Montana Department of
ENVIRONMENTAL QUALITY

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Richard H. Opper, Director

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March 1, 2011

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Angie L. Koehler, 1025 View Rd, Helena, MT 59602-8132
Lynn M. & Terry L. Woods, PO Box 9526, Helena, MT 59604-9526

Ladies and Gentlemen:

To comply with the Administrative Rules of Montana, 17.4.607(2) and 17.4.609(2), the Department of Environmental Quality (Department), prepared the enclosed Environmental Assessment (EA). The attached EA is for the land application of grease trap wastes in Lewis and Clark County, Montana. Land application would occur at this site on an as-needed basis.

The purpose of the EA is to inform all interested governmental agencies, public groups, and individuals of the action and to determine whether or not the action may have a significant effect on human health and the environment. The Department will not make a licensing decision until at least thirty (30) days after publication of the EA. A copy of this EA may be viewed on the Department's website at http://deq.mt.gov/ea/SepticPumpers.mcpx.

If you wish to comment on this proposed action within the 30-day period, please do so in writing by mailing your comments to the Waste and Underground Tank Management Bureau, Solid Waste Program, P.O. Box 200901, Helena, MT 59620-0901, or by E-mail to mailbox *wutbcomments@mt.gov*.

If you have any questions or need additional information, please contact me at the Permitting and Compliance Division, Waste and Underground Tank Management Bureau, Solid Waste Section, (406) 444-1434 or e-mail renhill@mt.gov.

Sincerely,

Renai Hill
Environmental Science Specialist
Waste & Underground Tank Management Bureau

Enclosure: EA – Bob's Valley Service Inc
File: Lewis & Clark County/Bob's Valley Service Inc/S-1046

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Waste and Underground Tank Management Bureau
Solid Waste Management Section
Metcalf Building
PO Box 200901
Helena, MT 59620-0901

ENVIRONMENTAL ASSESSMENT

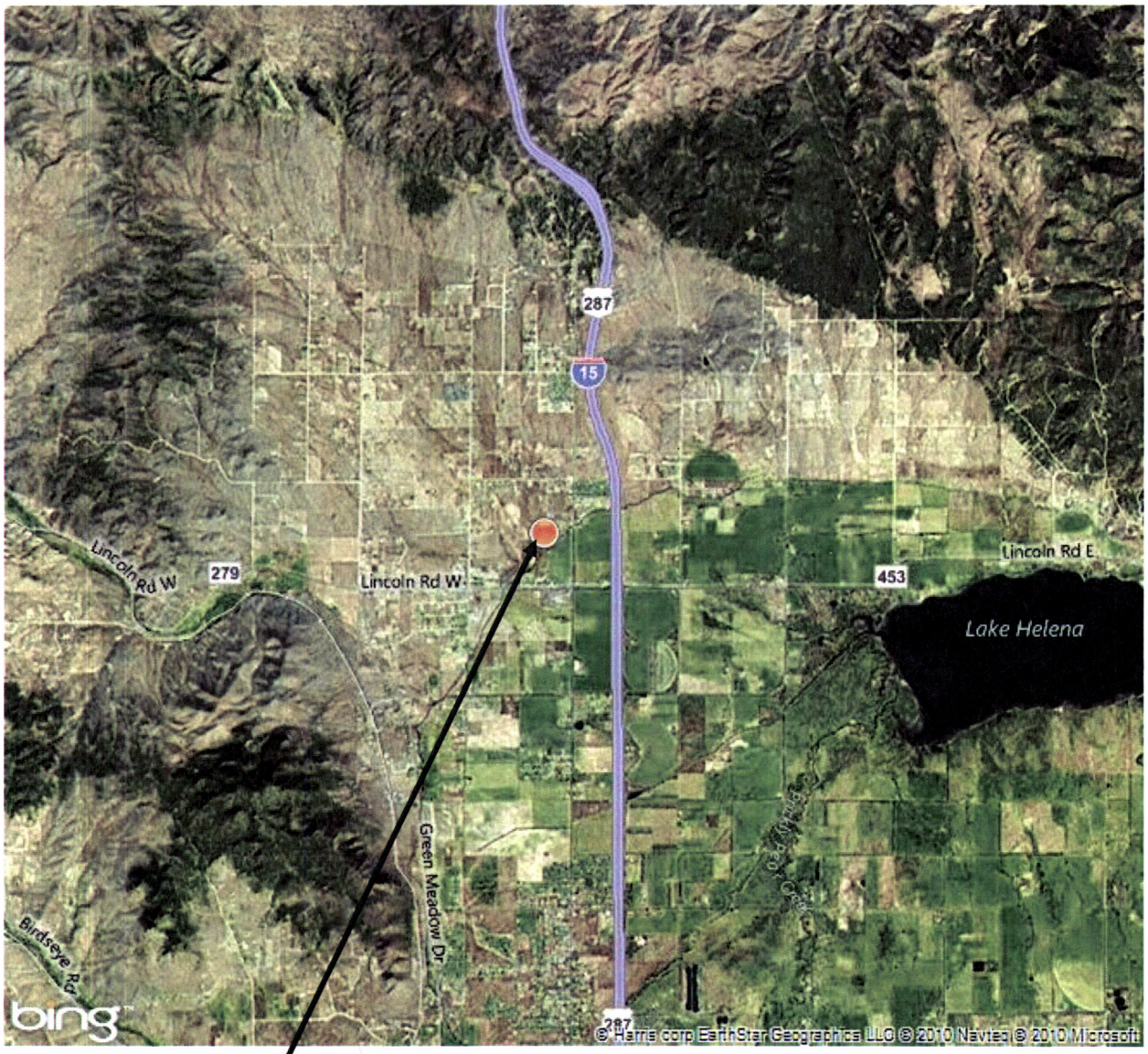
DESCRIPTION OF PROJECT – SUMMARY OF ANALYSIS:

Ms. Peggy Bartmess (applicant) of Bob's Valley Service Inc., doing business as Valley Septic, has submitted an application for the land application of grease trap waste in Lewis and Clark County. This Environmental Assessment (EA) will document environmental issues related to the land application of grease trap waste. The applicant proposes to land apply grease trap wastes on the Bob H. Bartmess Trust property in Lewis and Clark County. The proposed land application site is west of Bartmess Road on a parcel currently used as a pasture. Specifically, the site is located in the SE ¼ of Section 18, T11N, R3W, Lewis and Clark County, Montana (Figure 1). The Bob H. Bartmess Trust has designated 15-acres of the property for land application. The applicant will use 7.5-acres per year on a rotating basis for the land application of grease trap waste. Land application will occur at this site on an as-needed basis. Pumpings will be collected from commercial customers. The pumpings will be applied to the land using a dispersive mechanism and then tilled within 6-hours of application.

Benefits and Purpose of Project:
The land application of grease trap waste is an economical and environmentally sound practice and an alternative to wastewater treatment disposal in most areas in Montana. A properly managed land application program can benefit from the reuse of the organic matter in the waste without adversely affecting public health. The land application of grease trap waste is considered the beneficial use of a waste product when the material is applied in accordance with the laws and rules governing land application. The application of grease trap waste will enhance soil properties by increasing the soil organic matter content. The increase in organic matter will increase the soil moisture retention and improve the soil structure.

Site Geography:
The proposed land application site lies west of 7640 Barmess Road and north of the irrigation canal. No rivers, creeks, or ponds are located within the proposed 15-acre land application site. The proposed site is located approximately 517.26 feet from the irrigation canal. The proposed site has a slope ranging from 0 to 2%. (See Figure 2).

Figure 1 – Site Overview



Proposed Land Application Site

Setback Requirements:
The Administrative Rules of Montana (ARM) establishes minimum setback criteria for land application as follows:

ARM Reference	Site Setback - Disposal 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 ground water is 6-ft or less below ground surface.
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 agronomic rate 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 land surface so no significant amount remains on the land surface within one-hour of injection; • Incorporation into the soil surface 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 applicant proposes to utilize approximately 7.5-acres per year of the Bob H. Bartmess Trust property for land application. The 15 acres will be divided in half and will be rotated on an annual basis, so that parcels used one year will be inactive the next year. This rotation will ensure that over-application does not occur.

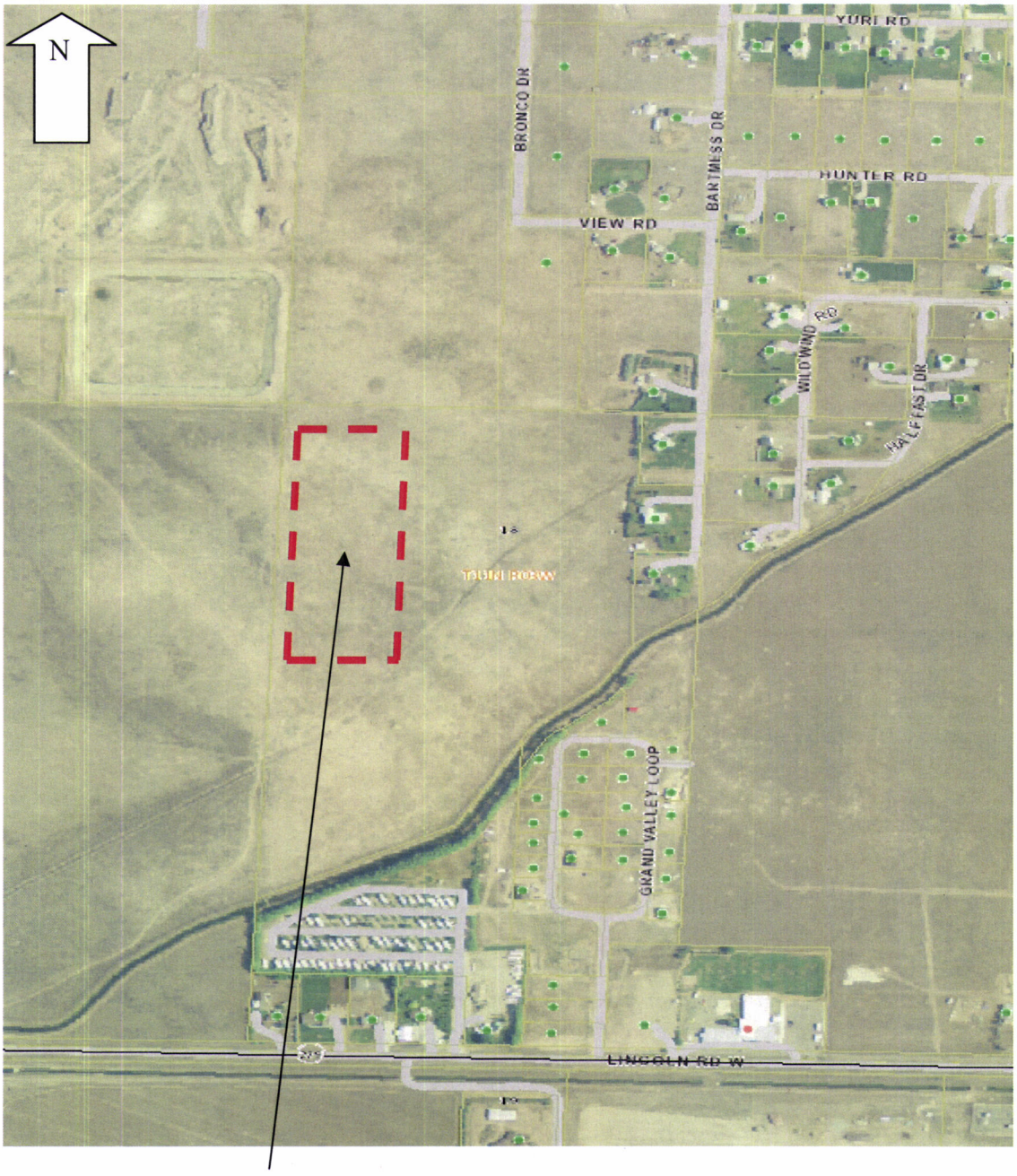


Figure 2: Proposed land application site boundaries

As shown in Figure 2, the proposed site is located greater than 500-feet from any occupied or inhabitable building, greater than 150-feet from a state surface water, greater than 100-feet from any state, federal, county, or city-maintained road, and greater than 100-feet from any drinking water supply.

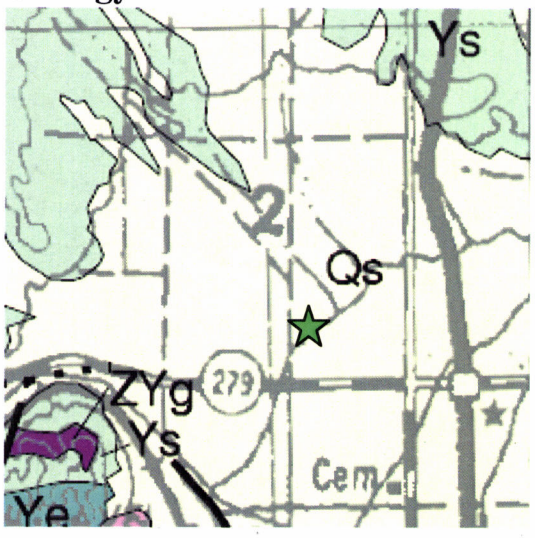
Site Operation and Maintenance:
Pumpings will be collected from commercial customers and land application will occur at the site on an as needed basis. The grease trap wastes will be land applied using a dispersive mechanism, such as a spreader bar or splash plate. The splash plate or spreader bar does not cause an aerosol of waste to be dispersed into the air, but rather causes the waste to be applied in a wide pattern, rather than a single, narrow, heavy stream. This is done to ensure that the material is applied evenly in a beneficial manner and not applied in excess. In addition, the dispersive mechanism will help minimize the potential for ponding or runoff by causing the material to be applied in a thin, even layer.

The grease trap wastes will be land applied and incorporated into the soil. A disk will be used within 6-hours of application and all non-putrescible litter contained in the grease trap waste will be removed from the site within 6-hours of application. The annual application rate (AAR) for grease trap waste at the site will be 16,000 gallons per acre per year. The licensee is required to maintain records of the volumes of waste being land applied. The Department of Environmental Quality (Department) requires the submittal of disposal records from all licensed pumpers on a semi-annual basis. In addition, Department staff regularly inspects land application sites for compliance with the site specific requirements and the laws and rules governing land application.

The AAR is based upon the use of the nitrogen and other nutrients by native grasses at the site. The land application site will be divided into two 7.5 acre fields. These fields will be rotated on an annual basis, so that the sites used one year will be inactive the next year, thereby allowing the vegetation to utilize the nitrogen and other nutrients added from the land application process.

General Geology and Hydrogeology:
The land application site is located on the Quaternary surficial sedimentary deposits (Qs) (Figure 3) in the north Helena Valley. The sedimentary deposits are alluvial fan and terrace gravels with some sand and clay. The sediments are underlain by Proterozoic metamorphic bedrock of the Spokane Formation.

Figure 3:
Geology



Map Units

- Qs — Surficial sedimentary deposits (Pleistocene and Holocene)
- ZYg — Gabbronic rocks (Middle of Late Proterozoic)
- Ye — Empire Formation (Middle Proterozoic)
- Ys — Spokane Formation (Middle Proterozoic)
- ★ — Site Location

Wells in the area around the land application site are typically 80 to 150 feet deep and are completed in the sedimentary deposits. These wells typically yield from 10 to 30 gallons per minute and have static water levels of 35 to 80 feet below ground surface.

The soil types at the land application site are classified as the Scravo gravelly loam, 0-2 percent slopes and the Nippt gravelly loam, 0-2 percent slopes. Both of these soils grade from gravelly loam near the surface to gravelly sand deeper in the profile. These soils are well drained with a very low available water capacity and moderately high to high permeability. The land application of the grease trap will enhance existing soil properties at the site by increasing the soil organic matter content. The soil microbes will utilize the waste materials as an energy source. The increase in organic matter is a result of the microbes consumption and processing of the material.

Figure 4: Soils

Map Units

9A	Scravo gravelly loam
406A	Nippt gravelly loam
413A	Attewan loam
	Site Location

Roles and Responsibilities:
The Department's Solid Waste Section is responsible for ensuring activities proposed under the Solid Waste Management Act are in compliance with the Act and with other State and Federal regulations. A land application site must be first approved by the county in which it is located, and then by the Department's Solid Waste Section, prior to being added to the license. Each licensee is responsible for following the Administrative Rules of Montana for Cesspool, Septic Tank and Privy Cleaners and other restrictions and requirements put in place by the county in which the land application site is located. Sites not approved by the county or local government authority are not approved by the Department.

ANALYSIS OF POTENTIAL IMPACTS

Description and analysis of reasonable alternatives whenever alternatives are reasonably available or prudent to consider:

The Department considered the following alternatives in the preparation of this EA:

Alternative A – No Action: Under the "no-action" alternative, the Department would not license the land application site as proposed because the applicant chose to withdraw its application. As a result, the applicant will be required to obtain the required approval for an alternative site.

Alternative B – Approve the Site: Approve the use of the land application site as proposed by the applicant. Several factors support the viability of this option:

1. This site meets all of the requirements of the Septage Disposal – Licensure (SDL) law. The site soils, slope, depth to ground water, approvals, and setback requirements have been met;
2. The site is fenced with access controlled by a locked gate; and,
3. All activities will be performed in accordance with an approved Operation and Maintenance Plan (O & M Plan), so the effects on human health and the environment are minimized.

Alternative C – Deny the Site: Under this alternative, the Department would deny the land application site as proposed. The site fails to meet the requirements of the SDL. As a result, the applicant will be required to obtain the required approval for an alternative site.

BASIS OF THIS EVALUATION:

Based on the information provided and Department's research on the area surrounding the proposed land application site, the potential environmental impacts of Alternative B were evaluated for the proposed project. The results of the Department's evaluation are summarized in the Appendix.

FINDINGS:

The Department finds that there would be little or no impacts to the physical and human environment if the grease trap waste is treated in a manner consistent with the rules and regulations. Therefore, an EA is the appropriate level of analysis and an Environmental Impact Statement is not needed. This treatment option is a beneficial reuse of a waste product.

RECOMMENDATION:

The recommendation of the Department is to distribute the EA and request comments from the public regarding the proposed land application site.

EVALUATION OF MITIGATION, STIPULATIONS, AND OTHER CONTROLS ENFORCEABLE BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY OR ANOTHER GOVERNMENT AGENCY:

The proposed land application site and O & M plan must meet the requirements of the Montana Septage Disposal-Licensure law, Air and Water Quality Acts and other Montana environmental laws and regulations as well as County ordinances. Obtaining the necessary approvals and remaining in compliance with these laws and regulations should minimize any adverse environmental effects. The required approvals are given by the Department after appropriate review of complete submittals, unless specified otherwise. The licensee will operate the site under the guidelines of the approved O & M Plan. Constant failure to operate within the constraints of the approved O & M Plan will result in Department Enforcement action which may include penalties and withdrawal of the site.

In accordance with ARM 17.50.815(7), 17.50.811(3) (a) or (b), and 17.50.810, the grease trap waste may be land-applied at an approved septage land-application site by either injection into the soil or by tilling into the soil within 6 hours of application. Grease trap waste land applied to frozen or snow covered ground must be managed in accordance with ARM 17.50.810 and must be incorporated into the soil as soon as the weather permits. The annual application rate for grease trap waste is 16,000 gallons/acre and field rotation is required annually to ensure over application does not occur.

Other groups or agencies contacted or which may have over-lapping jurisdiction:
Lewis and Clark County Health Department

Individuals or groups contributing to this EA:
Ms. Peggy Bartmess/Bob's Valley Service Inc dba Valley Septic.
Mr. Martin Van Oort/Solid Waste Program Hydrogeologist
Montana Natural Heritage Program
Montana Historical Society State Historic Preservation Office
Natural Resource Information System
Montana Bureau of Mines and Geology

"Process Design Manual, Land Application of Sewage Sludge and Domestic Septage", US Environmental Protection Agency, EPA/625/K-95/001
"Fertilizer Guidelines for Montana Crops", Montana State University Extension Service, Publication EB-161, January 2003
Lewis, R.S., compiler, 1998, Geologic map of the Butte 1 x 2 degree quadrangle, Montana Bureau of Mines and Geology: Open-File Report 363, 16 p., 1 sheet(s), 1:250,000.
Montana Tech of the University of Montana, 2011, Montana Bureau of Mines and Geology, Groundwater Information Center, http://mbmggwic.mtech.edu/
United States Department of Agriculture, 2011, Natural Resources Conservation Service, Web Soil Survey, http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm

EA prepared by:
Renai Hill - DEQ Permitting and Compliance Division, Waste and Underground Tank Management Bureau, Solid Waste Program

Date: March 1, 2011

APPENDIX

EVALUATION OF POTENTIAL ENVIRONMENTAL IMPACTS RELATED TO THE PROPOSED FACILITY

This section evaluates potential environmental effects that may occur if the land application site is licensed. **Bolded headings I and II** corresponds to Tables 1 and 2. The number on each of the underlined resource headings corresponds to one of the resources listed in the tables. Generally, only those resources potentially affected by the proposal are discussed. If there is no effect on a resource, it may not be mentioned in the appendix.

Direct and indirect impacts are those effects that occur in or near the proposed project area and might extend over time. Often, the distinction between direct and indirect effects is difficult to define, thus in the following discussion, impact or effect means both types of effects.

Cumulative impacts are restricted to the net effects of the proposed project because no other known projects are proposed in this area. Secondary impacts are induced by a direct impact and occur at a later time or distance from the triggering action. No secondary impacts are expected.

Table 1 - IMPACTS TO THE PHYSICAL ENVIRONMENT

PHYSICAL ENVIRONMENT	Major	Moderate	Minor	None	Unknown	Attached
1. TOPOGRAPHY: Are there unusual geologic features?				✔		
Will the surface features be changed?				✔		
2. GEOLOGY & SOIL QUALITY, STABILITY & MOISTURE: Are fragile, compactible, or unstable soils present?				✔		
Are there special reclamation considerations?				✔		
3. WATER QUALITY, QUANTITY & DISTRIBUTION: Are important surface or ground water resources present?				✔		
Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?				✔		
4. AIR QUALITY: Will pollutants or particulate be produced?				✔		
Is the project influenced by air quality regulations or zones (Class I airshed)?				✔		
5. DEMANDS ON ENVIRONMENTAL RESOURCES OR LAND, WATER, AIR OR ENERGY: Will the project use resources that are limited in the area?				✔		
Are there other activities nearby that will affect the project?				✔		
6. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other studies, plans or projects on this tract?				✔		
7. TERRESTRIAL, AVIAN, AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds, or fish?			✔			✔
8. VEGETATION COVER, QUANTITY & QUALITY: Will vegetative communities be permanently altered?				✔		
Are any rare plants or cover types present?				✔		
9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES: Are any federally listed threatened or endangered species or identified habitat present?			✔			✔
Any wetlands?				✔		
Any species of special concern?			✔			✔
10. HISTORICAL AND ARCHAEOLOGICAL SITE: Are any historical, archaeological, or paleontological resources present?				✔		✔
11. AESTHETICS: Is the project on a prominent topographical feature?				✔		
Will it be visible from populated or scenic areas?				✔		
Will there be excessive noise, light, or odors?				✔		
12. AGRICULTURE: Will grazing lands, irrigation waters or crop production be affected?			✔			✔

CUMULATIVE AND SECONDARY IMPACTS — The cumulative impacts from the proposed approval and licensure of the land application site are minor. The land application parcels will be rotated to facilitate the use of the nitrogen and other land applied nutrients for the production of native grasses. There are no recognized secondary impacts.

I. POTENTIAL IMPACTS OF THE PROPOSED LAND APPLICATION SITE ON THE PHYSICAL ENVIRONMENTS (See Table 1)

7.0 Terrestrial, Avian, and Aquatic Life and Habitats

There are no wetlands or permanent surface water bodies located on the proposed site. Because no continuously active aquatic systems exist within the boundary of the proposed site, it is unlikely that there is any significant aquatic life or habitat anywhere on the site. Therefore, the impact to aquatic species is negligible. There was no intensive survey performed to study the presence of or impact to terrestrial or avian species within the land application site. However, there is adequate acreage of similar habitat available in the vicinity of the site to accommodate any species that may be forced to relocate. Consequently, any terrestrial or avian species will likely relocate to the adjacent locations.

9.0 Unique, Endangered, Fragile, Or Limited Environmental Resources

A search of the Montana Natural Heritage Program indicated the Black-tailed Prairie Dog and Gray Wolf are listed as sensitive within a 5-mile radius of the site. There are no wetlands or permanent surface water bodies located on the proposed site. In addition, no intensive site survey was conducted to study the presence of or impact to sensitive, unique, endangered, or fragile species within or adjacent to the proposed land application site. Therefore, due to the sparse development and human population adjacent to the proposed site, there is adequate acreage of similar habitat available in the vicinity to accommodate any species that may be forced to relocate.

10. Historical and Archaeological Site

A cultural resource file search was conducted for the site. Records indicate there have been no previously recorded sites within Section 18, T11N, R3W. The State Historic Preservation Office feels as long as no disturbance or alteration to structures over fifty years of age that there is a low likelihood cultural properties will be impacted and therefore a cultural resource inventory is unwarranted at this time. However, should structures need to be altered or if cultural materials are inadvertently discovered during this project, the State Historic Preservation Office should be contacted and the site investigated.

12.0 Agriculture

Agricultural activities in the area consist primarily of grazing lands and non-qualified ag land. The grease trap waste from the pumper business will be land applied to the surface of the soil using an annual application rates. The impacts on agricultural production or grazing due to the proposed land application of grease trap waste at this site will be minor.

Table 2 - IMPACTS TO THE HUMAN ENVIRONMENT

HUMAN ENVIRONMENT	Major	Moderate	Minor	None	Unknown	Attached
1. SOCIAL STRUCTURES & MORES: Is some disruption of native or traditional lifestyles or communities possible?				✔		
2. CULTURAL UNIQUENESS & DIVERSITY: Will the action cause a shift in some unique quality of the area?				✔		
3. DENSITY & DISTRIBUTION OR POPULATION & HOUSING: Will the project add to the population and require additional housing?				✔		
4. HUMAN HEALTH & SAFETY: Will this project add to health and safety risks in the area?				✔		
5. COMMUNITY & PERSONAL INCOME: Will the facility generate or degrade income?				✔		
6. QUANTITY & DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs?				✔		
If so, estimate number.						
7. LOCAL & STATE TAX BASE REVENUES: Will the project create or eliminate tax revenue?				✔		
8. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads?				✔		
Will other services (fire protection, police, schools, etc.) be needed?				✔		
9. INDUSTRIAL, COMMERCIAL, & AGRICULTURAL ACTIVITIES & PRODUCTION: Will the project add to or alter these activities?				✔		
10. ACCESS TO & QUALITY OF RECREATIONAL & WILDERNESS ACTIVITIES: Are wilderness or recreational areas nearby or accessed through this tract?				✔		
Is there recreational potential within the tract?				✔		
11. LOCALLY ADOPTED ENVIRONMENTAL PLANS & GOALS: Are there state, county, city, USFS, BLM, tribal, etc., zoning or management plans in effect?				✔		
12. TRANSPORTATION: Will the project affect local transportation networks and traffic flows?				✔		

CUMULATIVE AND SECONDARY IMPACTS — There are no cumulative impacts recognized from the applicant's use of the proposed land application site. There are no recognized secondary impacts.

II. POTENTIAL IMPACTS OF THE PROPOSED LAND APPLICATION SITE ON THE HUMAN ENVIRONMENTS (See Table 2)

4.0 Human Health & Safety

The grease trap waste will be applied at the site on an as needed basis and tilled within 6-hours of application. There are no health or safety issues of concern with this type of waste when applied in accordance with the laws and rules of Montana.

8.0 Demand for Government Services

The local Health Department and DEQ will conduct periodic inspections at the site. No additional government services will be required.

12. Transportation

The land application site will be used on an as needed basis. The one pumper business proposing to use this site resides on the property and will not cause a significant increase in traffic on the roadway.