposed site is located within the cultivated crop areas of the region and will not disturb the grassland or shrub-dominated surrounding areas.

Research of the area shows the proposed 122-acre site is not located within a sage grouse core, connectivity, or general habitat. A search of the MNHP found records for Township 5 South and Range 21 East listed four species of concern and one special status species. A search of the U.S. Fish and Wildlife Service’s (USFWS) listing of endangered, threatened, proposed, and candidate species in Carbon County, Montana revealed the presence of one candidate, zero endangered, one proposed threatened, one threatened, and three recovery species.

The USFWS search for Carbon County listed the recovery species as the bald eagle, grizzly bear, and gray wolf. It also listed a candidate species, the whitebark pine tree, a proposed threatened species, the North American wolverine, and a threatened species, the Canada lynx.

The search of the MNHP indicated the hoary bat and little brown myotis as mammal species of concern, and the green-tailed towhee and Brewer's Sparrow as avian species of concern. The hoary bat only occupies forested areas during the summer. The little brown myotis migrates through Montana and is found in buildings. The green-tailed towhee migrates through Montana and is typically found in shrub communities. The Brewer's Sparrow migrates through Montana in the spring and fall and is found mostly in sagebrush. All four species of concern will not be affected by the day-to-day activities of the proposed land application site because it is located on farmland. The one special status species is the bald eagle. Typically, bald eagles are found in forested areas along lakes and rivers, none of which are not found on the proposed site.

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. As a result of the limited development and the lack of human population in the area, there remains adequate acreage of similar habitat in the vicinity of the proposed site to accommodate any species forced to relocate due to the proposed activities. With the proposed land application activities of mimicking farming and there being no proposal to develop additional land, the proposed site will not affect any terrestrial or aquatic habitats.

There are two seasonal drainages located on the eastern and western edges of the Robert Devries property. The setback requirement of 150 feet from wetlands, or seasonal drainages, will negate any impacts to aquatic systems from land application. Because no continuously active aquatic systems exist within the boundaries of the Site, it is unlikely that there is any significant aquatic life or habitat anywhere on the Site; therefore, there would be no impacts.

The Site is in an agriculturally developed area dominated by farm fields, and surrounded by grassland and sagebrush-covered hillsides. The surrounding property encompasses approximately 600 additional acres of similar habitat. The Site will be used rotationally, divided into two parcels and allowing wheat to be grown on the parcel not currently used for land application.

The quantity and quality of crops grown will be enhanced by the proposed land application activities. When properly managed, septage is a valuable soil conditioner, containing nutrients and moisture. This can reduce reliance on chemical fertilizers for agriculture. A good land application program recognizes the benefits of septage, and employs practices maximizing these benefits. The acreage available for land application will be rotated annually; parcels used one year will be inactive the next year. This rotation allows vegetation to utilize nitrogen and other nutrients added by septage. Septage provides benefits to agricultural land by the adding moisture, organic matter, and nutrients to the soil without adversely affecting public health. Land application of septage, portable toilet waste, grease trap waste, and graywater at the Site will have a positive impact by adding nutrients and moisture. The organic matter added from the proposed activity will also improve soil tilth, enhancing the continued production of wheat crops.

### **3.3 HYDROLOGY**

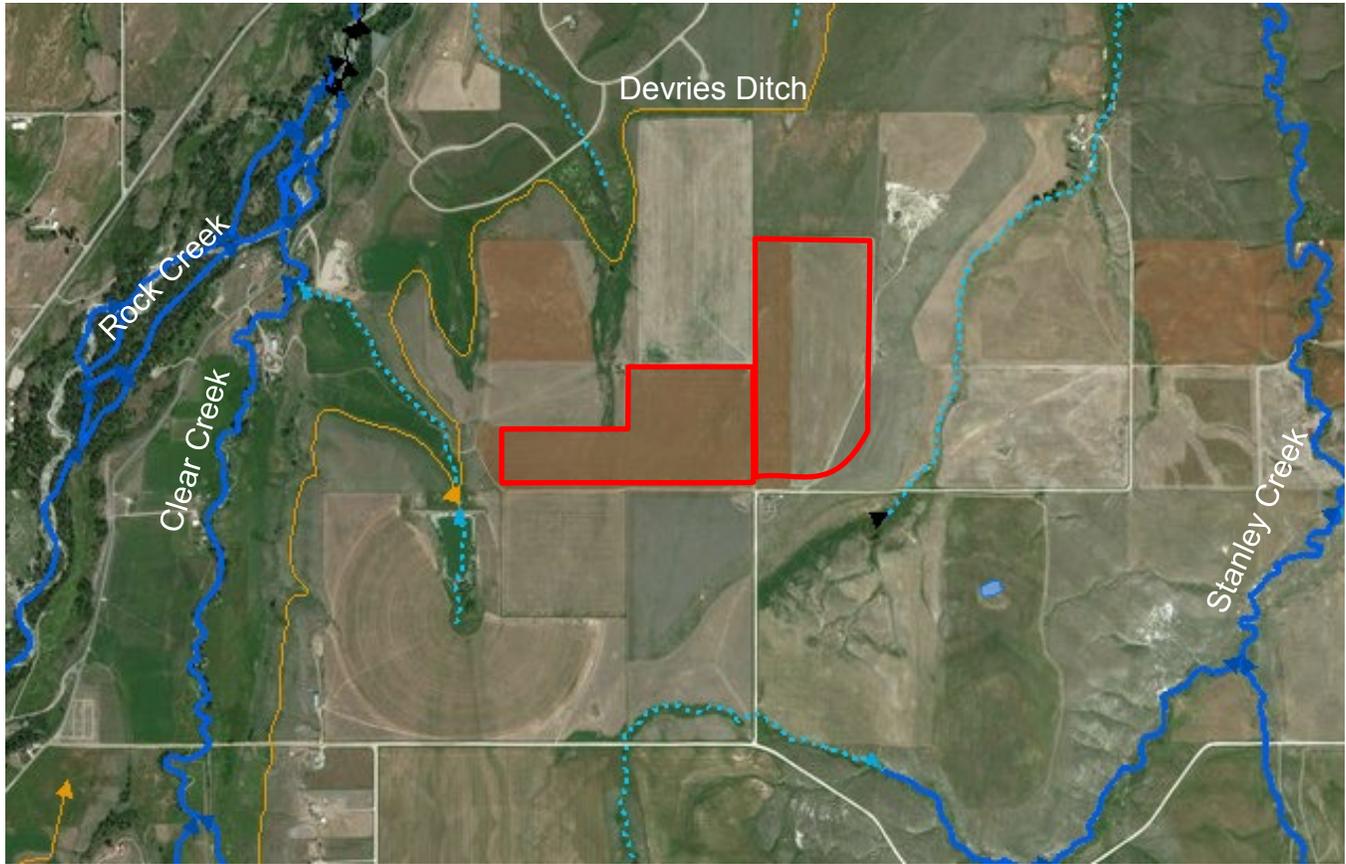
The analysis area for hydrology is the proposed 122-acre land application site. Some discussion of regional geology, based upon published reports, is also provided. The analysis methods for hydrology included reviewing: wetlands and jurisdictional waters information, onsite drilling reports, publications of the Montana Bureau of Mines and Geology, and published topographic maps. DEQ personnel also visited the Site to identify drainages and any other topographical features that could be places of concern.

#### **3.3.1 Surface Water**

The Site is located in Roberts, in south-central Montana, north of the town of Red Lodge. Roberts is located west of Rock, Clear, and Stanley Creeks, which all flow north and connect to the Yellowstone River. The Site can be seen relative to these three creeks in Figure 3.1. The mapped drainage closest to the Site is located to the southeast, and is a seasonal drainage. This drainage feeds into Stanley Creek to the east. The drainage to the west of the Site feeds into Clear Creek. The setback requirements for land application prohibit land application activities within 150 feet of any seasonal drainage. The topography of the Site is extremely flat with no sloping. All rainwater is anticipated to stay onsite and infiltrate the soil. There are no other seasonal drainages or ephemeral ponding areas within the proposed Site's boundaries. The ephemeral drainages on the property are outside of the minimum requirements for distance to surface water.

While satellite images show no drainages forming, or occurring, within the Site during the past 20 years, these channels have been known to reform or migrate. If any ephemeral surface waters form within the Site, the pumper will maintain the required 150-foot setback from those areas. The septage will be screened, then land applied using a spreader bar so that wastes are applied in a wide, thin, and even layer. All septage will be incorporated within six hours of application. Due to the Site's meeting all surface water requirements, the topography of the Site being very flat, and the precautionary measures listed in the operation and maintenance plan that will be taken, there are no anticipated impacts to surface water.

**Figure 3.1 Site in Red**



### **3.3.2 Groundwater**

Groundwater underlying the Roberts area is located in the Lower Tertiary aquifers of the Northern Great Plains aquifer system. The areas near Roberts are mainly comprised of the Fort Union Formation sediments as well as Quaternary alluvium deposits. The typical lithology of the sediments around the aquifers are sandstones, siltstones, claystones, and gravels. Groundwater in these deposits occurs under confined and unconfined conditions. Most major aquifers are confined in sandstones and shales of Tertiary and Cretaceous age, with some unconfined systems in the overlying alluvial deposits of the Quaternary age.

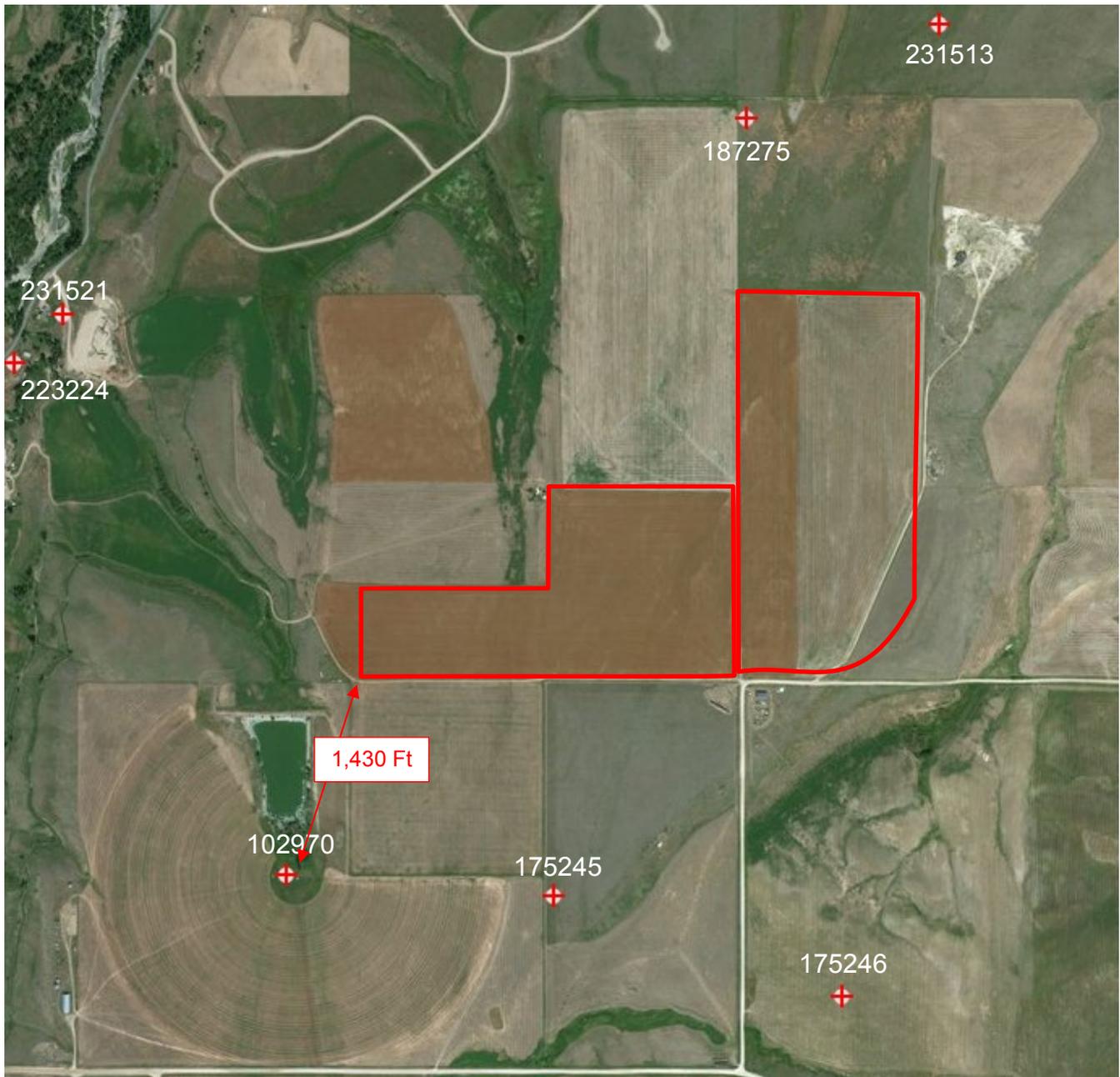
The Montana Bureau of Mines and Geology's Groundwater Information Center (GWIC) is DEQ's reference for well data in Montana. All wells documented by the GWIC when this EA was written were taken into account. Any well not documented in the GWIC is not included in this EA, but if wells are proven to be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

The GWIC database locates wells by section, and identified one well in Section 27 and two wells in Section 28. For the purpose of this EA, DEQ evaluated the GWIC's information on all wells within 0.5 miles of the proposed Site's boundary. Within this distance, wells are located in Sections 22, 32, 33, and 34.

Table 3.1 summarizes information for the wells that were identified in the vicinity of the Site. Because the data in the GWIC is based on well drillers' records, the details are not field verified for accuracy. Further, the contents of the GWIC database rely only on information from submitted drilling records; there may be additional wells in the area that are not contained in the database because the records were not submitted to GWIC. This analysis is based on the information contained in the GWIC database.

According to the GWIC's database, ground water in this area is located at an average of 17.4 feet below the ground's surface (bgs) . This is determined by averaging the documented static water levels (SWL) of the seven wells located nearest to the Site (in Sections 22, 27, 28, 32, 33, and 34). The Site sits at an elevation around 4,590 feet above sea level. The thickness of the alluvium deposits overlying the ground water aquifer is approximately 17 feet. The well log data shows there is a sandstone and/or shale layer at the (approximately) 18 bgs , with overlying topsoil of gravel, clay, and sand. While there is a limited amount of well data, the assumption can be made that the water table is beneath the six foot minimum required for septic land application sites location. Proposed activities will have no effect on ground water due to its deeper than required SWL.

**Figure 3.2: Location of Documented Water Supply wells within 0.5 miles  
(Site application boundaries outlined in red, wells in red circles, well # in white)**



**Table 3.1: Summary of Nearby Wells**

Township	Range	Section	Well Number	Total Depth	Static Water Level	Date Drilled	Proposed Use
5S	21E	22	231513	80	23	10/4/1966	Domestic
5S	21E	27	187275	100	12	9/16/2000	Domestic
5S	21E	34	175246	250	-	10/14/1999	Stockwater
5S	21E	33	175245	110	31	9/15/1999	Stockwater
5S	21E	28	231521	110	11	10/13/2006	Domestic
5S	21E	32	102970	35	10	3/19/1971	Stockwater
5S	21E	28	223224	200	-	12/31/2005	Domestic

*(Source: Montana Bureau of Mines and Geology, Ground Water Information Center)*

*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.*

Septage will be land applied in a wide, thin, even layer at a rate not exceeding the AAR, and will be incorporated into the soil surface's plow layer within six hours of application. As required, static water levels are greater than six feet below ground surface. Pumpings may not be applied within 100 feet of a drinking water source. The documented well nearest to the Site is well 102970, located 1,430 feet to the south. All static water levels in the wells closest to the Site are deeper than the required six-foot minimum, and farther than the 100-foot setback from the Site's boundaries. If any wells are drilled within the 100-foot setback, the Site will adjust its borders to maintain the setbacks. There is no anticipated impact to the ground water, or to ground water supplied wells, as a result of the proposed land application activities.

### 3.4 GEOLOGY AND SOILS

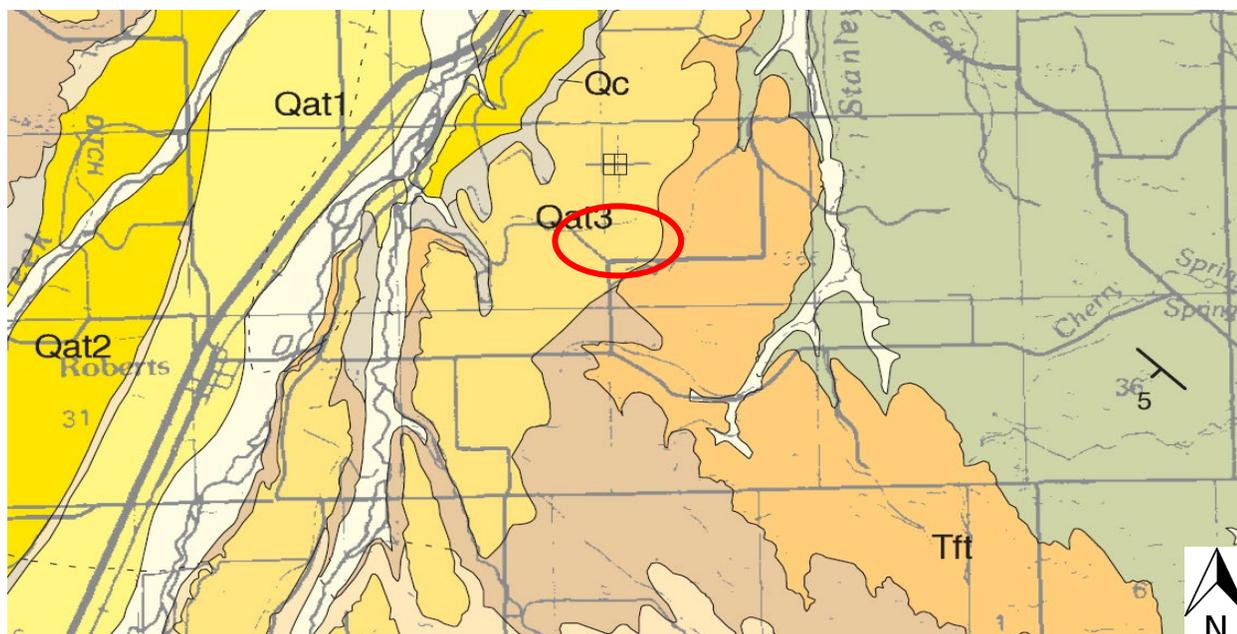
The geologic analysis area is the proposed 122-acre land application site. A discussion of regional geology, based upon published reports, is also provided. The geologic analysis methods included reviewing: onsite drilling information, publications of the Montana Bureau of Mines and Geology, the U.S. Geological Survey, and the U.S. Department of Agriculture's Natural Resource Conservation Service, along with associated geologic and soil maps, and drawings. A site visit was also conducted by DEQ to analyze the soils.

The Site is located in south central Montana, east of the town of Roberts. The Site sits in the valley located between the Beartooth Plateau of the Absaroka Range in the west, and the Pryor Mountains in the east. Late Cretaceous sandstones and shales, as well as Tertiary sediments of the Fort Union formation, can be seen in the area. Alluvium deposits from modern channels and floodplains, as well as alluvium from terraces in the area, overlie the sandstones and shales. The alluvium is typically composed of sands, gravels, loams, and clays.

The United States Department of Agriculture's (USDA) soil survey indicates the Site, on Robert Devries' property, is comprised of entirely Charlos loams. Charlos loams are typically on 0-2% slopes, and are formed from the sandy and gravelly alluvium of terraces. The profile of Charlos loam is usually seen as 0-6 inches of loam, 6-17 inches of clay loam, 17-30 inches of a very gravelly clay loam, and 30-60 inches of very gravelly sand. The soil is described as

having a well-drained property, and no frequency of flooding or ponding. The Charlos loam is typical for regions with 10-24 inches of annual precipitation, and is classified as prime farmland if irrigated.

**Figure 3.3: General Site Geology Map (Site location is in red)**



Source: Montana Bureau of Mines and Geology, *Geologic Map of the Red Lodge 30' x 60' Quadrangle, South-Central Montana*. 2001

**Qat3** is listed in the Map Unit as- Alluvium of third youngest alluvial terrace level

Paired with the increased growth of crops, the geology and soils of the Site provide for a high probability of success. The alluvium deposits resulted in soils that will respond positively to the proposed land application activities. The loams of the area will be infiltrated and store moisture as a result of the land application process. The spreading device will apply a thin, even layer of septage to the soil, which the loams will absorb quickly in the dry climate of the Site. The surface soils are very suitable for application, and, if applied correctly, there should be no ponding. In addition, septage will be incorporated within six hours of application. Septage land application activities will provide the moisture, nutrients, and tilth needed to increase crop production on the property. There are no anticipated negative impacts to the area's geology or soils from this proposed activity.

### 3.5 CLIMATE

The area analyzed for impacts to climate is the proposed 122-acre land application site. Analysis methods for climate included a site visit, and researching weatherbase.com's data (averages based on climate records collected over the past 60 years) for Roberts, Montana.

The climate in the area is typical of Montana, and is classified as warm summer continental climate, with typical winters being cold and dry. Table 3.2 summarizes precipitation data for Roberts, Montana. The annual precipitation averages 14.7 inches, with May being the wettest month at 2.9 inches. The least precipitation occurs during the winter, from December to

February. In Roberts, there is an average of 26.5 inches of snowfall each year. The average temperature in Roberts is 42 degrees; July is the hottest month with an average 80-degree temperature.

**Table 3.2**

**PRECIPITATION**

**Average Precipitation**

Years on Record: 60

	ANNUAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
in	14.7	0.5	0.5	0.9	1.8	2.9	2.2	1	1	1.4	1.3	0.7	0.5

**Average Number of Days With Precipitation**

Years on Record: 60

	ANNUAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Days	71	5	4	6	8	9	9	6	5	6	5	4	4

**Precipitation in Roberts, Montana**

Source: [www.weatherbase.com](http://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 two evaporation stations closest to Roberts, Montana show yearly averages of 47.56 and 41.27 inches per year. Data was recorded from 1911-2005, and shows the average pan evaporation rates for these two sites as approximately 44 inches per year. This data shows April to October as the typical months for evaporation to occur. This average of 44 inches per year proves the soils have significant capacity to absorb extra moisture outside of the annual precipitation rate of 14.7 inches per year.

Due to the extremely dry climate, the low average annual precipitation, and the high evaporation rate, the proposed activities will have a positive impact on the Site’s environment. The dry, hot months of June, July, August, and September correlate to the average Montana septic tank pumper business’ busy season. Dry soils, and crops will benefit from the additional moisture from septage land application activities, and will help the Site to flourish.

**3.6 AESTHETICS**

The proposed land application site is located within 674 acres of the Robert Devries’ property, on existing farmland. With setbacks, 122 acres is available for land application. No other development or grazing is anticipated at the Site. The Site is not located on a prominent topographical feature, nor is it visible from a highly populated area, although there are some homes in the area. The application of septage is like the day-to-day farming and ranching activities in the area, and will not cause a change in the area’s overall aesthetics.

The Site is not deemed a public nuisance. According to Montana Code Annotated (MCA), Section 27-30-101:

- (1) *Anything that is injurious to health, indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property, or that unlawfully obstructs the free passage or use, in the customary manner, of any navigable lake, river, bay, stream, canal, or basin or*

*any public park, square, street, or highway is a nuisance. (2) Nothing that is done or maintained under the express authority of a statute may be deemed a public or private nuisance.*

DEQ authorizes and regulates septic pumper land application activities through licensure, and therefore the activity is not a public nuisance. Non-compliance may lead to deterioration of the Site. However, inspections by state solid waste inspectors or local county sanitarians should prevent the Site from becoming a public nuisance,.

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. With proper management, odors will be minimized. While the presence of odors may be detectable during the land application activity, these odors are typically noticed only within close proximity. Wind is typical in the Roberts area and will quickly disperse odors from land application activities. Although DEQ does not regulate odors, the presence of odors outside the land application area could mean that wastes have been over-applied, or not incorporated as required. DEQ and/or the local county sanitarian would respond to odor complaints to determine if wastes have not been properly managed. There are no anticipated additional aesthetic impacts from the land application activities.

### **3.7 HUMAN HEALTH & SAFETY**

The analysis area for human health and safety is the 674 acres of Robert Devries property and the 122 acres within proposed for land application activities. The septage, portable toilet waste, grease trap waste, and graywater will be land applied at the Site using a screener and a dispersive mechanism. The dispersive mechanism applies waste in a wide, thin, even layer at a beneficial rate, and the screener prevents litter from being dispersed. Septage will be incorporated into the soil surface plow layer, with a tractor and tillage equipment, within six hours of application. The owner of this property does not have any livestock grazing these sites; they are used only for growing crops. If grazing were to occur, it would have to be 30 days after the last application, as required.

The proposed land application area is located on private property. Public access into the Site is controlled by multi-strand barbed-wire fences. All access roads to the Site are gated and marked with “No Trespassing” signs. When the Site is operated in accordance with state SDLL, there are no additional concerns. Therefore, no additional impacts on human health and safety are anticipated as a result of land application activities.

### **3.9. DEMAND FOR GOVERNMENT SERVICES**

The government resources that will be utilized for the oversight of the operation and maintenance of this Site would be the Carbon County Sanitarian, and DEQ’s Solid Waste Program (SWP). The Carbon County Sanitarian and SWP staff will conduct periodic inspections of land application activities at the Site. Volumes of waste applied at the Site from the land application process will also be monitored by DEQ staff, ensuring the AAR is not exceeded. Site inspections are a common, regular activity performed for all solid waste and septic tank pumper land application locations. Therefore, there is a minor impact to the demand for government services.

### **3.10 TRAFFIC**

CCS's service area operates in Carbon and Stillwater Counties. The Site will be accessed using Rolys Road, a road on the north side of Cherry Springs Road. Cherry Springs Road is located west of Roberts, MT. While the roads will be used by the applicant's pumper truck, Cherry Springs Road and Rolys Road currently support traffic to rural homes, farms, and ranches, including heavy equipment associated with the area's agricultural activities. Once off Rolys Road, the Site is accessed by private roads, which will be maintained by the applicant. There are no anticipated impacts to traffic as a result of the proposed land application activities, as there will not be a significant increase of traffic on Cherry Springs Road and Rolys Road.

## **4. CONCLUSIONS AND FINDINGS**

### **4.1. EVALUATION OF MITIGATION, STIPULATIONS, AND OTHER CONTROLS ENFORCEABLE BY THE AGENCY OR ANOTHER GOVERNMENT AGENCY**

The Site, and the operation and maintenance (O&M) plan will meet the requirements of the Montana Septage Disposal and Licensure Law, Air and Water Quality Acts, and other applicable Montana environmental laws and regulations, as well as county ordinances. Adherence to the regulations and the approved O&M plan will mitigate the potential for harmful releases and impacts to human health and the environment from the proposed activities at the Site.

### **4.2. FINDINGS**

MEPA requires state agencies to conduct an environmental review when making decisions or planning activities that may have a significant impact on the environment. MEPA, and the administrative rules promulgated under MEPA, define the process to be followed when conducting an environmental review. The final EA, prepared regarding CCS's application for a new land application site, complies with MEPA's procedural requirements.

SDLL recognizes that the health and welfare of Montana's citizens is endangered by improperly operated sites and unregulated disposal of wastes. The SDLL and associated Administrative Rules of Montana regulate septic tank pumpers and land application sites in order to protect public health and safety, and to conserve natural resources whenever possible (Section 75-10-202, MCA). The basic objective of land application site approval is to establish a site for the ongoing disposal of septage that provides nutrients, moisture, and organic matter to soils, enhancing vegetative growth.

The Site will be operated according to the land application regulations. The applicant will submit disposal records with the dates and times of land application and incorporation, and the general areas where septage is applied. The Site will also be inspected on a regular basis to verify compliance with the SDLL.

DEQ has determined that there are no significant impacts from this project that would require the preparation of an Environmental Impact Statement (EIS). Therefore, an EA is the appropriate level of environmental review. The impacts from this Site are not severe or geographically extensive. Issuance of the license would not set a precedent, or commit DEQ to future actions with significant impacts. Operation of the Site would not conflict with any local, state, or federal laws, requirements, or formal plans.

**5. OTHER GROUPS OR AGENCIES CONTACTED OR WHICH MAY HAVE OVERLAPPING JURISDICTION**

Stillwater 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

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