

ENVIRONMENTAL ASSESSMENT

On an Application for an OPENCUT MINING PERMIT

The Montana Department of Environmental Quality (DEQ) prepared this Environmental Assessment (EA) in accordance with requirements of the Montana Environmental Policy Act (MEPA). An EA functions to identify, disclose, and analyze the impacts of a proposed action. This document may disclose impacts that have no legislatively required mitigation measures, or over which there is no regulatory authority.

The state law that regulates gravel mining operations in Montana is the Opencut Mining Act. This law and the rules adopted thereunder place operational guidance and limitations on a project during its lifetime, and provide for the reclamation of land affected by opencut mining operations.

Local governments and other state agencies may have authority over different resources and activities under their regulations. Approval or denial of this Opencut Application will be based on a determination of whether or not the proposed operation complies with the Opencut Mining Act and the rules adopted thereunder. The DEQ approval of this application would not relieve the operator from the obligation to comply with any other applicable federal, state, or county statutes, regulations, or ordinances. The operator is responsible for obtaining any other permits, licenses, approvals, etc. that are required for any part of the proposed operation.

APPLICANT: Helena Sand and Gravel

COUNTY: Golden Valley

SITE NAME: Quad 5 Borrow Pit

DATE: March 2013

LOCATION: Section 20, T7 N, R20 E

PROPOSAL: The applicant proposes to permit a new, short-term gravel pit to mine, stockpile and transport 40,000 cubic yards of gravel from an 18.1-acre site located ~3.5 miles north of Ryegate, MT. There is a current ~0.6 acre unpermitted opencut disturbance with a highwall length of ~200 feet and a height of ~3-8 feet which will be reclaimed with the rest of the site.

A reclamation bond would be held by DEQ to ensure that final reclamation of the site to Rangeland/Pasture would be completed by June, 2015.

This application contains all items required by the Opencut Mining Act and its implementing rules. Proponent commits to properly conducting opencut operations and would be legally bound by the permit.

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	POTENTIAL IMPACTS AND MITIGATION MEASURES
1. TOPOGRAPHY, GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:	<p>The site consists of several gravel rich ridges with intermittent ephemeral drainages. The site contains these ridges and drainages entirely.</p> <p>The majority of the mine level area is contained within a gravel deposit consisting of fine to medium grained gravel, sand and silt resulting from erosional deposition during the Quaternary or Tertiary periods. The facility level area is contained within the Bearpaw shale deposit and consists of weathered clay shale and was deposited during the Cretaceous period.</p> <p>The onsite soils consist of loams in the mine area and silty clay loams in the facility area. The operator will replace 12 inches of soil in the mine level area and 18 inches of soil in the facility level area.</p> <p>The site receives approximately 12-13 inches of precipitation per year.</p>

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	<p><i>Impacts:</i> An irreversible and irretrievable removal of gravel from the site would occur. A small impact to the quantity and quality of soils from salvaging, stockpiling, and resoiling activities also would occur, but this would not impair the capacity of the soils to support full reclamation. There are no unusual topographic, geologic, soil, or special reclamation considerations that would prevent reclamation success.</p>
<p>2. WATER QUALITY, QUANTITY AND DISTRIBUTION</p>	<p>There is a small un-named lake 2,000 feet to the southwest, and Careless Creek is located 1,500 feet to the north. Water will be used on site for dust control and will be obtained from a source greater than 1,000 feet from the site.</p> <p><i>Impacts:</i> The proposed activities would have a minimal effect on the quantity and quality of the surface and groundwater resources.</p> <p><i>Cumulative:</i> The cumulative impacts on the quantity and quality of the surface and groundwater resources would be negligible.</p>
<p>3. AIR QUALITY</p>	<p>Air quality standards are based upon the Clean Air Act of Montana and pursuant rules and are administered by the DEQ Air Resources Management Bureau (ARMB). Its program is approved by the Environmental Protection Agency (EPA). These rules and standards are designed to be protective of human health and the environment.</p> <p>Air quality permits would be required on the processing equipment before installation. Machinery, such as generators, crushers and asphalt plants, are individually permitted for allowable emissions. Best Available Control Technology (BACT) is the usual standard applied.</p> <p>Fugitive dust is that which blows off the pit floor, stockpiles, gravel roads, farm fields, etc. It is considered to be a nuisance but not harmful to health.</p> <p><i>Impacts:</i> Air quality standards as set by the federal government and enforced by the ARMB would allow minimal detrimental air impacts.</p>
<p>4. VEGETATION COVER, QUANTITY AND QUALITY</p>	<p>There are no known rare or sensitive plants or cover types present in the site area. Onsite vegetation consists of smooth brome, sagebrush, winterfat, prickly pear cactus, yucca, various mosses and lichens, rough fescue and Dahurian wildrye; and provides approximately 60-70% cover. The vegetation would be removed as soil is stripped and the site would be replanted with plant species compatible with the proposed reclaimed use.</p> <p><i>Impacts:</i> No long term detrimental impacts to the vegetation would occur.</p>
<p>5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:</p>	<p>Although the area is used primarily for pasture, it also supports populations of deer, rodents, song birds, coyotes, foxes, raptors, insects and various other animal species. Population numbers for these species are not known.</p> <p><i>Impacts:</i> The proposed mine is expected to temporarily displace some individual species and it is likely that the site would be re-inhabited following reclamation to similar habitat.</p>
<p>6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:</p>	<p>The Montana Natural Heritage Program (MNHP) lists the following 4 species of concern in the vicinity of the site:</p> <p>Ferruginous hawk (<i>Buteo regalis</i>) is a large bird of prey. Most of Montana is summer range for this raptor. Fall migration begins in August and continues into early September. Young birds will migrate south earlier than, and independent</p>

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	<p>of adults. The habitat of this hawk is described as mixed-grass prairie, shrub-grasslands, grasslands, grass-sagebrush complex, and sagebrush steppe.</p> <p>Greater sage-grouse (<i>Centrocercus urophasianus</i>) is the largest of Montana's grouse. Both sexes have relatively long, pointed tails, feathered legs, and mottled gray-brown, buff, and black plumage. In Montana, it ranges primarily in the southwestern and eastern portions of the state. This species does not migrate. Sagebrush is its preferred habitat.</p> <p>Northern Redbelly Dace (<i>Phoxinus eos</i>) is a Montana small minnow. Its maximum size is about 3 inches. The Northern Redbelly Dace is olive to dark brown above; the lower side and belly are yellow or silvery except on adult males during summer when the lower side is red. Northern Redbelly Dace are found in clear, cool, slow-flowing creeks, ponds and lakes with aquatic vegetation, including filamentous algae, and sandy or gravelly bottoms interspersed with silt. As with many small native stream fishes, Northern Redbelly Dace could be adversely affected by stream channelization, reductions to discharge, changes in water quality and temperature, and introductions of non-native predatory fishes.</p> <p>Northern Redbelly X Finescale Dace (<i>Phoxinus eos x phoxinus neogaeus</i>) The northern redbelly x finescale dace hybrid is a Montana Fish Species of Special Concern that was placed on the species of concern list due to its rarity and unusual form of genetic reproduction. Northern redbelly dace prefer quiet waters from beaver ponds, bogs and clear streams. The finescale dace likes similar habitat but is also found in larger lakes. Further inventory is needed to better define <i>Phoxinus</i> spp. distribution in Montana.</p> <p><i>Impacts:</i> None of the listed species have been found on this site. Even if suitable habitat did exist on this site, the disturbance area would be small and large areas of similar or identical habitat surrounds the site. The possible impact to these species would be minimal.</p>
7. HISTORICAL AND ARCHAEOLOGICAL SITES	<p>The Montana State Historic Preservation Office (SHPO) was notified of the application. It reported that no sites have been discovered previously within the designated search locale. A pedestrian survey of the area by DEQ personnel did not reveal any artifacts or signs of occupation. No signs were evident at depth in the previously disturbed area. SHPO does not feel that a cultural resource inventory is warranted at this site at this time.</p> <p><i>Impacts:</i> If during operations resources were to be discovered, activities would be temporarily moved to another area or halted until SHPO was contacted and the importance of the resources was determined.</p>
8. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY	<p>There are no unusual demands on land, water, air or energy anticipated as a result of this project.</p> <p><i>Impacts:</i> Negligible impacts to land, water, air, or energy would occur.</p>

IMPACTS ON THE HUMAN POPULATION	
RESOURCE	POTENTIAL IMPACTS AND MITIGATION MEASURES
9. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS	Golden Valley County zoning clearance has been obtained. Site is not zoned.
10. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING	As seen on the aerial photo of the surrounding area, there are no nearby residences. Quad Five Ranch is located ~1,000 feet to the north; there are no other residential or commercial properties near the <i>Impact:</i> This commercial pit is being sited in this area because of the location of the resource, and to provide resources for an MDT project.
11. AESTHETICS	The site is located in a common pasture/rangeland area. There would be a temporary alteration of aesthetics while mining is under way. However, reclamation would return the area to a visually acceptable landscape. This project is considered to be short-term, i.e., planned to take less than five years to complete.
12. QUANTITY/ DISTRIBUTION OF EMPLOYMENT	Existing employees would mainly be utilized for this operation. There is low potential that this project would create a significant number of new jobs. <i>Impacts:</i> New employment opportunities would be limited.
13. INDUSTRIAL, COMMERCIAL, AGRICULTURAL ACTIVITIES AND PRODUCTION	The acreage listed in the proposal would be taken out of pasture/rangeland use. Upon completion of mining, the land would be reclaimed to pasture/rangeland. <i>Impacts:</i> Pasture/rangeland production would be reduced as soil stripping and operations progress across the site. When the entire site is opened up for mining and mine-related activities, all pasture/rangeland activities would cease, but would be restored as the site is reclaimed.
14. LOCAL, STATE TAX BASE AND TAX REVENUES, PERSONAL AND COMMUNITY INCOME	Local, state and federal governments would be responsible for appraising the property, setting tax rates, collecting taxes, etc., from the companies, employees, or landowners benefitting from this operation. Following reclamation, it is assumed the tax base would revert to pre-mine levels.
15. DEMAND FOR GOVERNMENT SERVICES	Limited oversight by DEQ Opencut Program personnel would be conducted in concert with other area activity when in the vicinity.
16. HUMAN HEALTH AND SAFETY	Any industrial activity will increase the opportunities for accidental injury. There are agencies that require specific safety measures are in place. If followed there is no reason to believe that significant safety issues would be present.
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES	This activity would not inhibit the use of the identified resources.
18. NATIVE CULTURAL CONCERNS	<i>Impacts:</i> None identified.

19. Alternatives Considered:

- A. Denial Alternative: The Department would deny an application that does not comply with the

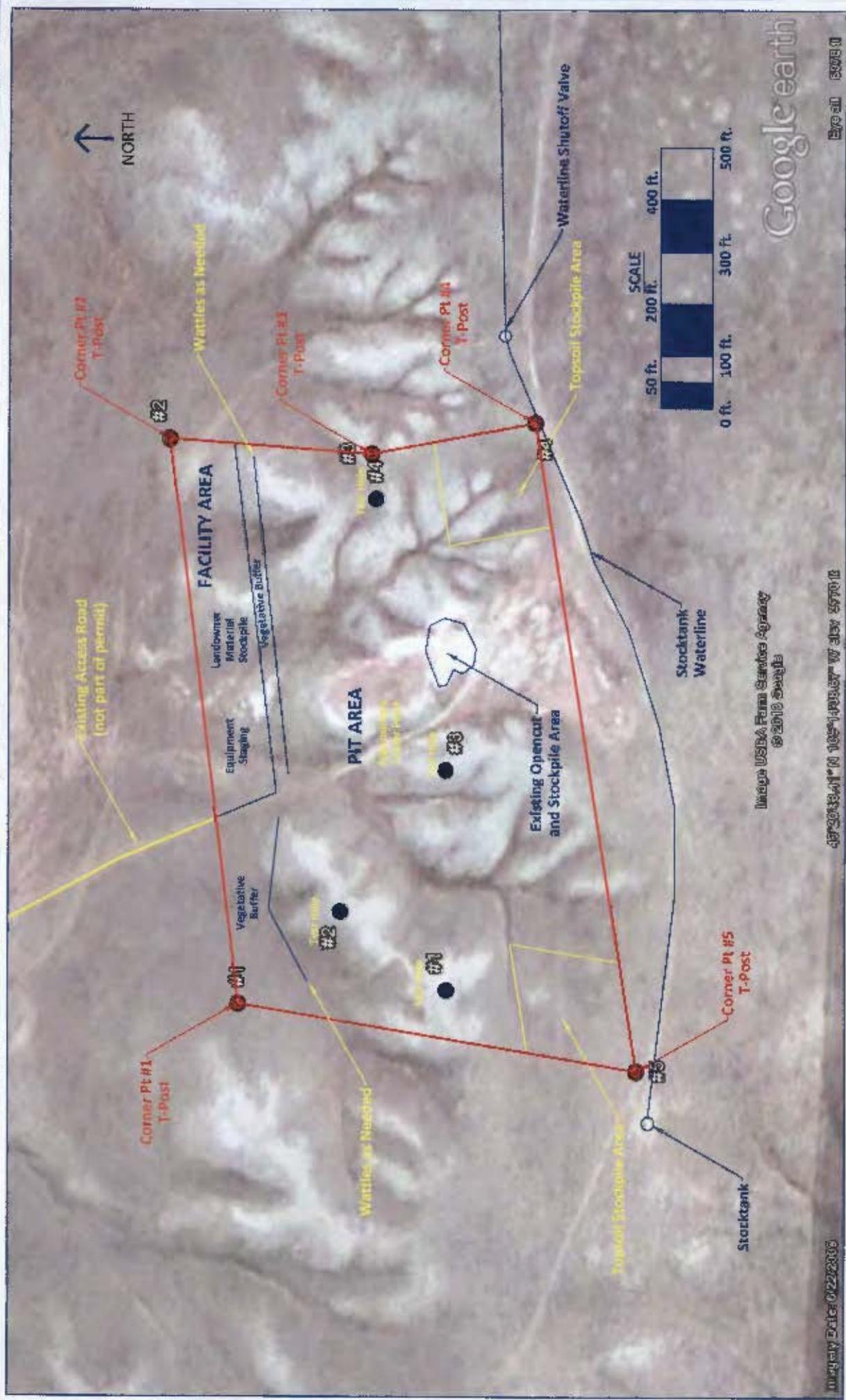
PRIVATE PROPERTY ASSESSMENT ACT (PPAA) CHECKLIST

DOES THE PROPOSED AGENCY ACTION HAVE TAKINGS IMPLICATIONS UNDER THE PPAA?

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deprive the owner of all economically viable uses of the property?
	X	4. Does the action deny a fundamental attribute of ownership?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? (If answer is NO, skip questions 5a and 5b and continue with question 6.)
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property?
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally? (If the answer is NO, skip questions 7a-7c)
		7a. Is the impact of government action direct, peculiar, and significant?
		7b. Has the government action resulted in the property becoming practically inaccessible, waterlogged, or flooded?
		7c. Has the government action diminished property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?

Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b.

If taking or damaging implications exist, the agency must comply with § 5 of the Private Property Assessment Act, to include the preparation of a taking or damaging impact assessment. Normally, the preparation of an impact assessment will require consultation with agency legal staff.



SEC 20, TOWNSHIP 7N RANGE 20E
 DATE DRAWN: 01-22-13
 REVISION DATE: 03-04-13

SITE MAP DESCRIPTION: HELENA SAND AND GRAVEL, INC. QUAD 5 BORROW PIT RYEGATE, MT



Image: USDA Farm Service Agency © 2010 Google

43°30'33.41"N 103°14'03.57"W elev: 5770.10

Image Date: 0/22/2005

REVISIONS
 1. Add Stocktank and Stocktank Waterline
 2. Add Existing Openout and Stockpile Area
 3. Add Vegetative Buffer Areas

REV.