

DRAFT CHECKLIST ENVIRONMENTAL ASSESSMENT

COMPANY NAME: Valley Sand and Gravel, LLC, 7510 Applegate Drive, Helena, MT 59602

PROJECT: Quarry operation with rock crushing.

PERMIT OR LICENSE: Operating Permit Application

LOCATION: The proposed site is about 11 miles north of Helena, MT in portions of Section 26 and 35, Township 12 North, Range 4 West. (Figures 1 and 2)

COUNTY: Lewis and Clark

PROPERTY OWNERSHIP: [] Federal [] State [X] Private

TYPE AND PURPOSE OF ACTION: Valley Sand and Gravel (VSG) has proposed expanding a quarry and rock crushing operation covered under a Small Miner's Exclusion Statement (SMES). This proposed expansion would exceed the acreage allowed under an SMES, and therefore an Operating Permit must be obtained. The crushed rock would be used for road base material and concrete mix. The quarry would be excavated using heavy equipment such as excavators, loaders, and dozers, as well as screening equipment. Some blasting may occur. The excavated areas would be sloped and contoured to blend in with the surrounding areas.

Soil would be salvaged ahead of quarrying, and after clearing of areas used for waste rock disposal, and internal road construction. The average depth of soil is four to eight inches over most of the proposed permit area. Salvaged soil would be used for reclamation with a minimum replacement depth of six inches. The soil would be placed over fill consisting of subsoil and fines. The soil would then be seeded with an approved seed mix. Soil stockpiles that remain inactive for more than one year would be shaped and seeded.

Existing roads would be used to access the proposed quarry site. Access roads for public use have been established through state land, and border the site to the north and west (Figure 1). A road connects Applegate Drive with Diamond Springs Road, providing access to property owners and state land in the area. Mining would take place alongside the boundary of this road, eliminating the need for additional access road construction.

A storm water plan has been submitted to DEQ. No chemical use is proposed, and there would be no wash plants or tailings ponds constructed on the site. Water from a well located on site would be monitored and used to control dust.

There is no surface water within the proposed permit area. Stormwater would be controlled through the use of silt fences and straw bales. Crushed rock may be washed with water from the supply well. This water would then be routed to a settling basin. A water truck would be used for dust suppression. Water for the truck would be supplied by the well.

Mining, screening, or crushing operations would take place during daylight hours from 8 AM to 5 PM Monday through Friday and from 8 AM to 4 PM on Saturday and/or Sunday during summer months. Summer months are defined as those months during which children are not attending public schools. Operating hours would change to 8 AM to 8 PM from Monday through Friday and 8 AM to 4 PM on Saturday and/or Sunday during winter months.

A certified, licensed blaster would conduct all blasting at the site. A pre-blast survey would be conducted for any resident or owner of a dwelling or structure within one half mile of the permit boundary, if requested by the resident or owner. Pre-blasting surveys would also be used to identify general water quality and quantity of

area wells. Wells damaged by blasting to the point of inadequate performance as identified by DEQ would be replaced.

Fuel would not be stored on site, nor would wastes such as concrete, asphalt, or used tires. Trash would be hauled out and disposed properly. VSG would not dispose of solid wastes on site unless an appropriate solid waste management system license is first obtained.

All spills over 25 gallons would be reported to the Department of Environmental Quality (DEQ) Enforcement Division. The State Fire Marshall shall be notified of any spills of flammable materials.

DEQ must prepare an Environmental Assessment (EA) as the quarry and associated facilities would exceed the disturbance limitations listed in a Supplemental Programmatic Environmental Assessment (SPEA) completed by DEQ for rock collecting sites and quarries in 2004. The site proposed by VSG meets all requirements under the SPEA except the disturbance cannot be kept below five acres disturbed and unreclaimed at any one time.

N = Not present or No Impact would occur.

Y = Impacts may occur (explain under Potential Impacts).

N/A = Not Applicable

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACT AND MITIGATION MEASURES
<p>1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE: Are soils present which are fragile, erosive, susceptible to compaction, or unstable? Are there unusual or unstable geologic features? Are there special reclamation considerations?</p>	<p>[Y] The quarry site is located in the north hills of the Helena valley within the rocks of the Belt Supergroup (Belt). The Belt is an assemblage of thick units composed of fine-grained clastic rock and some subordinate carbonate rock. The original Belt rocks were partially recrystallized to form a dense, hard consolidated rock. The northern portion of the proposed permit area is mapped as Spokane Formation of Middle Proterozoic age composed of a reddish siltite and argillite, with thin beds of quartzite. The southern portion of the proposed permit area is mapped as surficial sedimentary deposits of the Eocene through Pliocene Epochs. The deposit includes brown, tan, and gray, poorly sorted, unstratified sandy and silty gravels in a layer three to seven feet thick on an extensive erosional pediment surface. Removal of the geologic deposits for construction products is an unavoidable impact of quarry development.</p> <p>Soils in the northern permit area are shallow to bedrock. Hard, fine-grained Belt rocks typically weather to fine sandy or loamy soils with a high percentage of coarse fragments. The soils are moderately to rapidly permeable and are composed of shallow residual or colluvial soils developed on moderately sloping to steep ridges of thinly-bedded argillite. They are well-drained with medium runoff and moderate permeability. Depth to bedrock is 4 to 20 inches and the coarse fragment content is 50 to 80 percent. The A-horizon is less than 5 inches thick with the B-horizon ending at a depth of 13 inches.</p>

IMPACTS ON THE PHYSICAL ENVIRONMENT

	<p>Soils in the proposed south quarry area formed in alluvium from mixed Belt rocks on fans, terraces, and foothills. They are deep and well drained with medium runoff and moderate to rapid permeability. Coarse fragment content is 15 to 40 percent in the A horizon, increasing to 40 to 80 percent at depth. Coarse fragments consist of rounded or subangular gravels, cobbles, and stones. The A-horizon is about 4 inches deep while the B-horizon ends at a depth of about 40 inches.</p> <p>Soils having over 50 percent coarse fragments by volume are suitable for placement on slopes in excess of 8 percent grade. Soils having less than 50% percent coarse fragments would be stockpiled separately and used on slopes of less than 8 percent grade.</p> <p>The thin A-horizon supports sagebrush, cactus, and native cool season perennial grasses. Salvaging and stockpiling soils for reclamation after quarrying is completed would accelerate new soil development on reclaimed areas. Soil disturbance is an unavoidable impact of quarrying activities. These soils are susceptible to wind erosion when exposed. The small size of the disturbances would limit soil loss. During periods of extreme drought, reclamation seeding may fail with some resulting loss of soil. Areas that do not revegetate would be reseeded until vegetation is successfully established and the reclamation bond is released.</p> <p>The company has proposed salvaging 6 inches of soil for reclamation. The DEQ would stipulate that 12 inches of soil would be salvaged where feasible to improve reclamation success on the site and improve productivity of the reclaimed plant community.</p>
<p>2. WATER QUALITY, QUANTITY AND DISTRIBUTION: Are important surface or groundwater resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?</p>	<p>[Y] There is no surface water in the proposed permit area. However, dry ravines are present. A storm water control plan would be implemented that would consist of a series of sediment ponds that would limit the amount of sediment leaving the permit area. Storm water would be routed as necessary at the edge of where excavation would occur towards sediment control ponds. A total of three sediment control ponds would be constructed; two in the north and one in the south.</p> <p>The proposed maximum depth of excavation in the southern quarry is 35 feet. The water supply well located in this section has a static water level of 40 feet. In the northern section, quarrying will lower the profile of the hill by 65 to 75 feet. Depth to groundwater beneath the north hill is anticipated to be greater than in the southern quarry area, and impacts to groundwater are not expected.</p>

IMPACTS ON THE PHYSICAL ENVIRONMENT

	<p>Impacts from petroleum product spills and herbicide use to control weeds would be limited by the distance from water. A water supply well associated is located within the proposed permit area. The existing well is 200 feet deep with a static water level of 40 feet below the top of the casing.</p> <p>A drainage pattern and diversions would be created to function similarly to the existing dry ravines. There would be some rerouting within the permit area but runoff would outlet in the same locations as premining. Some water would be retained in the northern sediment ponds postmining as the ponds would be designed to contain about 0.16 ac-ft of runoff. Runoff would be contained in the south area postmining due to the depth of excavation. This water would be allowed to infiltrate into groundwater.</p> <p>The DEQ would stipulate that the depth of excavation in the proposed south quarry be limited to 35 feet below the natural ground surface to avoid interception of groundwater.</p> <p>A certified, licensed blaster would conduct all blasting at the site. A pre-blast survey would be conducted for any resident or owner of a dwelling or structure within one half mile of the permit area, if requested by the resident or owner. Pre-blasting surveys would also be used to identify general water quality and quantity of area wells. Wells damaged by blasting to the point of inadequate performance as identified by DEQ would be replaced. The operator would have to comply with all blasting regulations.</p>
<p>3. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?</p>	<p>[Y] There would be dust produced by these operations due to travel on unpaved roads commonly found in the area, as well as from the crushing operation and various stockpiles. The crusher would have an approved air quality permit from DEQ. Soil stockpiles that would remain for more than one year would be shaped and seeded. The agencies would stipulate that soil stockpiles are seeded immediately after each soil stripping campaign before the soil becomes crusted and weeds can germinate. DEQ would also stipulate that all road berms and other miscellaneous disturbances be seeded to control dust and limit noxious weed invasion.</p> <p>Materials to be screened would have dust suppressed through use of spray bars or a water truck. A water truck would be available to assist the County with watering on Applegate Drive as well as some watering on the private road that extends beyond the end of Applegate Drive.</p>
<p>4. VEGETATION COVER,</p>	<p>[Y] The native plant communities that would be impacted are common</p>

IMPACTS ON THE PHYSICAL ENVIRONMENT

<p>QUANTITY AND QUALITY: Will vegetative communities be significantly impacted? Are any rare plants or cover types present?</p>	<p>in this arid environment and consist predominately of Douglas-fir, Ponderosa pine, and foothills prairie species. Disturbance of these native plant communities is an unavoidable impact of quarrying activities. Reclamation of the site and seeding of grass species suited to arid conditions would limit impacts but the native plant communities cannot be restored.</p> <p>A search of the Natural Resource Information System (NRIS) database found that there are no known threatened and endangered or sensitive plant species growing in the proposed permit area. Proposed disturbances would lead to more noxious weed invasion in the area. This is an unavoidable impact of disturbance. Weed control efforts would limit these impacts.</p>
<p>5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?</p>	<p>[N] The area is transversed by mule deer, and elk use the forested uplands as winter range. Transitory populations of mule deer and pronghorn antelope occasionally use the proposed permit area as do smaller mammals. Raptors and songbirds are present at the site as well. The project is in an arid upland area, approximately 11 miles north of Helena, MT.</p>
<p>6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES: Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?</p>	<p>[N] A search of the NRIS database found that there are no known threatened and endangered animal species in the area. A species of special concern is the black tailed prairie dog. The habitat for this species is just to the south and west, outside of the proposed permit area. However, there have been no actual sightings. VSG has committed to remain 300 feet away from active prairie dog burrows.</p> <p>A gray wolf was sighted about three miles away in 2006, east of Interstate 15.</p>
<p>7. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?</p>	<p>[N] A records search by the State Historic Preservation Office indicated that there are no known cultural areas of concern in the permit area. As noted in the application, the operator would provide protection for archaeological and historical sites if they are discovered.</p>
<p>8. AESTHETICS: Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?</p>	<p>[Y] The proposed quarry is in a rural area where development of subdivisions is taking place. Quarrying activities would be visible from some county roads during operations, and houses located south and to the east of the proposed permit boundary. Disturbance caused by quarrying would be readily apparent during ongoing activities. Soil would be replaced and seeded after the stockpiles and other facilities have been removed and regraded. The reclaimed quarry would no longer have the appearance of the original land surface. The north pit would be excavated up to about 75 feet deep and the south pit to a depth of 35 feet. This change in landform is an unavoidable impact of quarrying activities.</p>

IMPACTS ON THE PHYSICAL ENVIRONMENT

	<p>Peak noise levels during operations would be about 80 decibels at a distance of 200 feet. According to the Mine Safety and Health Administration (MSHA) permissible levels are 90 decibels for an 8-hour exposure. Decibel levels decrease with distance from operating equipment. The decibel level would be reduced to 64 decibels at 900 feet, and about 53 decibels at about 1,800 feet. Rural populations enjoy an average outdoor sound level generally lower than 50 decibels. A decibel reading of about 55 or less is considered the norm for outdoor noises in residential areas and farms.</p> <p>The increase in noise level would be an unavoidable impact of permitting the quarry. All equipment would be required to have mufflers and other noise control devices in good working order.</p> <p>Two to four trucks will transport 16 to 32 loads of rock per day, three to five days per week. The average daily product will be approximately 200 to 300 cubic yards, and the daily peak production will be about 500 cubic yards of material.</p> <p>The mine would be operated during daylight hours only, operating from 8 AM to 5 PM Monday through Friday, and from 8 AM to 4 PM on Saturday and/or Sunday during the summer. Summer months would be those in which there are no children attending standard public schools. Operating hours would be 8 AM to 8 PM Monday through Friday and 8 AM to 4 PM on Saturday and/or Sunday during winter months.</p>
<p>9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY: Will the project use resources that are limited in the area?</p>	<p>[N] This project would be somewhat isolated and require a minimum of energy resources.</p>
<p>10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other activities nearby that will affect the project?</p>	<p>[N] The surrounding land use has historically been livestock grazing and wildlife habitat, but more recently has been developed as subdivisions.</p>

IMPACTS ON THE HUMAN POPULATION

<p>11. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?</p>	<p>[Y] The quarry would result in a maximum of 16 to 32 round trips per day, three to five days per week on Applegate Drive. VSG drivers would be required to follow posted speed limits. The hours of operation during the winter months (defined by VSG as when children attend standard public school) would be altered to avoid trucks hauling material on</p>
---	--

IMPACTS ON THE HUMAN POPULATION	
	<p>Applegate Drive while children are waiting for the school busses in the morning. During hours in which children are being dropped off from the busses (3:00 pm to 4:30 pm) all trucks hauling rock will operate at a reduced speed of 25 mph.</p> <p>The increase in traffic is an unavoidable impact of permitting the quarry.</p>
12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?	[Y] The quarry would provide a source of crushed rock for road improvements and construction aggregates.
13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.	[Y] The project would maintain current jobs associated with the company.
14. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?	[Y] This project would create tax revenue.
15. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc.) be needed?	[N] There is no anticipated need for increased government services that would result from this project.
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	[N]
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES: Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?	[N] There are no wilderness or major recreational areas near the site. The major recreational uses in the region are hunting, fishing, and boating on nearby rivers and lakes.
18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:	[N]

IMPACTS ON THE HUMAN POPULATION	
Will the project add to the population and require additional housing?	
19. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?	[N] The work force would be local or drawn from neighboring counties.
20. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?	[N]
21. PRIVATE PROPERTY IMPACTS: Are we regulating the use of private property under a regulatory statute adopted pursuant to the police power of the state? (Property management, grants of financial assistance, and the exercise of the power of eminent domain are not within this category.) If not, no further analysis is required.	[Y] The project would be regulated by the Metal Mine Reclamation Act (MMRA).
22. PRIVATE PROPERTY IMPACTS: Does the proposed regulatory action restrict the use of the regulated person's private property? If not, no further analysis is required.	[Y] The agencies would impose four stipulations. VSG would have to : 1) salvage 12 inches of soil where feasible to improve reclamation success on the site and improve productivity of the reclaimed plant community, and; 2) limit the depth of excavation throughout the south quarry to 35 feet below natural ground surface to avoid interception of groundwater. 3) seed soil stockpiles immediately after each soil stripping campaign before the soil becomes crusted and before weeds can germinate. 4) seed all road berms and other miscellaneous disturbances to control dust and limit noxious weed invasion.
23. PRIVATE PROPERTY IMPACTS: Does the agency have legal discretion to impose or not impose the proposed restriction or discretion as to how the restriction will be imposed? If not, no further analysis is required. If so, the agency must determine if there are alternatives that would reduce,	[Y] See Item 22 above.

IMPACTS ON THE HUMAN POPULATION	
minimize or eliminate the restriction on the use of private property, and analyze such alternatives.	
24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:	[N]

25. Alternatives Considered:

No Action: Deny the request for an operating permit. No issues were identified which would require denying the permit.

Approval: Approve the permit as proposed.

Approval with Modification: The agencies would require that:

1) VSG would strip, salvage, and stockpile an additional 6 inches of soil for reclamation purposes. This extra 6 inches of soil would provide for a reclaimed growth media 12 inches thick. This would improve overall reclamation success.

2) the depth of excavation throughout the south quarry is limited to 35 feet below natural ground surface to avoid interception of groundwater.

3) seed soil stockpiles immediately after each soil stripping campaign before the soil becomes crusted and weeds can germinate.

4) seed all road berms and other miscellaneous disturbances to control dust and limit noxious weed invasion.

26. Public Involvement: A legal notice was published in the *Independent Record* and *Townsend Star* on June 25, 2007 and a press release issued notifying the public of the proposed operation. A number of comments were received. Another legal notice was published in the *Independent Record* and *Townsend Star* on July 30, 2008 noting that a revised application had been received. A press release was issued on August 1, 2008. Another legal notice and press release will be issued when this draft EA is released.

27. Other Governmental Agencies with Jurisdiction: None

28. Magnitude and Significance of Potential Impacts: There would be no significant impacts associated with this proposal. As noted, there would be impacts to soils, geologic resources, native plant communities and from an increase in noxious weeds in the area, as well as aesthetics due to modification of the landforms, noise levels and traffic. These are unavoidable impacts of permitting the quarry.

Quarries and rock collecting sites are increasing throughout Montana. DEQ prepared a Supplemental Programmatic Environmental Assessment (SPEA) on these operations in 2004. The operations that qualify must meet the following provisions as listed in the SPEA.

- Any individual small quarry must maintain a working disturbance of up to five acres maximum. Total disturbance during the life of an individual operation could exceed five acres, but concurrent reclamation would be required to keep the disturbance at any one time to five acres or less. Access roads would not be included in the disturbed total, but the operator would submit a reclamation bond for roads that do not have an appropriate use after quarrying. Roads

less. Access roads would not be included in the disturbed total, but the operator would submit a reclamation bond for roads that do not have an appropriate use after quarrying. Roads appropriate for the land use after quarrying and access or haulage roads which are required by a local, state, or federal agency having jurisdiction over that road would not have to be bonded;

- There would be no impact to any wetland, surface or ground water;
- There would be no constructed impoundments or reservoirs used in the operation;
- There would be no potential to produce any acid or other pollutive drainage from the quarry;
- There would be no impact to threatened and endangered species; and
- There would be no impact to significant historic or archaeological features.

The quarry proposed by VSG meets all these requirements except the operator cannot keep the disturbance to less than five acres disturbed and unreclaimed at any one time, and would construct sediment control ponds. There would be no other impacts beyond those analyzed in the SPEA. This Checklist EA tiers to the 2004 SPEA. Reclamation would limit impacts. DEQ would bond VSG to reclaim acres disturbed by mining as well as for stockpiles and any facilities associated with the quarry.

29. Cumulative Impacts: The quarry is located in an area where new subdivisions and associated development is occurring. These subdivisions would increase traffic on the same roads used by VSG. Areas would be disturbed for new roads and homes, increasing noxious weed invasion. Wildlife habitat would be fragmented.

30. Recommendation for Further Environmental Analysis:

EIS More Detailed EA No Further Analysis

31. EA Checklist Prepared By: Herb Rolfes, Operating Permit Section Supervisor.

32. EA Reviewed By: Patrick Plantenberg, Reclamation Specialist, and Warren McCullough, EMB Bureau Chief.


Signature


Date

Herb Rolfes
Operating Permit Section Supervisor

File: pending Valley Sand and Gravel, LLC.70

OP_Applications\ValleySandGrave\DraftchecklistEAreviewed.doc

