CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	Bob Peterson Pit
Proposed Implementation Date:	Spring 2017
Proponent:	Beaverhead County Road Department
Location:	Sections 23 & 26 – T3S-R16W (Capital Buildings Trust)
County:	Beaverhead

I. TYPE AND PURPOSE OF ACTION

The proponent has applied to the Department of Natural Resources and Conservation (DNRC) for a gravel permit from the section of State Trust Land noted in the title. The project is located in T3S-R16W-Sections 23 and 26. Gravel would be mined over approximately 20 years for various construction projects in the county. This assessment evaluates approximately 13.94 acres located in SW¼SE¼ of Section 23 and NW¼NE¼ of Section 26 of State of Montana land that would be permitted and mined. There is an existing gravel pit located on the privately owned land in SE¼SE¼ of Section 23. The proponent would reclaim the existing gravel pit on private land before mining in the proposed expansion mine area and build a new access road on state land. The existing gravel pit does cross into state land. The proponent was not aware of the land ownership boundaries. It appears the part of the existing gravel pit on state land had topsoil removed, but was not mined. The highwall of the existing gravel pit appears to be on the state land and private land ownership boundary. The location of the highwall limits the accessibility to the proposed expansion onto state lands, and the existing access road has a 17% grade. The proposed new road would enter the site from further west on Rock Creek Road and would have a 5% grade. The proponent would reclaim the existing gravel pit first before mining the proposed expansion. The proposed expansion area would be mined west to east. Please see the attached map.

The proponent estimates they would remove approximately 3,000 cubic yards per year from this gravel pit. Cubic yards removed per year can vary depending on demand for construction projects in the area. The proponent estimates that up to 134,000 cubic yards could be removed from this site over the life span of this pit.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

Provide a brief chronology of the scoping and ongoing involvement for this project.

Beaverhead County Road Department
State of Montana Department of Environmental Quality (DEQ): Opencut Mining Plan of Operation and Application #481
State of Montana DNRC: Surface and Mineral Owner. Dillon Unit Manager, Tim Egan. Minerals Management Bureau staff: Petroleum Engineer, Trevor Taylor, and Mineral Resource Specialist, Heidi Crum. DNRC Archeologist Patrick Rennie.
DNRC Surface lessee: Wisdom River Cattle Company

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

State of Montana DEQ – Opencut Mining Plan of Operation and Application #481
State of Montana DNRC – Sage Grouse Habitat Conservation Program

3. ALTERNATIVES CONSIDERED:

No Action Alternative: The proposed gravel permit would not be granted. Current non-motorized recreational use and grazing leasing would continue.

Action Alternative: The gravel permit would be granted to Beaverhead County Road Department to take and remove gravel from trust land.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" If no impacts are identified or the resource is not present.*

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify any cumulative impacts to soils.

The mining permit boundary is located on a terrace in the rolling hills on the west side of the Big Hole Valley. The terrace that will be mined has small drainages to the north and south. This site is composed of the Bozeman Group geologic formation from the Pliocene to Eocene eras. This formation contains sandstone and siltstone over limestone and marl intermixed with pebble and cobble. This formation can be over 4,000 meters thick in this location. No unique or unstable geology occurs at the proposed gravel pit site.

Soil types on the terrace where the gravel pit expansion would be are Philipsburg silt loam and Libeg-Tiban stony complex. The new access road would contain the Libeg-Adel complex and the Libeg-Tiban stony complex. The Philipsburg silt loam can have up to 32 inches of silt loam and clay loam over gravelly loams that are 32-60 inches deep. The Libeg-Tiban contains gravelly loams throughout the 60 inch soil profile. The Libeg-Adel complex is found on 8-15% slopes and contain an A horizon of loams over layers of gravelly loams.

According to Web Soil Survey website, the soils on this site have a slight to moderate erosion hazard potential and high restoration potential. These soils also have a good trafficability rating, even in wet conditions with heavy equipment used for mining.

The proponent found approximately 14 inches of topsoil in test pits dug on this site and would stockpile this material for reclamation. Final reclamation would take place by December 2035, unless the proponent files a DNRC approved amendment to change the reclamation date on DEQ Opencut Mining Permit #481.

The existing gravel pit located on privately owned land would be reclaimed before excavation on state land would begin.

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:
Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify cumulative effects to water resources.

A Groundwater Information Center search indicated there is one stockwater well located in Section 23. In Section 25 there are two stockwater and four domestic wells. Section 26 contains two stockwater wells. These wells are all located in the lower elevations of the area and are 30-95 feet deep. The mining permit boundary is on an upland terrace, which is approximately 200 feet higher in elevation from all of the surrounding wells. The proponent estimates the seasonal high water table on the terrace to be approximately more than 20 feet deep, and the maximum depth of mining would be 20 feet. The Groudwater Information Center has a hydrograph on file for SW¼NE¼ of Section 26, also an upland area, which indicates average static water levels to be 21 feet deep. This area of Section 26 could be comparable to the location of the proposed gravel pit.

Rock Creek, a perennial stream and tributary of the Big Hole River, is located 1.5 miles east of the proposed gravel pit. An unnamed, ephemeral tributary of Rock Creek is located 0.15 miles to the east of the proposed gravel pit. The Tovey/Jankee irrigation ditch runs parallel and to the west of this tributary 0.10 miles east of the proposed project. The Pentleton irrigation ditch runs parallel and to the east of this tributary, 0.3 miles east of the proposed gravel pit expansion. Both of these irrigation structures have water rights dating to 1889 with infrastructure installed in the 1980's.

The proponent would install berms on the site to prevent effects to surface water quality. Equipment would be fueled off-site. Any spills would be cleaned up immediately.

6. AIR QUALITY:
What pollutants or particulate would be produced? Identify air quality regulations or zones (e.g. Class I air shed) the project would influence. Identify cumulative effects to air quality.

An increase in airborne pollutants and particulates would occur from machinery during proposed gravel activities. Impacts to air quality are expected. The proponent plans to use this pit Monday through Friday, intermittently, for construction projects. A screen and grizzly would be moved on and off-site as needed. Excavating and hauling equipment including a dozer, dump truck, excavator, loader, scraper, backhoe and skidsteer would be moved on and off-site as needed. The proponent would mine from the existing gravel pit east to the proposed expansion. Additionally, the proponent would be responsible for dust control on all haul routes to the pit.

7. VEGETATION COVER, QUANTITY AND QUALITY:
What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify cumulative effects to vegetation.

According to the Montana Natural Heritage website, the proposed expansion area of the gravel pit contains Montane Sagebrush Steppe, and Low Sagebrush Shrubland ecological sites. This site is

located on uplands that are native rangeland. Species on this section includes mountain big sagebrush, rubber rabbitbrush, fringed sagewort, bluebunch wheatgrass, Idaho fescue, threadleaf sedge, Sandberg bluegrass, prairie junegrass, club moss, bitterroot and rose pussytoes.

A gravel mining operation would remove the vegetative community of the area being mined. The proponent would be required to stockpile all topsoil and subsoil for future reclamation. The proponent would use a seed mix that is approved by DEQ and the Sage Grouse Habitat Conservation Program in reclamation. This seed mix includes western wheatgrass, bluebunch wheatgrass, slender wheatgrass, Idaho fescue, Sandberg bluegrass, yarrow, and mountain big sagebrush.

The proponent would also be required by the DNRC gravel permit to spray weeds on the site during mining, and on reclaimed areas for a period of three growing seasons after the grass is seeded to help the vegetation get established. DNRC gravel permits are valid for two years, with optional renewal for the operators. DNRC staff complete site visits to gravel permits on a regular basis to ensure permittees are operating within the parameters of the gravel permit, including weed control.

The proponent would be required by DEQ Opencut Mining Permit to maintain a weed management control plan with Beaverhead County Weed District.

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:
Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.

A variety of big game, small mammals, raptors, coyotes, raptors, upland birds and songbirds use this area and activities from the proposed project could disrupt wildlife movement and patterns.

Grassland habitat would be removed with the proposed activities. The DNRC gravel permit would allow the proponent to mine 13.94 acres. The small size of the project should have minimal impacts on this large scale ecosystem for wildlife.

9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:
Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify cumulative effects to these species and their habitat.

A search was conducted using the Montana Natural Heritage Program (MNHP) database to identify point observations of species of concern in the section of the proposed activity. There are no point observations in sections 23 and 26. Point observations within 3 miles of the proposed projects are summarized here.

A point observation from 2000 documented a female Northern Goshawk (*Accipiter gentilis*) in Section 36, approximately 1.5 miles to the southeast of the proposed project. An adult female of this species was also documented in 2003 approximately 2.7 miles southwest of the proposed project.

Approximately 1.5-2 miles to the south of the proposed project there have been 4 point observations from 1989 documented in Section 34 for Lemhi Beardtongue (*Penstemon lemhiensis*).

A point observation from 1984 documented a Greater Sage Grouse (*Centrocercus urophasianus*), approximately 2 miles southwest.

Two miles to the south in Section 2-T4S-R16W, there are multiple a point observations from 2008-2013 of Bobolink (*Dolichonyx ooryzivorus*).

This project is located approximately 1.5 miles west of Rock Creek, habitat for Arctic Grayling (*Thymallus arcticus*).

This section is located within the Greater Sage Grouse general habitat area boundaries. A confirmed active lek is located 6.7 miles to the north of the proposed project in Section 22-T2S-R16W. The last high male count for this lek was 22, documented in February 2014. This project has been approved by the Sage Grouse Habitat Conservation Program.

10. HISTORICAL AND ARCHAEOLOGICAL SITES:
Identify and determine effects to historical, archaeological or paleontological resources.

A Class III cultural and paleontological resources inventory was conducted of the area of potential effect. Despite a detailed examination, no cultural or fossil resources were identified and no additional archaeological or paleontological investigative work is recommended. The proposed project will have No Effect to Antiquities as defined under the Montana State Antiquities Act. A formal report of findings has been prepared and is on file with the DNRC, the DEQ, and the Montana State Historic Preservation Officer.

The Tovey/Jankee irrigation ditch runs parallel and to the west of this tributary 0.10 miles east of the proposed project. The Pentleton irrigation ditch runs parallel and to the east of this tributary, 0.3 miles east of the proposed gravel pit expansion. Both of these irrigation structures have water rights dating to 1889 with infrastructure installed in the 1980's.

11. AESTHETICS:
Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify cumulative effects to aesthetics.

The proposed gravel pit site is located just off of Rock Creek Road, approximately 3.8 miles west of MT Highway 278 and 6.3 miles southwest of Wisdom, MT. The site is located on an upland bench that is approximately 200 feet higher in elevation than the valley floor. Aesthetics may be impacted as the pit would be visible from the rural residents in the area and traffic that utilizes Rock Creek Road.

Gravel pit excavation would occur Monday through Friday, 7:00a.m. to 7:00p.m., intermittently throughout the year.

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:
Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify cumulative effects to environmental resources.

The proposed project would have an impact on the land, approximately 13.94 acres of state land in Section 23 and 26. Reclamation would include contouring, reseeding and weed control to help restore the vegetation on the site.

The proponent would use an insignificant amount of water for gravel excavation as there would be no dewatering on-site, and would affect the air quality due to airborne dust particles resulting from mining activities and vehicles traveling to and from the gravel pit. The proponent would control dust on all access routes to help minimize degradation to air quality.

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:
List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

No other environmental documents were found that pertain to Sections 23 and 26 in T3S-R16W.

IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" If no impacts are identified or the resource is not present.*

14. HUMAN HEALTH AND SAFETY:
Identify any health and safety risks posed by the project.

No human and health safety risks were identified as a result of the proposed project other than the typical occupational hazards that coincide with mining operations. The proponent would be held liable for all risks to human health and safety.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:
Identify how the project would add to or alter these activities.

The proposed project is not expected to alter current or future industrial, commercial, and agricultural activities and production.

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:
Estimate the number of jobs the project would create, move or eliminate. Identify cumulative effects to the employment market.

The proposed project would not create, move, or eliminate jobs.

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:
Estimate tax revenue the project would create or eliminate. Identify cumulative effects to taxes and revenue.

None.

18. DEMAND FOR GOVERNMENT SERVICES:
Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify cumulative effects of this and other projects on government services.

None.

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:
List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

Beaverhead County weed control plan.

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:
Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify cumulative effects to recreational and wilderness activities.

None.

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:
Estimate population changes and additional housing the project would require. Identify cumulative effects to population and housing.

None.

22. SOCIAL STRUCTURES AND MORES:
Identify potential disruption of native or traditional lifestyles or communities.

None.

23. CULTURAL UNIQUENESS AND DIVERSITY:
How would the action affect any unique quality of the area?

None.

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:
Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify cumulative economic and social effects likely to occur as a result of the proposed action.

The existing grazing lease in Section 23 and 26 provides approximately $2,073.00 in annual revenue that goes to Capital Buildings. The proponent has provided $25 for a gravel permit and would pay $1.25 per cubic yard in royalties for this DNRC gravel permit. The proponent proposes to mine approximately 3,000 cubic yards per year, generating approximately $3,750.00 to Capital Buildings annually.

EA Checklist Prepared By:	**Name:**	Heidi Crum	**Date:**	6/16/17
	Title:	Mineral Resource Specialist		

V. FINDING

25. ALTERNATIVE SELECTED:

After reviewing the Environmental Assessment, I have selected the Action Alternative, to issue a Gravel Permit. I believe this alternative can be implemented in a manner that is consistent with the long-term sustainable natural resource management of the area and generate revenue for the common school trust.

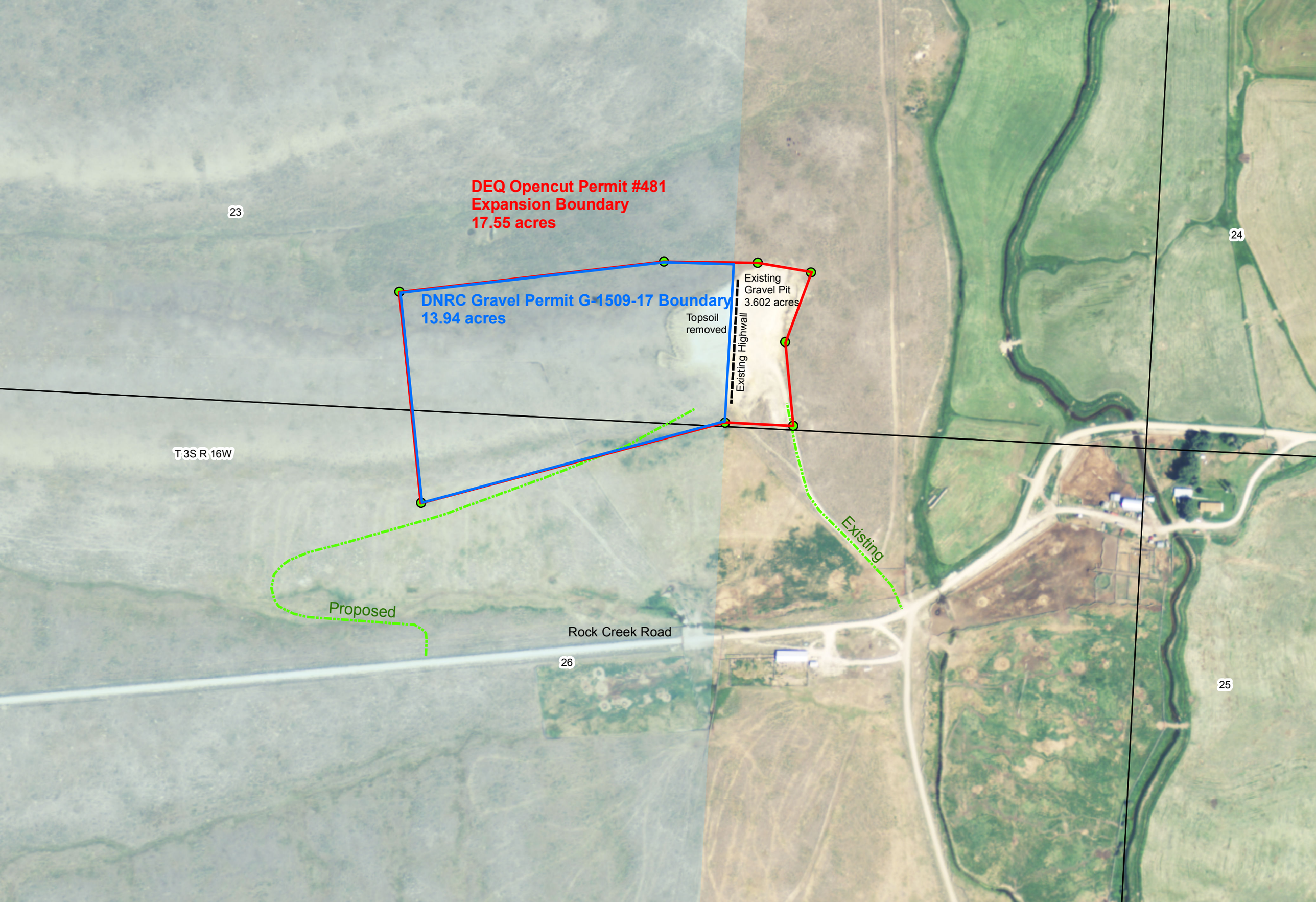
26. SIGNIFICANCE OF POTENTIAL IMPACTS:

I conclude all identified potential impacts will be mitigated by utilizing the stipulations listed below and no significant impacts will occur as a result of implementing the selected alternative.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

[ ] EIS [ ] More Detailed EA [X] No Further Analysis

EA Checklist Approved By:	Name: Trevor Taylor Title: Petroleum Engineer	
Signature:		Date: 6/16/17


DEQ Opencut Permit #481
Expansion Boundary
17.55 acres
DNRC Gravel Permit G-1509-17 Boundary
13.94 acres
Existing
Gravel Pit
3.602 acres
Topsoil
removed
Existing Highwall
23
24
25
26
T 3S R 16W
Proposed
Existing
Rock Creek Road