

MT DEQ

Draft Environmental Assessment

OP#00163 ES Stone & Structure Inc. Proposed Amendment 008

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**Hard Rock Mining Bureau
ENVIRONMENTAL ASSESSMENT**

COMPANY NAME: ES Stone & Structure, Inc.

OPERATING PERMIT: Operating Permit #00163

LOCATION: South, west, and northwest of Great Falls in Cascade County; southeast and southwest of Ryegate in Golden Valley County; and south of Harlowton in Wheatland County See Table 1 for existing and proposed site locations

COUNTY: Cascade County, Golden Valley County, and Wheatland County

PROPERTY OWNERSHIP: FEDERAL ___ STATE ___ PRIVATE _X_

COMPLIANCE WITH THE MONTANA ENVIRONMENTAL POLICY ACT

Under the Montana Environmental Policy Act (MEPA), Montana agencies are required to prepare an environmental review for state actions that may have an impact on the human environment. The proposed action is considered to be a state action that may have an impact on the human environment and, therefore, the Department of Environmental Quality (DEQ) must prepare an environmental review. This environmental assessment (EA) will examine the proposed action and alternatives to the proposed action, and disclose potential impacts that may result from the proposed and alternative actions. DEQ will determine the need for additional environmental review based on consideration of the criteria set forth in Administrative Rules of Montana (ARM) 17.4.608.

PROPOSED ACTION

DEQ would approve an application to amend Operating Permit #00163 (Amendment 008) for ES Stone & Structure, Inc. (ES Stone) to reduce the number of sites from 21 to 8 by the removal from the permit of 3 sites (currently Sites #6, 8, and 9) that were withdrawn during the permitting process, 4 sites (currently Sites #3, 5, 7, and 10) that have had full bond release, and the combination of two sites: 1) Current Sites #13, 14, 16, 17 and 21 would be combined to proposed Site #6 and 2) Current Sites #18 and 19 would be combined to proposed Site #7. Additionally, permit and permitted disturbance area would be added to proposed Site #7, increasing the total permit area from 7,195 acres to 7,786 acres. The proposed permit and permitted disturbance area will be the sole action reviewed under this Environmental Assessment.

PURPOSE AND NEED

DEQ determined that the application for Amendment 008 to Operating Permit No. 00163 is complete and compliant on April 12, 2021. When an application for a proposed amendment to an operating permit is complete and compliant, DEQ is required under Section 82-4-337(d), Montana Code Annotated (MCA), to detail in writing the substantive requirements of the Metal Mine Reclamation Act (MMRA) and how the proposed action complies with those requirements. The compliance determination finalized on April 12, 2021, sets forth DEQ's determination that the ES Stone proposed operating permit amendment application

complies with the substantive requirements of the MMRA. The proposed operating permit amendment would be issued under the MMRA, Title 82, chapter 4, part 3, MCA.

SUMMARY OF PROPOSED ACTION

Background:

ES Stone (the applicant) has applied for Amendment 008 to add permit and permitted disturbance area to an existing site in Operating Permit #00163 and to consolidate existing sites and remove withdrawn and reclaimed sites from the permit, reducing the number of sites from 21 to 8. ES Stone currently operates 11 active sites under a multi-site permit.

Location:

The sites are in Cascade County, south, west, and northwest of Great Falls, MT; Wheatland County, south of Harlowton, MT; and Golden Valley County, southeast and southwest of Ryegate, MT (Figure 1).

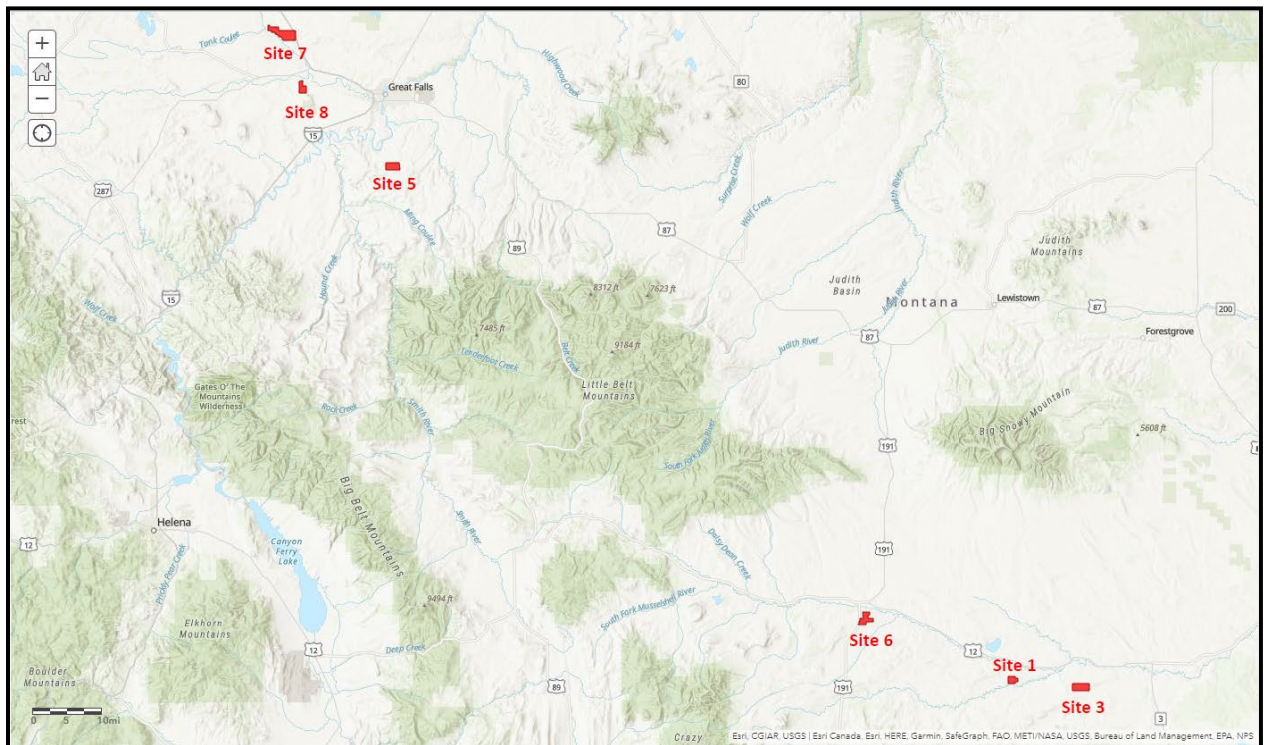


FIGURE 1: EXISTING AND PROPOSED PERMIT AREA LOCATIONS

Analysis Area:

The area being analyzed as part of this environmental review includes the proposed permit area location (Figure 2) as well as immediate downstream water sources and neighboring lands surrounding the permit area as reasonably appropriate for the impacts being considered.

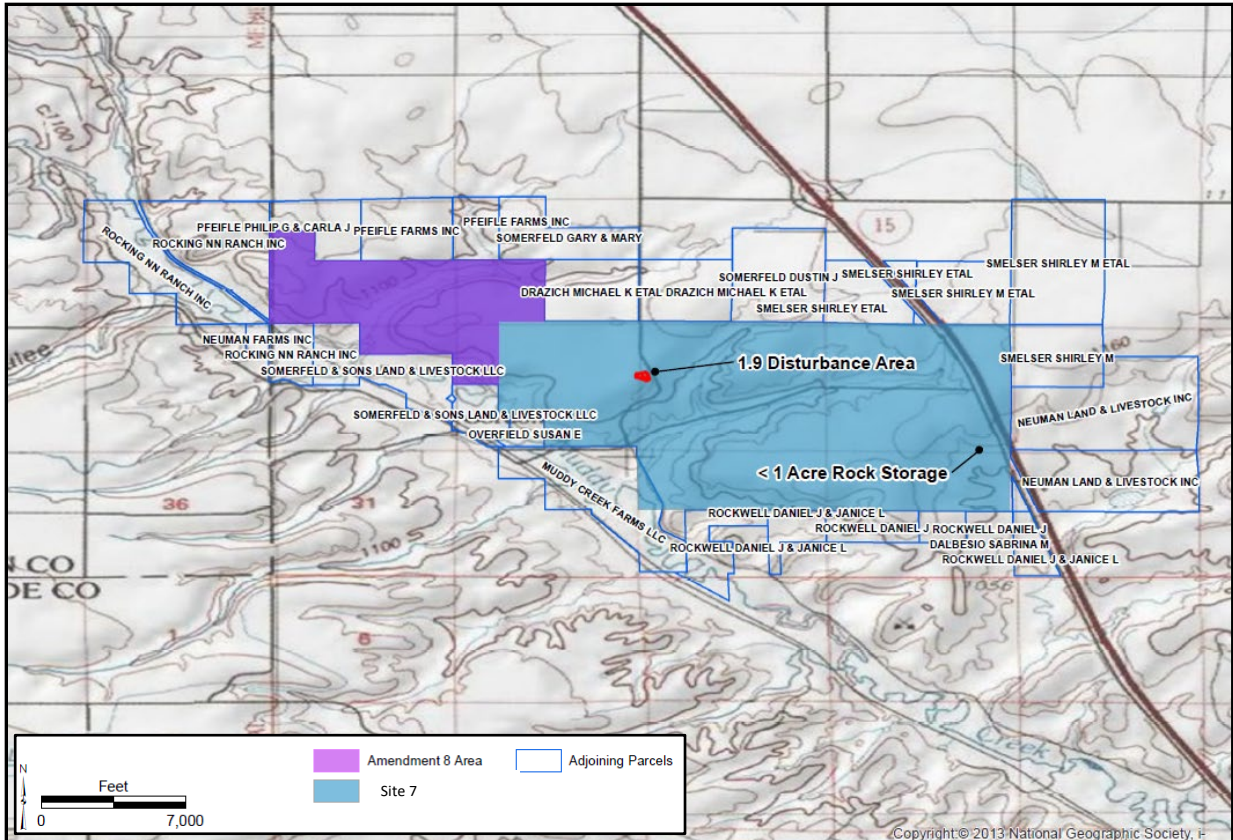


FIGURE 2: PROPOSED ADDITIONAL PERMIT AREA FOR SITE 7 AND ADJACENT LANDOWNERS

Scope of Activity:

The existing and proposed permit and disturbance boundaries for each of the sites are outlined below in Table 1. The total operating permit boundary area with the proposed permit area to be added would be 7,786 acres and the proposed disturbance area would be 934 acres.

Current Site Number	Proposed Site Number	Site Owner(s)	Current Permit Area (acres)	Proposed Permit Area (acres)	Total Proposed Disturbance Area (acres)	County	Township	Range	Section
1	1	Vander Voort	814	814	174	Golden Valley	06N	19E	16, 17
2	2	Ott	0 – Full bond release granted	N/A	N/A	Golden Valley	-	-	-
4	3	Colson	1,320	1,320	72	Golden Valley	06N	20E	23, 24
11	4	Vander Voort	0 – Full bond release granted	N/A	N/A	Golden Valley	-	-	-
12	5	Grassland Colony	300	300	5	Cascade	19N	04E	31
13	6	Cooney Brothers and Moore	1,375	1,375	548	Wheatland	08N 07N	15E 15E	34, 35 02, 03
14									
16									
17									
21									
18	7	Neuman and Rope	2,422	3,013	90	Cascade	22N	01E 02E	27, 28, 29 25, 26, 30
19									
20	8	Hastings Trust	964	964	45	Cascade	21N 20N	01E	35 01, 02
Total	-	-	7,195	7,786	934	-	-	-	-

TABLE 1: EXISTING AND PROPOSED PERMIT AND DISTURBANCE AREAS

Activities at the proposed additional permit area at Site #7 would be a continuance of the current practice at the existing sites: harvesting surface sandstone rocks, mostly lichen-encrusted ("moss rocks") of the Cretaceous Kootenai, and Blackleaf Formations. Only light-weight equipment would be used in off-road areas and only small surface rocks would be collected, no highwalls or open pits would be produced. Surface rock would be removed using a skid-steer loader and then transported to a palleting/staging area. The palletted rock would then be loaded onto trucks for shipping off-site. The access roads to the sites were pre-existing and are used by the landowners for land access; no additional roads or facilities would be constructed at the sites.

Duration of Activity:

Mining activity would be seasonal and would generally take place from March to December, although work may be performed in January and February, weather permitting. The site would operate from 8 AM to 4:30 PM, Monday through Friday, weather permitting. The estimated life of mine for the proposed Site #7 is 10 years.

Personnel and Equipment:

If Amendment 008 were approved, ES Stone would continue the employment of an average of 40

people seasonally at the existing sites. Surface rock would be removed using a skid-steer loader and transported to a palleting/staging area. The palletted rock would then be loaded onto trucks for shipping off-site.

Reclamation Plan:

The mine site would be in use as pastureland during mining and would be reclaimed for use as pasture grassland for wildlife and domestic grazing after mining is completed. The pre-mine access roads would be left intact post-mine as requested by the landowners. All other mining disturbances would be reclaimed. ES Stone would practice concurrent reclamation when possible, and would grade, scarify, and seed or plant areas no longer needed for mining activities within one year of the cessation of such activities on that area. ES Stone would complete reclamation activities no more than two years after completion or abandonment of the operation.

Disturbance is limited to the surface only. Topsoil would not be stripped before disturbance and fill would be added before grading only if large indentations are left on the surface after rock removal. After grading (if necessary), the ground would be ripped and seeded with the approved seed mix. Noxious weeds would be controlled following revegetation.

Seed Variety	Pounds Pure Live Seed (PLS) per acre (lbs/acre)
Revenue slender wheatgrass	2.5
Secar bluebunch wheatgrass	5
Critana thickspike wheatgrass	5
Rosana western wheatgrass	10
London green needlegrass	2.5
Total lbs./acre used (broadcast seed)	25

TABLE 2: APPROVED SEED MIX

SUMMARY OF POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS:

The impact analysis will identify and estimate whether the impacts are direct or secondary impacts. Direct impacts occur at the same time and place as the action that causes the impact. Secondary impacts are a further impact to the human environment that may be stimulated, or induced by, or otherwise result from a direct impact of the action (ARM 17.4.603(18)). Where impacts would occur, the impacts analysis will also estimate the duration and intensity of the impact. The duration is quantified as follows:

- Short-term: Short-term impacts are defined as those impacts that would not last longer than the life of the project, including final reclamation.
- Long-term: Long-term impacts are impacts that would remain or occur following project completion.

The intensity of the impacts is measured using the following:

- No impact: There would be no change from current conditions.
- Negligible: An adverse or beneficial effect would occur but would be at the lowest levels of detection.
- Minor: The effect would be noticeable but would be relatively small and would not affect the function or integrity of the resource.
- Moderate: The effect would be easily identifiable and would change the function or integrity of the resource.
- Major: The effect would alter the resource.

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?

Geology

Site 7 is primarily composed of the Bootlegger member of the Blackleaf Formation. Dark gray shale is interbedded with sandstone, siltstone, and bentonite beds. Rocks harvested from the site are Cretaceous Blackleaf formation rocks from the surface and shallow pits.

Soil

The prevalent soils at Site 7 are displayed in table 3.

Soil	Percent	Description
Yawdim-Rentsac-Cabbart complex	32.8	Silty clay loam
Ernem very stony loam	20.9	Very stony clay loam

TABLE 3: PREVALENT SOILS AT SITE 7

The predominant soil type at site 7 is Yawdim-Rentsac-Cabbart complex. The typical profile of this soil surface is a silty clay loam Horizon A from 0-3 inches deep, overlying a silty clay loam Horizon C from 3-16 inches deep. Another prevalent soil type is Ernem very stony loam, which consists of a very stony loam surface Horizon A from 0-3 inches deep. Very stony clay loam Bt and Bk Horizons are found under the surface at 3-12 inches and 12-15 inches deep, respectively.

Direct Impacts:

At the proposed additional permit area, very little soil would be disrupted. The rocks that would be harvested are surface rocks, and the depressions left by rock removal would be shallow. No topsoil would be stripped prior to mining. After cessation of mining, the disturbance and surrounding area would be graded, scarified, and seeded to prevent erosion and preserve soil quality. Erosion would be prevented through appropriate placement of Best Management Practices (BMP)s, including ditching, use of rip rap, berms, and sediment basins, and practicing concurrent reclamation whenever possible.

No fragile soils or unstable geologic features are present at the site. There would be no special reclamation considerations, as soil quality would not be impacted by the proposed operation. Surface soil disturbance could allow for the establishment of weeds. Weed control would be required to control the spread of noxious weeds caused by surface soil disturbance and is further addressed in “Section 4, Vegetation Cover, Quantity and Quality” (Table 4).

Impacts to geology, soil quality, stability, and moisture would not be significant. Impacts to geology and soil quality would not be expected. Any impacts to the soil stability and moisture would be short term, as they would not last beyond the proposed 10-year mine life, and minor, since impacts would be noticeable but would be small and would not affect the integrity or function of the resource (Table 4).

Secondary Impacts:

No secondary impacts to the geology and soil quality, stability and moisture would be expected.

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?

Groundwater

There are several domestic and stockwater wells located on or near Site 7. There would be no mining or excavation beyond removal of surface stone, which would have an anticipated disturbance depth of up to one foot, so groundwater impacts from mining would not be expected.

Surface Water

The closest body of water to Site 7 is Muddy Creek, which runs through southwest corner of the existing permit boundary.

Direct Impacts:

Groundwater

There would be no acid rock drainage associated with the waste rock or overburden and no other source of objectionable discharge to groundwater. No water would be used for processing or during the mine operation, except what would be used for dust control, which would be hauled from off-site or obtained by landowners. No blasting would occur on site, so there would be no source of nitrates related to mining that could contaminate groundwater.

Groundwater quality would not be impacted by sediment however, it could be impacted by other by-products of operation, including spilled fuel. In the case of a fuel spill, the contaminated soil would be removed and disposed in accordance with the proposed Spill Control and Countermeasure Plan. All fuel tanks would be double walled or have secondary containment which can hold up to 110% of the tank's capacity. The applicant would be bound to all applicable state and federal rules regarding groundwater quality and quantity. Impacts to groundwater would not be significant as a result of the proposed operations. Any impacts to water quality would be short term, as they would not last beyond the proposed 10-year mine life, and minor, since impacts would be noticeable but would be small and would not affect the integrity or function of the resource. No impacts to water quantity and distribution would be expected.

Surface Water

Rainfall in the Great Falls area is limited and averages 12.88 inches per year. BMPs found in the applicant's Spill Control and Countermeasure Plan would reduce opportunity for spilled petroleum products from leaving the permitted disturbance area and impacting nearby surface water. All fuel tanks would be double walled or have secondary containment which can hold up to 110% of the tank's capacity. Any surface water that may leave the site during a heavy storm event could carry sediment from disturbed soils, but soil disturbance on site is limited and BMPs will be used to control runoff as appropriate (Table 4). Impacts to surface water would not be significant as a result of the proposed operations. Any impacts would be short term, as they would not last beyond the proposed 10-year mine life and minor, since impacts would be noticeable but would be small and would not affect the integrity or function of the resource (Table 4).

Secondary Impacts:

No secondary impacts to groundwater or surface water quality, quantity, or distribution would be expected.

3. AIR QUALITY

Would pollutants or particulate be produced? Is the operation influenced by air quality regulations or zones (Class I airshed)?

Dust would not be expected to be produced during mining, since no road construction, blasting, stripping, excavating, or crushing would be performed. Dust produced by mining or reclamation activities would be controlled by watering as needed.

The applicant would be expected to maintain compliance with Montana laws regarding the need to take reasonable precautions to control airborne particulate matter according to ARM 17.8.308. Gaseous products of combustion (oxides of nitrogen and carbon monoxide) would result from this operation, specifically from gas and diesel fuel-fired equipment.

Direct Impacts:

There would be some exhaust fumes produced by the on-site equipment. The level of gaseous emissions from the site would be minimal due to the small number of fuel-fired equipment in use at the sites. Dust control would be employed to meet particulate emission requirements required by law. Impacts to air quality would not be significant as a result of the proposed operations. Any

impacts would be short term, as they would not last beyond the proposed 10-year mine life and minor, since impacts would be noticeable but would be small and would not affect the integrity or function of the resource (Table 4).

Secondary Impacts:

No secondary impacts to air quality would be expected.

4. VEGETATION COVER, QUANTITY AND QUALITY

Would vegetative communities be significantly impacted? Are any rare plants or cover types present?

The predominant vegetation found at Site 7 and surrounding areas is Great Plains Mixedgrass Prairie and cultivated crops. Great Plains Mixedgrass Prairie is typically dominated by Western Wheatgrass (*Pascopyrum smithii*) and Thickspike Wheatgrass (*Elymus lanceolatus*), Green Needlegrass (*Nassella viridula*), Blue Grama (*Bouteloua gracilis*), and Needle and Thread (*Hesperostipa comata*) as co-dominant species. Cultivated crop land is used to produce domestic crops on an annual cycle. Agricultural plant cover may vary depending on the season and rotation cycle.

A search of the Montana Natural Heritage Program (MTNHP) identified potential habitat for nine vascular plant species of concern (SOC): Crawe's Sedge (*Carex crawei*), Long-sheath Waterweed (*Elodea bifoliata*), Silver Bladderpod (*Physaria ludoviciana*), Scribner's Ragwort (*Senecio integerrimus* var. *scribneri*), Smooth Goosefoot (*Chemopodium subglabrum*), Chaffweed (*Centunculus minimus*), Desert Groundsel (*Senecio eremophilus*), Fendler Cat's-eye (*Cryptantha fendleri*), and Schweinitz's Flatsedge (*Cyperus schweinitzii*). No rare or endangered vegetation has been identified at the proposed disturbance area (MTNHP, 2019). Thirteen noxious weed species have been documented and three biocontrol species have been released in or near the proposed disturbance area as noted through the MTNHP search.

Direct Impacts:

Land disturbance at the site may result in propagation of noxious weeds (Table 4). Any surface disturbances would be reclaimed and seeded with an appropriate seed mix (see Table 2). The project area would be subject to the Cascade County Noxious Weed Management Plan.

Impacts to vegetative cover, quantity or quality resulting from this project would be short term, as they would not last beyond the proposed 10-year mine life and minor, since impacts would be noticeable but would be small and would not affect the integrity or function of the resource would not be significant (Table 4).

Secondary Impacts:

No secondary impacts to vegetation cover, quantity and quality would be expected.

5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS

Is there substantial use of the area by important wildlife, birds or fish?

Site 7 is in a rural area and tends to harbor both large and small mammals including deer, elk,

moose, rabbits, and badgers. Seven avian and terrestrial SOC have occurred or been observed in or near the proposed permit area: Grizzly Bear (*Ursus arctos*), Short-eared Owl (*Asio flammeus*), Long-billed Curlew (*Numenius americanus*), Golden Eagle (*Aquila chrysaetos*), Chestnut-collared Longspur (*Calcarius ornatus*), Northern Leopard Frog (*Lithobates pipiens*), Sharp-tailed Grouse (*Tympanuchus phasianellus*), and Franklin's Gull (*Leucophaeus pipixcan*). Two aquatic SOC were also identified: Brassy Minnow (*Hybognathus hankinsoni*) and Burbot (*Lota lota*). Potential habitat was identified for an additional 65 terrestrial and avian species of concern. Site 7 has surface water, Muddy Creek, within the existing permit boundary. ES Stone does not and would not mine within 100 feet of the surface water.

Direct Impacts:

Impacts to wildlife and birds would potentially include temporary displacement of the animals, although habitat found within the project area is common throughout the larger ecosystem. The activities performed by ES Stone would result in minimal ground disturbance and have no effect on the overstory or timber, and therefore, should not affect these species. Any displaced animals could find other suitable habitat nearby and return to the project area shortly after the project conclusion.

Impacts to terrestrial, avian, and aquatic life and habitat would not be significant. ES Stone would not mine within 100 feet of the surface water, so no impact on aquatic life would be expected. Any impacts to terrestrial and avian life and habitat would be short term, as they would not last beyond the proposed 10-year mine life and minor, since impacts would be noticeable but would be small and would not affect the integrity or function of the resource.

Secondary Impacts:

No secondary impacts to terrestrial, avian, or aquatic life or habitats that could be stimulated or induced by the direct impacts analyzed above would be expected.

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?

Site 7 does not contain habitat for any of the five listed endangered species in Montana (Black-footed Ferrets, Least Terns, Pallid Sturgeons, White Sturgeons, or Whooping Cranes). There has been one documented occurrence of the Grizzly Bear (*Ursus arctos*), a threatened species, in or near the permit area.

Direct Impacts:

The mining performed by ES Stone at the proposed permit area is surface moss rock picking. There will be minimal ground disturbance; therefore, habitat disturbance for the Grizzly Bear would be minimal.

Impacts to unique, endangered, fragile or limited environmental resources would not be significant. ES Stone would not mine within 100 feet of the surface water, so impacts on wetland areas would not be expected. Impacts to unique, endangered, fragile, or limited resources would

be short term, as they would not last beyond the proposed 10-year mine life and minor, since impacts would be noticeable but would be small and would not affect the integrity or function of the resource (Table 4).

Secondary Impacts:

No secondary impacts to unique, endangered, fragile, or limited environmental resources that could be stimulated or induced by the direct impacts analyzed above would be expected.

7. HISTORICAL AND ARCHAEOLOGICAL SITES

Are any historical, archaeological or paleontological resources present?

The proposed mine site is entirely located on private land. The Montana State Historical Preservation Office (SHPO) completed a file search on the land included in this amendment and has reported no cultural resources are listed on the site.

Direct Impacts:

If unlisted archaeological or historical resources are encountered during operations, the operator would provide appropriate protections for any such resources identified in the permit area. The operator would route equipment around the site of discovery, and promptly notify SHPO. The site would remain undisturbed, including a 100-foot buffer around the site of discovery, until a proper evaluation is made. Impacts to historical, archaeological, or paleontological resources would not be significant. Any impacts would be long term, as they would last beyond the proposed 10-year mine life and minor, since impacts would be noticeable but would be small and would not affect the integrity or function of the resource.

Secondary Impacts:

No secondary impacts to historical and archaeological sites would be expected.

8. AESTHETICS

Is the proposed operation on a prominent topographic feature? Would it be visible from populated or scenic areas? Would there be excessive noise or light?

The proposed mine site would be located on private land. The site is remote, with very low population density in the nearby area. There would be no permanent structures or open pits.

The hours of operation would coincide with normal ranch and agricultural operations. Only a skid steer-loader would be used in the proposed operations, along with haul trucks to haul rock to the processing site. The nearest residential dwelling to the sites is more than ½ mile from the proposed permit area. Blasting has not been necessary and is not expected to occur at the proposed site. Noise and hours of operation would not create a public nuisance based on daylight operating hours and distance from residence.

The primary land use for the permit area and the areas adjacent to the permit area is for agriculture and livestock grazing. The area is not visible from populated or scenic areas.

Direct Impacts:

The impacts from noise and light would be minor due to the non-invasive nature of proposed mining operations, the proposed use of equipment and the hours of operation, and the distance of the mining from public roads and private residences.

Impacts to aesthetics would not be significant. Any impacts would be short term, as they would not last beyond the proposed 10-year mine life and minor, since impacts would be noticeable but would be small and would not affect the integrity or function of the resource.

Secondary Impacts:

There would be no secondary impacts to the sites as there are few residences in the area. No impacts to passing traffic are anticipated.

9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY

Would the proposed operation use resources that are limited in the area? Are there other activities nearby that would affect the project?

Proposed mining operations would use diesel fuel for equipment. Any water needed for dust suppression would be brought in by water truck from off-site or obtained from the landowners. No water would be needed for operations beyond dust suppression on roads and during reclamation.

Direct Impacts:

Any impacts on the demand on environmental resources of land, water, air, or energy would not be significant as a result of the proposed operations. Impacts would be short term, as they would not last beyond the proposed 10-year mine life and minor, since impacts would be noticeable but would be small and would not affect the integrity or function of the resource.

Secondary Impacts:

No secondary impacts to environmental resources of land, water, air or energy would be expected.

10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES

Are there other activities nearby that would affect the proposed operation?

There are no activities in the area that would affect the operation. DEQ searched the following websites or databases for nearby activities that may affect the project, however no other projects were identified by the following:

- Montana Department of Natural Resource and Conservation
- Montana Department of Environmental Quality
- Montana Department of Transportation
- Cascade County
- United States Department of Interior Bureau of Land Management
- United States Forest Service

The surrounding land use is agriculture and livestock grazing. These land uses would likely

continue without influence by the proposed mining operations.

Direct Impacts:

Impacts on other environmental resources are not likely to occur as a result of the proposed operations.

Secondary Impacts:

No secondary impacts to other environmental resources would be expected as a result of the proposed work.

11. HUMAN HEALTH AND SAFETY

Would this proposed operation add to health and safety risks in the area?

The applicant would be required to adhere to all applicable state and federal safety laws. Industrial work such as the work proposed by the applicant is inherently dangerous. The Mine Safety and Health Administration (MSHA) has developed rules and guidelines to reduce the risks associated with this type of labor. Few, if any, members of the public would be in the general proximity during mine operations. All normal access points or where picking occurs along established roads will be signed to prohibit public entry. There would be no open pits, highwalls, or other ground hazards on site.

Direct Impacts:

Impacts on human health and safety resulting from the proposed operation would not be significant. No impacts to public health and safety would result from the proposed action. However, short-term and minor impacts on worker human health and safety would be possible during mining operations. Impacts to health and safety risks in the area would be short term, as they would not last beyond the proposed 10-year mine life and minor, since impacts would be noticeable but would be small.

Secondary Impacts:

No secondary impacts to human health and safety would be expected as a result of the proposed work.

12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION

Would the proposed operation add to or alter these activities?

Direct Impacts:

As noted in the cumulative impacts analysis below, this project would add to the impacts of mining and industry in the greater project area, however all disturbance related to this project would be reclaimed at the conclusion of the project.

Impacts on the industrial, commercial, and agricultural activities and production in the area would not be significant. Any impacts would be short term, as they would not last beyond the proposed

10-year mine life and minor, since impacts would be noticeable but would be small and would not affect the integrity or function of the resource.

Secondary Impacts:

No secondary impacts to industrial, commercial and agricultural activities and production would be expected as a result of the proposed work.

13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT

Would the proposed operation create, move or eliminate jobs? If so, what is the estimated number?

The sites would be operated by ES Stone employees working on currently permitted sites in the area, an average of 40 employees per year at the currently permitted sites. The workforce is not expected to either increase or decrease as a result of the proposed permitting action.

Direct Impacts:

All activities would be conducted by current employees. No additional work force is anticipated. If market conditions fluctuate, the work force may marginally increase or decrease. No lasting positive or negative impacts to employment would be expected from this project.

Secondary Impacts:

No secondary impacts to quantity and distribution of employment would be expected as a result of the proposed work.

14. LOCAL AND STATE TAX BASE AND TAX REVENUES

Would the proposed operation create or eliminate tax revenue?

The sale of stone and aggregate creates local jobs, providing tax revenue to the state and/or the federal government. The landowners may receive royalties from the operation.

Direct Impacts:

The production and work force would not be anticipated to increase from the existing proposed operations, and no change in tax revenues would be anticipated. Operation of the proposed site would result in impacts to the local and state tax base and tax revenues, but the impacts would not be significant. Any impacts would be short term, as they would not last beyond the proposed 10-year mine life and minor, since impacts would be noticeable but would be small and beneficial.

Secondary Impacts:

Minor beneficial secondary impacts to local and state tax base and tax revenues would be expected as a result of the proposed work.

15. DEMAND FOR GOVERNMENT SERVICES

Would substantial traffic be added to existing roads? Would other services (fire protection, police, schools, etc.) be needed?

The sites are all on private land. No substantial increase in traffic or requirement for other

government services is anticipated.

Direct Impacts:

The existing demands on government services are not expected to increase. Impacts on demand for government services would not be significant. Any impacts would be short term, as they would not last beyond the proposed 10-year mine life and minor, since impacts would be noticeable but would be small and would not affect the integrity or function of the resource.

Secondary Impacts:

No secondary impacts to the demand for government would be expected as a result of the proposed work.

16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS

Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?

The sites are on private land which have been used in the past for dryland grazing and agriculture. The mine operations would be subject to the Cascade County Weed Management Control Plan and to the 2017 Montana Noxious Weed Management Plan. There are no known zoning or other restrictions in place.

Direct Impacts:

DEQ is not aware of any other locally-adopted environmental plans or goals that would impact this proposed project or the project area. Impacts from or to locally-adopted environmental plans and goals would not be expected as a result of this project.

Secondary Impacts:

No secondary impacts to the locally-adopted environmental plans and goals would be expected as a result of the proposed work.

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?

The site is located on private property with active mining activities taking place. There are no recreational or wilderness areas in or near the proposed permit boundaries.

Direct Impacts:

No impacts to direct access to or quality of recreational or wilderness activities would be expected from the proposed operation.

Secondary Impacts:

No secondary impacts to access and quality of recreational and wilderness activities would be expected as a result of the proposed work.

18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING

Would the proposed operation add to the population and require additional housing?

Cascade County is the fifth-most populous county in Montana, with a population of 81,327 as of the 2010 census. Population density in the county is approximately 30 inhabitants per square mile, although the proposed permit area is located in a rural area where the population is sparse. As noted above in “Section 13, Quantity and Distribution of Employment,” the proposed sites would not be expected to increase or decrease the local population or employment of ES Stone.

Direct Impacts:

No direct impacts to density and distribution of population and housing would be expected from the proposed operation.

Secondary Impacts:

No secondary impacts to density and distribution of population and housing would be expected as a result of the proposed work.

19. SOCIAL STRUCTURES AND MORES

Is some disruption of native or traditional lifestyles or communities possible?

Direct Impacts:

The proposed operations would occur entirely on private land. Due to the absence of historical or culturally significant sites and the low population density nearby, no disruption of native or traditional lifestyles would be expected.

Secondary Impacts:

No secondary impacts to social structures and mores would not be expected as a result of the proposed work.

20. CULTURAL UNIQUENESS AND DIVERSITY

Would the action cause a shift in some unique quality of the area?

Direct Impacts:

There are no unique qualities that would be affected by the proposed operations. The proposed site is used for grazing and agriculture and will continue that use during and after proposed operations. No impacts to cultural uniqueness and diversity would be expected from the proposed operations.

Secondary Impacts:

No secondary impacts to cultural uniqueness and diversity would be expected as a result of the proposed work.

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. Does the proposed regulatory action restrict the use of the regulated person’s private

property? If not, no further analysis is required. Does the agency have legal discretion to impose or not impose the proposed restriction or discretion as to how the restriction would be imposed? If not, no further analysis is required. If so, the agency must determine if there are alternatives that would reduce, minimize or eliminate the restriction on the use of private property, and analyze such alternatives.

The proposed site would be on private land. DEQ has determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements under the MMRA and demonstrate compliance with those requirements or have been agreed to by the applicant. Therefore, DEQ's issuance of an Operating Permit would not have private property-taking or damaging implications.

22. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES

Due to the nature of the proposed activities and the limited operations, no further direct or secondary impacts would be anticipated from these proposed activities.

ALTERNATIVES CONSIDERED

In addition to the proposed actions, DEQ also considered the "no action" alternative. The "no action" alternative would deny the request to amend the ES Stone Operating Permit No. 00163. ES Stone would lack the authority to mine at the proposed additional permit area at Site #7. Any potential impacts that would be authorized under the operating permit at the proposed sites would not occur. However, DEQ does not consider the "no action" alternative to be appropriate because ES Stone has demonstrated a willingness to comply with all applicable rules and regulations in the submitted proposal as required for permit issuance. The no action alternative forms the baseline from which the impacts of the proposed action can be measured.

PUBLIC INVOLVEMENT

Scoping for this proposed action consisted of internal and external efforts to identify substantive issues and/or concerns related to the proposed operation. Internal scoping consisted of internal review of the environmental assessment document by DEQ staff.

External scoping is ongoing and includes a public comment period which will end on July 9, 2021. External scoping efforts also included queries to the following websites, databases, and/or personnel:

- Montana Department of Environmental Quality
- Montana Cadastral Mapping Program
- USDA NRCS Soil Survey
- Montana Natural Heritage Program
- Montana State Historic Preservation Office
- Montana Department of Natural Resource and Conservation (DNRC)
- Montana Department of Transportation
- United States Department of Interior Bureau of Land Management (BLM)
- United States Forest Service (USFS)
- Cascade County

- US Geological Society – Stream Stats
- Montana Groundwater Information Center
- Montana Bureau of Mines and Geology

RESPONSE TO PUBLIC COMMENTS

Scoping for this proposed action will include a 30-day public comment period. The public will be notified of the opportunity for comment through a DEQ-issued press release and posting on the DEQ website. Substantive public comments received will be considered before DEQ issues the final EA.

OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION

The proposed project would be fully located on private land. All applicable state and federal rules must be adhered to, which, at some level, may also include other state, federal, or tribal agency jurisdiction.

CUMULATIVE EFFECTS

Cumulative impacts are the collective impacts on the human environment within the borders of Montana of the Proposed Action when considered in conjunction with other past and present actions related to the Proposed Action by location and generic type. Related future actions must also be considered when these actions are under concurrent consideration by any state agency through preimpact statement studies, separate impact statement evaluation, or permit processing procedures.

This environmental review analyzes the proposed project submitted by the applicant. Any impacts from the proposed operation would be short-term and would be fully reclaimed at the conclusion of the proposed operation, and thus, would not contribute to long-term cumulative effects on the area. DEQ identified other mining projects in the area.

Projects regulated by the DEQ Hard Rock Mining Bureau that are located near the proposed project site include:

- One Hard Rock Mining Operating Permit site is located within 10 miles of proposed permit boundaries.
 - Venture Stone, LLC Operating Permit #00189 Site 7 is about 7 miles from the proposed ES Stone Site 7 permit boundary. The Venture Stone site is also less than one mile from the ES Stone Site 8 permit boundary.

No other DNRC, BLM, or USFS regulated projects were identified in the project vicinity. DEQ considered all impacts related to this project and secondary impacts that may result. Cumulative impacts related to this project are identified in the Table 4. Cumulative impacts related to this project would not be significant.

NEED FOR FURTHER ANALYSIS AND SIGNIFICANCE OF POTENTIAL IMPACTS

When determining whether the preparation of an environmental impact statement is needed, DEQ is required to consider the significance criteria set forth in ARM 17.4.608, which are as follows:

1. The severity, duration, geographic extent, and frequency of the occurrence of the impact;
2. The probability that the impact would occur if the proposed action occurs; or conversely, reasonable assurance in keeping with the potential severity of an impact that the impact would not occur;
3. Growth-inducing or growth-inhibiting aspects of the impact, including the relationship or contribution of the impact to cumulative impacts;
4. The quantity and quality of each environmental resource or value that would be affected, including the uniqueness and fragility of those resources and values;
5. The importance to the state and to society of each environmental resource or value that would be affected;
6. Any precedent that would be set because of an impact of the proposed action that would commit the department to future actions with significant impacts or a decision in principle about such future actions; and
7. Potential conflict with local, state, or federal laws, requirements, or formal plans.

TABLE 4: SUMMARY OF POTENTIAL IMPACTS THAT COULD RESULT FROM AMENDMENT 008 TO OPERATING PERMIT #00163

Potential Impact	Affected Resource and Section Reference	Severity ¹ , Extent ² , Duration ³ , Frequency ⁴ , Uniqueness and Fragility (U/F)	Probability ⁵ impact will occur	Cumulative Impacts	Measures to reduce impact as proposed by applicant	Significance (yes/no)
Erosion of disturbed soil	Soil 1. Geology	S -low: Very little soil is disrupted for rock harvesting and depth of disturbance is one foot or less. E -medium: Total surface disturbance would be 90 acres over the next 10 years. D -Until disturbed land is fully reclaimed, including additional growing seasons for vegetation re-establishment. F -During occasional storm events. U/F -Not unique or particularly fragile.	Possible	Erosion would add to cumulative impacts associated with potential erosion on existing roads and mined surfaces.	ES Stone would manage erosion control using a variety of Best Management Practices (BMPs) and practicing concurrent reclamation when possible.	No
Weed propagation associated with surface disturbance	Soil & Vegetation 1. Geology 4. Vegetation	S -low: All disturbed surfaces would be susceptible to weed propagation. E -low: Total surface disturbance would be 90 acres. Land at the mine site and in the immediate project area that would be susceptible to weed propagation. D - Until disturbed land is fully reclaimed, including additional growing seasons for vegetation re-establishment. F -Twice: After excavation and after reclamation. U/F -Not unique or particularly fragile.	Possible	Weed propagation from this project would add to any other area weeds that already exist within and near the proposed project area.	Weed control would be a requirement of the operating permit. The project would be subject to the Cascade County Weed Management Control Plan. ES Stone would be expected to follow the approved reclamation plan. Minimal soil disturbance would take place.	No
Surface water	Water 2. Water Quality, Quantity, and Distribution	S -low: Disturbance would be limited to 100 ft or further from any surface water. E -low: Confined to Muddy Creek, which runs through proposed Site 7. D - Until disturbed land is fully reclaimed, including additional growing seasons for vegetation re-establishment. F -During occasional storm events. U/F -Not unique or particularly fragile.	Possible	Some sediment from the project would add to any other sediment entering Muddy Creek during stormwater runoff events.	ES Stone would manage stormwater runoff using a variety of Best Management Practices (BMPs).	No

Potential Impact	Affected Resource and Section Reference	Severity ¹ , Extent ² , Duration ³ , Frequency ⁴ , Uniqueness and Fragility (U/F)	Probability ⁵ impact will occur	Cumulative Impacts	Measures to reduce impact as proposed by applicant	Significance (yes/no)
Dust and equipment exhaust	Air 3. Air Quality	<p>S-low: Dust and other particulate would be generated during reclamation and driving on/off site. Engines would produce some exhaust fumes.</p> <p>E-low: Dust and exhaust fumes would be generated in proximity of moving/working equipment, during travel on existing roads, and during grading/scarification of reclaimed land.</p> <p>D- Until mining operations cease, and disturbed land is graded, scarified and seeded.</p> <p>F-Often: During reclamation operations and some driving on/off site.</p> <p>U/F-Not unique or particularly fragile.</p>	Certain	Dust and exhaust would add to the cumulative impacts from other vehicles/engines operating in the area and to potential natural wildfire smoke moving through the area.	Dust suppression would be provided by the mine site's water truck as needed. Original Equipment Manufacturer (OEM) exhaust controls would be utilized on mechanized equipment.	No
Displacement of fragile resource (Species of Concern)	6. Unique, endangered, fragile, or limited resources	<p>S-low: Only the area where individual rocks are being removed would be disturbed. The surrounding area is suitable habitat.</p> <p>E-small: Total surface disturbance would be 90 acres. Disturbed areas would be scattered and potential for animal habitat would remain.</p> <p>D- Until disturbed land is fully reclaimed, including additional growing seasons for vegetation re-establishment.</p> <p>F-During mining activity, which is expected to occur during weekday shifts for life of mine.</p> <p>U/F-Unique.</p>	Probable	Displacement of Species of Concern as a result of this project would add to the cumulative impacts associated with the adjacent agricultural land.	None.	No

1. Severity describes the concentration at which the impact may occur. Levels used are low, medium, high.
2. Extent describes the land area over which the impact may occur. Levels used are small, medium, and large.
3. Duration describes the time period over which the impact may occur. Descriptors used are discrete time increments (day, month, year, and season).
4. Frequency describes how often the impact may occur.
5. Probability describes how likely it is that the impact may occur without mitigation. Levels used are: impossible, unlikely, possible, probable, certain

SUMMARY

ES Stone has proposed to add permit area to one site, Site #7, in the current Operating Permit #00163. The severity, duration, geographic extent, and frequency of the occurrence of the impacts associated with the proposed sites would be limited. ES Stone is proposing to harvest surface sandstone and moss rock on up to 90 total acres at Site #7 with a life of mine of about 10 years. The proposed activities would result in removal of sandstone material from the mine sites.

DEQ has not identified any significant impacts associated with the proposed activities for any environmental resource. Approving Amendment 008 to Operating Permit #00163 does not set any precedent that commits DEQ to future actions with significant impacts or a decision in principle about such future actions. If the applicant submits another application, DEQ is not committed to issuing those authorizations. DEQ would conduct an environmental review for any subsequent authorizations sought by the applicant that require environmental review. DEQ would make a permitting decision based on the criteria set forth in the MMRA. Approving Amendment 008 to Operating Permit #00163 does not set a precedent for DEQ's review of other applications for operating permits, including the level of environmental review. The level of environmental review decision is made based on a case-specific consideration of the criteria set forth in ARM 17.4.608.

Finally, DEQ does not believe that the proposed activities by the applicant have any growth-inducing or growth-inhibiting aspects or conflict with any local, state, or federal laws, requirements, or formal plans.

Based on a consideration of the criteria set forth in ARM 17.4.608, the proposed activities are not predicted to significantly impact the quality of the human environment. Therefore, at this time, preparation of an environmental assessment is determined to be the appropriate level of environmental review under the Montana Environmental Protection Act.

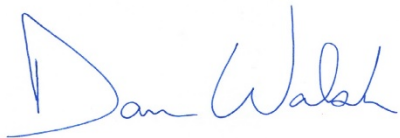
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06/08/2021

Signature

Date

Dan Walsh, Bureau Chief
Hard Rock Mining Bureau, DEQ

CITATIONS

Montana Natural Heritage Program (MTNHP). *Environmental Summary Report for Latitude 47.59162 to 47.67304 and Longitude -111.47513 to -111.68838*. Retrieved on 6/22/2020.

Web Soil Survey. <https://websoilsurvey.sc.egov.usda.gov/>. Accessed [01/18/2021].