Montana Department of
ENVIRONMENTAL QUALITY
Brian Schweitzer, Governor
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April 24, 2012

Jeremiah Bowser, P.E.
Helena Sand & Gravel, Inc.
P.O. Box 5960
Helena, MT 59604

Dear Mr. Bowser:

Montana Air Quality Permit #2673-07 is deemed final as of April 24, 2012, by the Department of Environmental Quality (Department). This permit is for a portable crushing/screening facility. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

Vickie Walsh
Air Permitting Program Supervisor
Air Resources Management Bureau
(406) 444-9741

Deanne Fischer, P.E.
Environmental Engineer
Air Resources Management Bureau
(406) 444-3403

VW:DF
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #2673-07

Helena Sand & Gravel, Inc.
P.O. Box 5960
Helena, Montana 59604

April 24, 2012

MONTANA AIR QUALITY PERMIT

Issued To: Helena Sand & Gravel, Inc.
P.O. Box 5960
Helena, Montana 59604

MAQP #2673-07
Administrative Amendment (AA)
Request Received: 03/09/2012
Department Decision on AA: 04/06/2012
Permit Final: 04/24/2012
AFS #: 777-2673

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Helena Sand & Gravel, Inc. (HSG) pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740 *et seq*., as amended, for the following:

Section I: Permitted Facilities

A. Plant Location

HSG operates a portable crushing/screening facility which will initially be located at Section 19, Township10 North, Range 2 West, in Lewis and Clark County, Montana. However, MAQP #2673-07 applies while operating at any location in Montana, except within those areas having a Department of Environmental Quality (Department) approved permitting program or those areas considered tribal lands. *A Missoula County air quality permit will be required for locations within Missoula County*.

Addendum 2 and MAQP #2673-07 apply to the HSG facility while operating at any location in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) nonattainment areas during the summer months (April 1- September 30) and at sites approved by the Department during the winter months (October 1 – March 31). A complete list of permitted equipment is contained in Section I.A. of the permit analysis.

B. Current Permit Action

On March 9, 2012, HSG submitted a request to allow operation of a 201 brake horsepower (bhp) engine/generator under MAQP#2673-06. This permit action amends MAQP #2673-06 to include operation of the 201 bhp engine/generator and updates the emission inventory for the permitted facility to reflect current published emissions factors. In addition, this permit action updates the rule references and permit format.

Section II: Limitations and Conditions

A. Emission Limitations

1. All visible emissions from any Standards of Performance for New Stationary Source (NSPS) – affected crusher shall not exhibit an opacity in excess of the following averaged over 6 consecutive minutes (ARM 17.8.340 and 40 CFR 60, Subpart OOO):

- For crushers that commence construction, modification, or reconstruction on or after April 22, 2008: 12% opacity

- For crushers that commence construction, modification, or reconstruction after August 31, 1983, but before April 22, 2008: 15% opacity

2. All visible emissions from any other NSPS-affected equipment (such as screens and conveyors) shall not exhibit an opacity in excess of the following averaged over 6 consecutive minutes. (ARM 17.8.340, ARM 17.8.752, and 40 CFR 60, Subpart OOO).

   - For equipment that commence construction, modification, or reconstruction on or after April 22, 2008: 7% opacity

   - For equipment that commence construction, modification, or reconstruction after August 31, 1983, but before April 22, 2008: 10% opacity

3. All visible emissions from any non-NSPS affected equipment shall not exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

4. Water and spray bars, and/or chemical dust suppressant shall be available on site at all times and operated as necessary to maintain compliance with the opacity limitations in Sections II.A.1, II.A.2, and II.A.3 (ARM 17.8.749 and ARM 17.8.752).

5. HSG shall not cause or authorize the use of any street, road or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).

6. HSG shall treat all unpaved portions of the haul roads, access roads, parking lots, or the general plant area with water and/or chemical dust suppressant, as necessary, to maintain compliance with the reasonable precautions limitation in Section II.A.5 (ARM 17.8.749).

7. HSG shall not operate more than 3 crushers at any given time and the total maximum combined rated design capacity of the crushers shall not exceed 1,100 tons per hour (TPH) (ARM 17.8.749).

8. HSG shall not operate more than 3 screens at any given time and the total maximum combined rated design capacity of the screens shall not exceed 1,300 TPH (ARM 17.8.749).

9. HSG shall not operate more than 1 diesel engine/generator at any given time. The maximum rated capacity of the engine driving the generator shall not exceed 1,495 bhp and operation of the engine/generator shall not exceed 3,400 hours during any rolling 12-month period (ARM 17.8.749 and ARM 17.8.1204).

10. If the permitted equipment is used in conjunction with any other equipment owned or operated by HSG, at the same site, production shall be limited to correspond with an emission level that does not exceed 250 tons of any pollutant during any rolling 12-month period. Any calculations used to establish production levels shall be approved by the Department (ARM 17.8.749).

11. HSG shall comply with all applicable standards and limitations, monitoring, reporting, recordkeeping, testing, and notification requirements contained in 40 CFR 60, Subpart OOO, *Standards of Performance for Nonmetallic Mineral Processing Plants* (ARM 17.8.340 and 40 CFR 60, Subpart OOO).

12. HSG shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR 60, Subpart IIII - *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* and 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, for any applicable diesel engine (ARM 17.8.340; 40 CFR 60, Subpart IIII; ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

B. Testing Requirements

1. Within 60 days after achieving maximum production, but no later than 180 days after initial start-up, an Environmental Protection Agency (EPA) Method 9 opacity test and/or other methods and procedures as specified in 40 CFR Part 60.675 must be performed on all NSPS-affected equipment to demonstrate compliance with the emission limitations contained in Section II.A.1 and II.A.2. Additional testing may be required by 40 CFR 60, Subpart OOO (ARM 17.8.340 and 40 CFR 60, Subpart OOO).

2. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

3. The Department may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. If this crushing/screening plant is moved to another location, an Intent to Transfer form must be sent to the Department and a Public Notice Form for Change of Location must be published in a newspaper of general circulation in the area to which the transfer is to be made, at least 15 days prior to the move. The proof of publication (affidavit) of the Public Notice Form for Change of Location must be submitted to the Department prior to the move. These forms are available from the Department (ARM 17.8.749 and ARM 17.8.765).

2. HSG shall maintain on-site records showing daily hours of operation and daily production rates for the last 12 months. The records compiled in accordance with this permit shall be maintained by HSG as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).

3. HSG shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but not be limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

   Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used for calculating operating fees, and/or to verify compliance with permit limitations (ARM 17.8.505).

4. HSG shall document, by month, the hours of operation of the diesel engines/generators. By the 25th day of each month, HSG shall calculate the hours of operation of the diesel engines/generators for the previous month. The

monthly information will be used to demonstrate compliance with the rolling 12-month limitation in Section II.A.9. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749, ARM 17.8.1204).

5. HSG shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include ***the addition of a new emissions unit***, change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation. The notice must be submitted to the Department, in writing, 10 days prior to startup or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(l)(d) (ARM 17.8.745).

6. HSG shall annually certify that its emissions are less than those that would require the source to obtain an air quality operating permit as required by ARM 17.8.1204(3)(b). The annual certification shall comply with the certification requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emissions inventory information (ARM 17.8.749, ARM 17.8.1204 and ARM 17.8.1207).

D. Notification

HSG shall provide the Department with written notification of the actual start-up date of the 201 bhp engine/generator postmarked within 15 days after the actual start-up date (ARM 17.8.749).

Section III: General Conditions

A. Inspection – HSG shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or, surveys, collecting samples, obtaining data, auditing any monitoring equipment (continuous emissions monitoring system(CEMS) or continuous emissions rate monitoring system CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.

B. Waiver – The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if HSG fails to appeal as indicated below.

C. Compliance with Statutes and Regulations - Nothing in this permit shall be construed as relieving HSG of the responsibility for complying with any applicable federal, or Montana statute, rule or standard, except as specifically provided for in ARM 17.8.740, *et seq*. (ARM 17.8.756).

D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement as specified in Section 75-2-401 *et seq*., MCA.

E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not

stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), Montana Code Annotated (MCA). The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.

F. Permit Inspection – As required by ARM 17.8.755 Inspection of Permit, a copy of the air quality permit shall be made available for inspection by Department personnel at the location of the permitted source.

G. Air Quality Operation Fees – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by HSG may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

H. Duration of Permit – Construction or installation must begin or contractual obligations entered into that would constitute substantial loss within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall expire (ARM 17.8.762).

I. The Department may modify the conditions of this permit based on local conditions of any future site. These factors may include, but are not limited to, local terrain, meteorological conditions, proximity to residences, etc.

J. HSG shall comply with the conditions contained in this permit while operating at any location in Montana, except within those areas that have a Department approved permitting program or areas considered tribal lands.

Montana Air Quality Permit (MAQP) Analysis
Helena Sand & Gravel
MAQP #2673-07

I. Introduction/Process Description

Helena Sand & Gravel, Inc. (HSG) owns and operates a portable crushing and screening operation.

A. Permitted Equipment

HSG operates a portable crushing/screening facility consisting of 3 portable crushers (up to 1,100 tons per hour (TPH) total), 3 screens (up to 1,300 TPH total), a wash plant, 2 diesel engines/generators (operating only one at any given time, with a maximum rated capacity up to 1,495 brake horsepower (bhp)), and associated equipment.

B. Process Description

HSG is initially located at Section 19, Township 10 North, Range 2 West, in Lewis and Clark County, Montana. However, MAQP #2673-07, applies to the source while operating at any location in Montana, except within those areas having a Department of Environmental Quality (Department)-approved permitting program, those areas considered tribal lands, or those areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) nonattainment areas. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.* Addendum 2 to MAQP #2673-07 applies while operating at locations in or within 10 km of certain PM_{10} nonattainment areas.

HSG proposes to use this crushing/screening plant and associated equipment to crush and screen sand and gravel materials for use in various construction operations. For a typical operational setup the materials are loaded into the crushing plant by a feeder, transferred by conveyor, passed through the crusher, and sent to stockpile for sale and use in construction operations.

C. Permit History

On February 15, 1991, MAQP **#2673-00** was issued to HSG for the operation of a 1990 Torgerson crusher and associated equipment. The permit also contained specific conditions for any operations on Wolf Road in Lewis and Clark County.

On August 23, 1995, MAQP #2673-01 was issued to HSG. As part of this permit alteration, a 1994 Pioneer jaw crusher (including one screen, and two conveyors as part of the machinery) was added to the existing equipment. The existing equipment consisted of a 1990 Torgerson crusher (which includes one screen and two conveyors as part of the machinery). **MAQP #2673-01** replaced MAQP #2673-00.

On November 26, 1997, MAQP #2673-02 was issued to HSG. HSG proposed to add a 200 TPH 1984 El Jay Rollercone crusher to their facility. The emission inventory was updated with current emission factors. HSG agreed to an annual operational limit to allow the facility to stay below the Title V threshold. The rule references in the permit were also updated during the alteration. **MAQP #2673-02** replaced MAQP #2673-01.

HSG was issued MAQP #2673-03 on May 19, 1999. The alteration included the addition of a 1998 Nordberg HP300 cone crusher (maximum capacity 250 TPH), a 1998 Nordberg HP400 cone crusher (maximum capacity 250 TPH), a 1998 Diester screen (maximum capacity 350 TPH), and a 1996 El Jay screen (maximum capacity 350 TPH) to the existing permit. HSG agreed to a 4,800 hour per year operational limit in order to operate the new equipment with the existing equipment and stay below the Title V threshold. **MAQP #2673-03** replaced MAQP #2673-02.

On May 15, 2002, HSG requested a permit modification for the removal of the 1990 Torgerson crusher, and the 1984 Rollercone crusher. In addition, HSG requested clarification for the size of the diesel engine/generator (910 kilowatts (kW)). MAQP **#2673-04** replaced MAQP #2673-03.

On April 17, 2006, HSG submitted a request for a modification to MAQP #2673-04 to add a portable Kolberg feeder and washplant. In addition, HSG requested the addition of an addendum to provide the flexibility of operating in or within 10 km of a certain PM_{10} nonattainment area. On March 5, 2007, HSG submitted an application for a modification to replace the existing back-up power generator with a 1500 kW unit, and add a diesel fuel storage tank for the back-up power generator. The Department also updated the permit to reflect current rule references, emission factors, and de minimis friendly permit conditions. **MAQP #2673-05** replaced MAQP #2673-04.

On January 9, 2012, the Department received an application for administrative amendment indicating HSG's participation in the Department's S source project. The Department undertook this project in the last quarter of 2011 to reduce the number of sources subject to the Compliance Monitoring Strategy (CMS) program; whereby reducing the Department's burden associated with maintaining the CMS. Sources with MAQP's containing federally enforceable permit limitations to remain a minor source of emissions with respect to Title V and that had permit allowable emissions at or above 80 tons per year (TPY) were eligible for the S source project. These sources were provided the option to amend their permits so that limits could be incorporated which maintain allowable emissions below 80 TPY. HSG's MAQP was amended to incorporate limits and conditions to maintain allowable emissions below this threshold. In addition, the permit updated the rule references, permit format, and the emissions inventory. **MAQP #2673-06** replaced MAQP #2673-05.

D. Current Permit Action

On March 9, 2012, HSG submitted a request to allow operation of a 201 brake horsepower (bhp) engine/generator under MAQP#2673-06. The existing permit included a limit for the operation of up to one engine/generator at any given time with a maximum rated capacity of 1,495 horsepower (hp). The Department determined that operation of a 201 bhp engine/generator would not violate the conditions of the permit. Therefore, this permit action amends MAQP #2673-06 to include the 201 bhp engine/generator in the emission inventory for the permitted facility. In addition, this permit action updates the emission inventory calculations for the permitted facility to reflect current published emissions factors. The change in the emissions inventory resulted in the reduction of the hourly operating limit for the engines/generators from 4,350 hours per year (hr/yr) to 3,400 hr/yr to maintain allowable emissions below 80 TPY. This permit action also updates the rule references and permit format. **MAQP #2673-07** replaces MAQP #2673-06.

E. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the ARM and are available upon request from the Department. Upon request, the Department will provide references for locations of complete copies of all applicable rules and regulations where appropriate.

A. ARM 17.8, Subchapter 1 - General Provisions, including, but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment, including instruments and sensing devices, and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.

3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq*., Montana Code Annotated (MCA).

   HSG shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.

5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 - Ambient Air Quality, including, but not limited to:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide

3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM_{10}
11. ARM 17.8.230 Fluoride in Forage

HSG must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 - Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions are taken to control emissions of airborne particulate matter (PM). (2) Under this rule, HSG shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.

3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this section.

4. ARM 17.8.310 Particulate Matter, Industrial Processes. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter in excess of the amount set forth in this section.

5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this section.

6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank truck or trailer is equipped with a vapor loss control device as described in (1) of this rule.

7. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). HSG is considered an NSPS-affected facility under 40 CFR Part 60 and is subject to the requirements of the following subparts.

   a. 40 CFR 60, Subpart A – General Provisions apply to all equipment or facilities subject to an NSPS Subpart as listed below:

b. 40 CFR 60, Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants. In order for a crushing plant to be subject to this subpart, the facility must meet the definition of an affected facility and, the affected equipment must have been constructed, reconstructed, or modified after August 31, 1983. Based on the information submitted by HSG, the portable crushing equipment to be used under MAQP #2673-07 is subject to this subpart because the manufacture date of the equipment was after August 31, 1983.

c. 40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE). Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are manufactured after April 1, 2006, and are not fire pump engines, and owners and operators of stationary CI ICE that modify or reconstruct their stationary CI ICE after July 11, 2005, are subject to this subpart.

Based on the information submitted by HSG, the CI ICE equipment to be used under MAQP #2673-07 is not currently subject to this subpart because it is intended to be a portable unit. However, this subpart would become applicable if a CI ICE were to remain in a location for more than 12 months.

8. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. This rule incorporates, by reference, 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Source Categories. HSG is considered a NESHAP-affected facility under 40 CFR Part 63 and is subject to the requirements of the following subparts:

a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to a NESHAPs Subpart as listed below.

b. 40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants (HAPs) for Stationary Reciprocating Internal Combustion Engines (RICE). An owner or operator of a stationary reciprocating internal combustion engine (RICE) at a major or area source of HAP emissions is subject to this rule except if the stationary RICE is being tested at a stationary RICE test cell/stand. An area source of HAP emissions is a source that is not a major source.

Based on the information submitted by HSG, the RICE equipment to be used under MAQP #2673-07 may potentially be subject to this subpart because it operates a compression ignition RICE at an area source of HAP emissions. However since the RICE is intended to be portable, HSG does not have to comply with the applicable emission limitations and operating limitations of 40 CFR 63, Subpart ZZZZ. This subpart would become applicable if a RICE remains in a location for more than 12 months.

D. ARM 17.8, Subchapter 5 - Air Quality Permit Application, Operation and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete

until the proper application fee is paid to the Department. A permit fee is not required for the current permit action because the permit action is considered an administrative permit change.

2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit, excluding an open burning permit, issued by the Department.

   An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, as described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that pro-rate the required fee amount.

E. ARM 17.8, Subchapter 7 - Permit, Construction and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.743 Montana Air Quality Permits -- When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify, or use any asphalt plant, crusher, or screen that has the potential to emit (PTE) greater than 15 TPY of any pollutant. HSG has a PTE greater than 15 TPY of PM, PM_{10}, oxides of nitrogen (NOx), and carbon monoxide (CO), therefore, an air quality permit is required.

3. ARM 17.8.744 Montana Air Quality Permits –- General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.

4. ARM 17.8.745 Montana Air Quality Permits –- Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.

5. ARM 17.8.748 New or Modified Emitting Units -- Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. A permit application was not required for the current permit action because the permit change is considered an administrative permit change. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. An affidavit of publication of public notice was not required for the current permit action because the permit change is considered an administrative permit change.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.

7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.

8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.

9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving HSG of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*.

10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.

11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified as provided in this subchapter, except that a permit issued prior to construction of a new or modified source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).

13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.

14. ARM 17.8.765 Transfer of Permit. (1) This rule states that an MAQP may be transferred from one location to another if the Department receives a complete notice of intent to transfer location, the facility will operate in the new location for less than 1 year, the facility will comply with the FCAA and the Clean Air Act of Montana, and the facility complies with other applicable rules. (2) This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the Department.

F. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.

2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

   This facility is not a major stationary source because it is not a listed source and the facility's PTE is less than 250 TPY of any pollutant (excluding fugitive emissions).

G. ARM 17.8, Subchapter 12 - Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any stationary source having:

   a. PTE > 100 TPY of any pollutant;

   b. PTE > 10 TPY of any one hazardous air pollutant (HAP), PTE > 25 TPY of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or

   c. PTE > 70 TPY of PM_{10} in a serious PM_{10} nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (1) Title V of the FCAA Amendments of 1990 requires that all sources, as defined in ARM 17.8.1204 (1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #2673-07 for HSG, the following conclusions were made:

   a. The facility's PTE is greater than 100 TPY for NOx pollutant. HSG has requested federally-enforceable permit operating limits be established to maintain the facility's PTE to less than the 100 TPY threshold.

   b. The facility's PTE is less than 10 TPY of anyone HAP and less than 25 TPY of all HAPs.

   c. This source is not located in a serious PM_{10} nonattainment area.

   d. This facility is subject to a current NSPS (40 CFR 60, Subparts A, OOO and potentially 40 CFR 60, Subpart IIII).

   e. This facility is potentially subject to a current NESHAP standard (40 CFR 63, Subparts A and ZZZZ).

   f. This source is not a Title IV affected source.

   g. This source is not a solid waste combustion unit.

   h. This source is not an EPA designated Title V source.

HSG requested federally-enforceable permit limitations to remain a minor source of emissions with respect to Title V. Based on these limitations, the Department determined that this facility is not subject to the Title V Operating Permit Program. However, in the event that the EPA makes minor sources that are subject to NSPS obtain a Title V Operating Permit, this source will be subject to the Title V Operating Permit Program.

i. ARM 17.8.1204(3). The Department may exempt a source from the requirement to obtain an air quality operating permit by establishing federally enforceable limitations which limit that source's PTE.

i. In applying for an exemption under this section, the owner or operator of the facility shall certify to the Department that the source's PTE does not require the source to obtain an air quality operating permit.

ii. Any source that obtains a federally enforceable limit on PTE shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit.

The Department has determined that the annual reporting requirements contained in the permit are sufficient to satisfy this requirement.

3. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness. The compliance certification submittal required by ARM 17.8.1204(3) shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under this subchapter shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

III. BACT Determination

A BACT determination is required for each new or modified source. HSG shall install on the new or modified source the maximum air pollution control capability which is technologically practicable and economically feasible, except that BACT shall be utilized.

A BACT determination was not required for the current permit action because the permit change is considered an administrative permit change.

IV. Emission Inventory

Annual	**tons/year**						
Emission Source	**PM**	**PM10**	**PM2.5**	**NOx**	**CO**	**VOC**	**SO2**
Engine Generator: (1,495 bhp)	5.59	5.59	5.59	78.79	16.98	6.39	5.21
Crushers (3) : (1100 TPH total)	5.78	2.60	0.48				
Screens (3) : (1300 TPH total)	12.53	4.21	0.28				
Haul Roads	22.74	34.34	3.43				
Conveyor Transfer Point (12 transfers) (controlled)	9.57	3.14	0.89				
Pile Forming (2 piles)	19.29	9.12	1.38				
Truck unloading (1 load)	0.09	0.09	0.09				
Diesel Storage Tank (up to 10,000 gal)						7.05E-04	

Total Emissions	75.58	59.10	12.15	78.79	16.98	6.39	5.21
Engine Generator: (201 bhp)	0.75	0.75	0.75	10.59	2.28	0.86	0.70

a. Inventory reflects federally enforceable limits on the hours of operation of the diesel engines/generators (3,400 hrs/yr) to keep allowable emissions (NOx) below the Title V threshold AND 80 TPY.
b. Inventory is based on operation of only one engine/generator at any time, with a maximum rated capacity of up to 1,495 bhp.
c. Diesel storage tank emissions were previously calculated with TANKS 4.0.9d (submitted by applicant) (1.41 lb/yr x 1/2000 lb/ton = 0.000705 tpy).

*** CO = carbon monoxide
HAPs = hazardous air pollutants
hp = horsepower
lb = pound
N/A = not applicable
ND = no data available
NOX = oxides of nitrogen
PM = particulate matter
PM10 = particulate matter with an aerodynamic diameter of 10 microns or less
PM2.5 = particulate matter with an aerodynamic diameter of 2.5 microns or less
SOX = oxides of sulfur
TPH = tons per hour
TPY = tons per year
VOC = volatile organic compounds
yr = year

Engine Generator: (201 bhp)

Operational Capacity of Engine =	201	bhp
Hours of Operation =	3,400	hours/yr
PM Emissions:		
Emission Factor(AP-42, Sec. 3.3, Table 3.3-1, 10/96) =	2.20E-03	lbs/hp-hr
Calculation: (201 bhp) * (3,400 hours/yr) * (0.0022 lbs/hp-hr) * (ton/2000 lb) =	0.75	ton/yr
Calculation: (201 bhp) * (3,400 hours/yr) * (0.0022 lbs/hp-hr) =	1,503.48	lbs/yr
PM-10 Emissions:		
Emission Factor(AP-42, Sec. 3.3, Table 3.3-1, 10/96) =	2.20E-03	lbs/hp-hr
PM Emissions = 0.66 ton/yr (Assume PM = PM10= PM2.5)	**0.75**	ton/yr
PM Emissions = 1,326.60 lbs/yr	**1,503.48**	lbs/yr
PM-2.5 Emissions:		
Emission Factor(AP-42, Sec. 3.3, Table 3.3-1, 10/96) =	2.20E-03	lbs/hp-hr
PM Emissions = 0.66 ton/yr (Assume PM = PM10= PM2.5)	**0.75**	ton/yr
PM Emissions = 1,326.60 lbs/yr	**1,503.48**	lbs/yr
NOx Emissions:		
Emission Factor(AP-42, Sec. 3.3, Table 3.3-1, 10/96) =	3.10E-02	lbs/hp-hr
Calculation: (201 bhp) * (3,400 hours/yr) * (0.0310 lbs/hp-hr) * (ton/2000 lb) =	**10.59**	ton/yr
Calculation: (201 bhp) * (3,400 hours/yr) * (0.0310 lbs/hp-hr) =	**21,185.40**	lbs/yr
CO Emissions:		
Emission Factor (AP-42, Sec. 3.3, Table 3.3-1, 10/96)=	6.68E-03	lbs/hp-hr
Calculation: (201 bhp) * (3,400 hours/yr) * (0.00668 lbs/hp-hr) * (ton/2000 lb) =	**2.28**	ton/yr
Calculation: (201 bhp) * (3,400 hours/yr) * (0.00668 lbs/hp-hr) =	**4,565.11**	lbs/yr
VOC Emissions:		
Emission Factor (AP-42, Table 3.3-1, TOC, Exhaust + Crankcase, 10/96)=	2.51E-03	lbs/hp-hr

Calculation: (201 bhp) * (3,400 hours/yr) * (0.00251 lbs/hp-hr) * (ton/2000 lb) =	**0.86**	ton/yr
Calculation: (201 bhp) * (3,400 hours/yr) * (0.00251 lbs/hp-hr) =	**1,718.14**	lbs/yr

SOx Emissions:

Emission Factor(AP-42, Sec. 3.3, Table 3.3-1, 10/96) =	2.05E-03	lbs/hp-hr
Calculation: (201 bhp) * (3,400 hours/yr) * (0.00205 lbs/hp-hr) * (ton/2000 lb) =	**0.70**	ton/yr
Calculation: (201 bhp) * (3,400 hours/yr) * (0.00205 lbs/hp-hr) =	**1,400.97**	lbs/yr

Engine Generator: (1,495 bhp)

Operational Capacity of Engine =	1,495	bhp
Hours of Operation =	3,400	hours/yr

PM Emissions:

Emission Factor(AP-42, Sec. 3.3, Table 3.3-1, 10/96) =	2.20E-03	lbs/hp-hr
Calculation: (1,495 bhp) * (3,400 hours/yr) * (0.0022 lbs/hp-hr) * (ton/2000 lb) =	**5.59**	ton/yr
Calculation: (1,495 bhp) * (3,400 hours/yr) * (0.0022 lbs/hp-hr) =	**11,182.60**	lbs/yr

PM-10 Emissions:

Emission Factor(AP-42, Sec. 3.3, Table 3.3-1, 10/96) =	2.20E-03	lbs/hp-hr
Calculation: (1,495 bhp) * (3,400 hours/yr) * (0.0022 lbs/hp-hr) * (ton/2000 lb) =	**5.59**	ton/yr
Calculation: (1,495 bhp) * (3,400 hours/yr) * (0.0022 lbs/hp-hr) =	**11,182.60**	lbs/yr

PM-2.5 Emissions:

Emission Factor(AP-42, Sec. 3.3, Table 3.3-1, 10/96) =	2.20E-03	lbs/hp-hr
Calculation: (1,495 bhp) * (3,400 hours/yr) * (0.0022 lbs/hp-hr) * (ton/2000 lb) =	**5.59**	ton/yr
Calculation: (1,495 bhp) * (3,400 hours/yr) * (0.0022 lbs/hp-hr) =	**11,182.60**	lbs/yr

NOx Emissions:

Emission Factor(AP-42, Sec. 3.3, Table 3.3-1, 10/96) =	3.10E-02	lbs/hp-hr
Calculation: (1,495 bhp) * (3,400 hours/yr) * (0.0310 lbs/hp-hr) * (ton/2000 lb) =	**78.79**	ton/yr
Calculation: (1,495 bhp) * (3,400 hours/yr) * (0.0310 lbs/hp-hr) =	**157,573.00**	lbs/yr

CO Emissions:

Emission Factor(AP-42, Sec. 3.3, Table 3.3-1, 10/96) =	6.68E-03	lbs/hp-hr
Calculation: (1,495 bhp) * (3,400 hours/yr) * (0.0067 lbs/hp-hr) * (ton/2000 lb) =	**16.98**	ton/yr
Calculation: (1,495 bhp) * (3,400 hours/yr) * (0.0067 lbs/hp-hr) =	**33,954.44**	lbs/yr

VOC Emissions:

Emission Factor (AP-42, Table 3.3-1, TOC, Exhaust + Crankcase, 10/96)=	2.51E-03	lbs/hp-hr
Calculation: (1,495 bhp) * (3,400 hours/yr) * (0.0025 lbs/hp-hr) * (ton/2000 lb) =	**6.39**	ton/yr
Calculation: (1,495 bhp) * (3,400 hours/yr) * (0.0025 lbs/hp-hr) =	**12,779.17**	lbs/yr

SOx Emissions:

Emission Factor(AP-42, Sec. 3.3, Table 3.3-1, 10/96) =	2.05E-03	lbs/hp-hr
Calculation: (1,495 bhp) * (3,400 hours/yr) * (0.0021 lbs/hp-hr) * (ton/2000 lb) =	**5.21**	ton/yr
Calculation: (1,495 bhp) * (3,400 hours/yr) * (0.0021 lbs/hp-hr) =	**10,420.15**	lbs/yr

Crushers (3) : (1100 ton/hr total)

Hours of Operation	8,760	hrs/yr
Process Rate	1,100	ton/hr

PM Emissions:

Emission Factor (AP 42, Table 11.19.2-2, 8/04, controlled)	0.0012	lb/ton
Calculation: (1100 ton/hr) * (8760 hrs/yr) * (0.0012 lb/ton) * (ton/2000 lb) =	**5.78**	ton/yr

PM_{10} Emissions:

Emission Factor (AP 42, Table 11.19.2-2, 8/04, controlled)	0.00054	lb/ton
Calculation: (1100 ton/hr) * (8760 hrs/yr) * (0.00054 lb/ton) * (ton/2000 lb) =	**2.60**	ton/yr

$PM_{2.5}$ Emissions:

Emission Factor (AP 42, Table 11.19.2-2, 8/04, controlled)	0.0001	lb/ton
Calculation: (1100 ton/hr) * (8760 hrs/yr) * (0.0001 lb/ton) * (ton/2000 lb) =	**0.48**	ton/yr

Screens (3) : (1300 ton/hr total)

Hours of Operation	8,760	hrs/yr
Process Rate	1,300	ton/hr

Total PM Emissions:

Emission Factor (AP 42, Table 11.19.2-2, 8/04)	0.0022	lb/ton
Calculation: (1,300 ton/hr) * (8760 hrs/yr) * (0.0022 lb/ton) * (ton/2000 lb) =	**12.53**	ton/yr

Total PM_{10} Emissions:

Emission Factor (AP 42, Table 11.19.2-2, 8/04)	0.00074	lb/ton
Calculation: (1,300 ton/hr) * (8760 hrs/yr) * (0.00074 lb/ton) * (ton/2000 lb) =	**4.21**	ton/yr

Total $PM_{2.5}$ Emissions:

Emission Factor (AP 42, Table 11.19.2-2, 8/04)	0.00005	lb/ton
Calculation: (1,300 ton/hr) * (8760 hrs/yr) * (0.00005 lb/ton) * (ton/2000 lb) =	**0.28**	ton/yr

Haul Roads

Vehicle Miles Traveled (estimated)	10	VMT/day
	365.00	day/yr
Hours of Operation	8,760	hrs/yr

PM Emissions:

Emission Factor = k * (s / 12)^a * (W / 3)^b = 12.46 lb/VMT	12.46	lb/VMT
Where: k = constant (PM30/TSP, AP 42, Table 13.2.2-2, 11/06)	4.9	lbs/VMT
s = surface silt content (Mean value, sand/gravel processing, mat'l storage area)	7.1	%
W = mean vehicle weight(1994 average loaded/unloaded or a 40 ton truck)	54	tons
a = constant (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	0.7	
b = constant (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	0.45	
Control Efficiency	0	%
Calculation: (10 VMT/day) * (365 day/yr) * (12.46 lb/VMT) * (ton/2000 lb) =	**22.74**	tons/yr

PM_{10} Emissions:

Emission Factor = k * (s / 12)^a * (W / 3)^b = 3.43 lb/VMT	3.43	lb/VMT
Where: k = constant (PM30/TSP, AP 42, Table 13.2.2-2, 11/06)	1.5	lbs/VMT
s = surface silt content (Mean value, sand/gravel processing, mat'l storage area)	7.1	%
W = mean vehicle weight(1994 average loaded/unloaded or a 40 ton truck)	54	tons
a = constant (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	0.9	
b = constant (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	0.45	

Control Efficiency	0	%
Calculation: (10 VMT/day) * (365 day/yr) * (3.43 lb/VMT) * (ton/2000 lb) =	**6.27**	tons/yr

$PM_{2.5}$ Emissions:

Emission Factor = k * (s / 12)^a * (W / 3)^b = 0.34 lb/VMT	0.34	lb/VMT
Where: k = constant (PM30/TSP, AP 42, Table 13.2.2-2, 11/06)	0.15	lbs/VMT
s = surface silt content (Mean value, sand/gravel processing, mat'l storage area)	7.1	%
W = mean vehicle weight(1994 average loaded/unloaded or a 40 ton truck)	54	tons
a = constant (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	0.9	
b = constant (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	0.45	
Control Efficiency	0	%
Calculation: (10 VMT/day) * (365 day/yr) * (0.34 lb/VMT) * (ton/2000 lb) =	**0.63**	tons/yr

Conveyor Transfer Point (12 transfers) (controlled)

Process Rate	1,300	ton/hr
Hours of Operation	8,760	hrs/yr
Number of Transfers	12	transfer

Total PM Emissions:

Emission Factor	0.00014	lb/ton
Calculation: (1,300 ton/hr) * (8760 hrs/yr) * (0.00014 lb/ton) * (ton/2000 lb) * (12 transfer) =	**9.57**	ton/yr

Total PM_{10} Emissions:

Emission Factor	4.60E-05	lb/ton
Calculation: (1,300 ton/hr) * (8760 hrs/yr) * (0.000046 lb/ton) * (ton/2000 lb) * (12 transfer) =	**3.14**	ton/yr

Total $PM_{2.5}$ Emissions:

Emission Factor	1.30E-05	lb/ton
Calculation: (1,300 ton/hr) * (8760 hrs/yr) * (0.000013 lb/ton) * (ton/2000 lb) * (12 transfer) =	**0.89**	ton/yr

Pile Forming (2 piles)

Process Rate	1,300	ton/hr
Hours of Operation	8,760	hrs/yr
Number of Piles	2	piles

PM Emissions:

Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00169 lb/ton	0.00169	lb/ton
Where: k = particle size multiplier (Value for PM < 30 microns per AP 42, Sec. 13.2.4.3, 11/06)	0.74	
U = mean wind speed (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06)	8.15	mph
M = material moisture content (from previous permit version)	4.00	%
Control Efficiency	0	%
Daily Calculation: (1,300 ton/hr) * (8760 hrs/yr) * (2 piles)* (0.00169 lb/ton) =	**19.29**	ton/yr

PM_{10} Emissions:

Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00080 lb/ton	0.00080	lb/ton
Where: k = particle size multiplier (Value for PM < 30 microns per AP 42, Sec. 13.2.4.3, 11/06)	0.35	
U = mean wind speed (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06)	8.15	mph
M = material moisture content (from previous permit version)	4.00	%
Control Efficiency	0	%

Daily Calculation: (1,300 ton/hr) * (8760 hrs/yr) * (2 piles)* (0.00080 lb/ton) =	**9.12**	ton/yr

$PM_{2.5}$ Emissions:

Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00012 lb/ton	0.00012	lb/ton
Where: k = particle size multiplier (Value for PM < 30 microns per AP 42, Sec. 13.2.4.3, 11/06)	0.053	
U = mean wind speed (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06)	8.15	mph
M = material moisture content (from previous permit version)	4.00	%
Control Efficiency	0	%
Daily Calculation: (1,300 ton/hr) * (8760 hrs/yr) * (2 piles)* (0.00012 lb/ton) =	**1.38**	ton/yr

Truck unloading (1 load)

Process Rate	1,300	ton/hr
Hours of Operation	8,760	hrs/yr
Number of Loads	1	load

PM Emissions:

Emission Factor (AP 42, Sec. 11.19.2-2, 8/2004)	1.60E-05	lb/ton
Control Efficiency	0	%
Calculation: (1,300 ton/hr) * (8760 hrs/yr) * (1 load) * (ton/2000 lb) * (0.000016 lb/ton) =	**0.09**	ton/yr

PM_{10} Emissions:

Emission Factor (AP 42, Sec. 11.19.2-2, 8/2004)	1.60E-05	lb/ton
Control Efficiency	0	%
Calculation: (1,300 ton/hr) * (8760 hrs/yr) * (1 load) * (ton/2000 lb) * (0.000016 lb/ton) =	**0.09**	ton/yr

$PM_{2.5}$ Emissions:

Emission Factor (AP 42, Sec. 11.19.2-2, 8/2004)	1.60E-05	lb/ton
Control Efficiency	0	%
Calculation: (1,300 ton/hr) * (8760 hrs/yr) * (1 load) * (ton/2000 lb) * (0.000016 lb/ton) =	**0.09**	ton/yr

V. Existing Air Quality and Impacts

MAQP #2673-07 is issued for the operation of a portable crushing/screening facility to operate at various locations throughout Montana. This facility would be allowed to operate at any area designated as attainment or unclassified for all National Ambient Air Quality Standards (NAAQS); excluding those counties that have a Department-approved permitting program, those areas considered tribal lands, or those areas in or within 10 km of certain PM_{10} nonattainment areas. *A Missoula County air quality permit would be required for locations within Missoula County, Montana.* Addendum 2 of MAQP #2673-07 would cover this portable crushing/screening plant while operating at locations in or within 10 km of a PM_{10} nonattainment area during the Winter Season (October 1 - March 31). Addendum 2 of MAQP #2673-07 would also allow for operations during the Summer Season (April 1- September 30) at any location in or within 10 km of the Butte, Columbia Falls, Libby, Kalispell, Thompson Falls, and Whitefish PM_{10} nonattainment areas.

VI. Air Quality Impacts

The Department determined that there will be no impacts from this permitting action because this permitting action is considered an administrative action. Therefore, the Department believes this action will not cause or contribute to a violation of any ambient air quality standard.

VII. Ambient Air Impact Analysis

Based on the information provided and the conditions established in MAQP #2673-07, the Department determined that the impact from this permitting action will be minor.

VIII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

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 deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (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? (consider economic impact, investment-backed expectations, character of government action)
	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?
	X	7a. Is the impact of government action direct, peculiar, and significant?
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered 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?
	X	Takings or damaging implications? (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; the shaded areas)

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

IX. Environmental Assessment

An environmental assessment was not required for this permit change because it is considered an Administrative Amendment.

Analysis Prepared By: Deanne Fischer
Date: 03/31/2012

Addendum 2
Helena Sand & Gravel, Inc.
Montana Air Quality Permit (MAQP) #2673-07

An addendum to MAQP #2673-07, with conditions, is hereby granted to Helena Sand & Gravel, Inc. (HSG) pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.765, *et seq.*, as amended, for the following:

I. Permitted Equipment

HSG owns and operates a portable crushing/screening facility consisting of 3 portable crushers, (up to 1,100 tons per hour (TPH) total), 3 portable screens (up to 1,300 TPH total), 2 diesel engines/generators (operating only one at any given time, with a maximum rated capacity up to 1,495 brake horsepower (bhp)), and associated equipment. HSG operates at various locations throughout Montana, including locations in or within 10 kilometers (km) of the following particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) Nonattainment Areas (NAAs): Butte, Columbia Falls, Kalispell, Libby, Thompson Falls, and Whitefish.

II. Seasonal and Site Restrictions– Winter and Summer Seasons

Addendum 2 to MAQP #2673-07 applies to the HSG facility while operating at any location in or within 10 km of certain PM_{10} NAAs. Additionally, seasonal and site restrictions apply to the facility as follows.

A. During the Winter Season (October 1 – March 31) – The only locations in or within 10 km of a PM_{10} nonattainment area where HSG may operate is:

- The Kalispell PM_{10} nonattainment area.
- Any other site that may be approved, in writing, by the Department of Environmental Quality (Department).

B. During the Summer Season (April 1 – September 30) – HSG may operate at any location in or within 10 km of certain PM_{10} NAAs, including, but not limited to the Butte, Columbia Falls, Kalispell, Libby, Thompson Falls, and Whitefish PM_{10} nonattainment areas.

C. HSG shall comply with the limitations and conditions contained in Addendum 2 to MAQP #2673-07 while operating in or within 10 km of any of the previously identified PM_{10} nonattainment areas. Addendum 2 shall be valid until revoked or modified. The Department reserves the authority to modify Addendum 2 at any time based on local conditions of any future site. These conditions may include, but are not limited to, local terrain, meteorological conditions, proximity to residences or other businesses, etc.

III. Limitations and Conditions

A. Operational Limitations and Conditions – **Summer Season**

1. Water spray bars must be available on site at all times, and operated, as necessary on the crushers, screens, and all transfer points whenever the crushing/screening plant is in operation (ARM 17.8.749).

2. HSG shall not cause or authorize to be discharged into the atmosphere from any equipment, any visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.749). For NSPS-affected

equipment constructed after April 22, 2008 for which an opacity limitation of 7% applies (such as screens and conveyors), that 7% limit shall apply to the affected equipment (ARM 17.8.340 and 40 CFR 60, Subpart OOO).

3. HSG shall not cause or authorize to be discharged into the atmosphere from haul roads, access roads, parking lots, or the general plant property any visible fugitive emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.749).

4. HSG shall treat all unpaved portions of the haul roads, access roads, parking lots, and general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the 10% opacity limitation (ARM 17.8.749).

5. HSG shall not operate, or have on-site, more than 3 crushers (up to 1,100 TPH total), at any one time (ARM 17.8.749).

6. HSG shall not operate, or have on-site, more than 3 screens (up to 1,300 TPH total), at any one time (ARM 17.8.749).

7. HSG shall not operate more than 1 diesel engine/generator at any given time and the maximum rated capacity of the engine driving the generator shall not exceed 1,495 bhp (ARM 17.8.749).

B. Operational Limitations and Conditions – **Winter Season**

1. Water spray bars must be available on site at all times, and operated as necessary, on the crushers, screens, and all transfer points whenever the crushing/screening plant is in operation (ARM 17.8.749).

2. HSG shall not cause or authorize to be discharged into the atmosphere from any equipment, any visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.749). For NSPS-affected equipment constructed after April 22, 2008 for which an opacity limitation of 7% applies (such as screens and conveyors), that 7% limit shall apply to the affected equipment (ARM 17.8.340 and 40 CFR 60, Subpart OOO).

3. HSG shall not cause or authorize to be discharged into the atmosphere from haul roads, access roads, parking lots, or the general plant property any visible fugitive emissions that exhibit an opacity of 10% or greater (ARM 17.8.749).

4. HSG shall treat all unpaved portions of the access roads, parking lots, and general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the 10% opacity limitation (ARM 17.8.749).

5. HSG shall not operate or have on-site more than 3 crushers (up to 1,100 TPH total), at any one time. Total crusher production for the facility shall not exceed 8,800 tons per day (ARM 17.8.749).

6. HSG shall not operate or have on-site more than 3 screens (up to 1,300 TPH total), at any one time. Total screen production shall not exceed 10,400 tons per day (ARM 17.8.749).

7. HSG shall not operate more than 1 diesel engine/generator at any time. The maximum rated capacity of the engine driving the generator shall not exceed 1,495 bhp and operation of the engine/generator shall not exceed 8 hours per day (ARM 17.8.749).

C. Operational Reporting Requirements

1. If this crushing/screening plant is moved to another nonattainment location, an Intent to Transfer form must be sent to the Department and a Public Notice Form for Change of Location must be published in a newspaper of general circulation in the area to which the transfer is to be made, at least 15 days prior to the move. The proof of publication (affidavit) of the Public Notice Form for Change of Location must be submitted to the Department prior to the move. These forms are available from the Department (ARM 17.8.749 and ARM 17.8.765).

2. Production information for the sites covered by this addendum must be maintained for five years and submitted to the Department upon request. The information must include (ARM 17.8.749):

   a. Daily tons of material crushed by each crusher at each site (including amount of recirculated/rerun material). HSG shall document, by day, the total crushing production. HSG shall sum the total crushing production for the previous day to demonstrate compliance with the limitations in Section III.B.5.

   b. Daily tons of material screened by each screen at each site (including amount of recirculated/rerun material). HSG shall document, by day, the total screening production. HSG shall sum the total screening production for the previous day to demonstrate compliance with the limitations in Section III.B.6.

   c. Daily tons of bulk material loaded at each site (production);

   d. Daily hours of operation at each site;

   e. Daily hours of operation and the bhp for each engine at each site.

   f. Fugitive dust information consisting of the daily total miles driven on unpaved roads within the operating site for all plant vehicles.

Addendum 2 Analysis
Helena Sand & Gravel, Inc.
Montana Air Quality Permit (MAQP) #2673-07

I. Permitted Equipment

Helena Sand & Gravel, Inc. (HSG) owns and operates a portable crushing/screening facility consisting of up to 3 crushers (up to 1100 tons per hour (TPH) total), up to 3 screens (up to 1300 TPH total), 2 diesel engines/generators (operating only one at any given time, with a maximum rated capacity up to 1,495 brake horsepower (bhp)), and associated equipment.

II. Source Description

HSG uses this crushing/screening plant and associated equipment to crush and screen sand and gravel materials for use in various construction operations. For a typical operational setup the materials are loaded into the crushing plant by a feeder, transferred by conveyor, passed through the crusher, and sent to stockpile for sale and use in construction operations.

III. Applicable Rules and Regulations

The following are partial quotations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department of Environmental Quality (Department). Upon request, the Department will provide references for locations of complete copies of all applicable rules and regulations or copies where appropriate.

ARM 17.8, Subchapter 7, Permit, Construction and Operation of Air Contaminant Sources, including, but not limited to:

A. ARM 17.8.749 Conditions for Issuance of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.

B. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. A source may not increase its emissions beyond those found in its permit unless the source applies for and receives another permit.

C. ARM 17.8.765 Transfer of Permit. An air quality permit may be transferred from one location to another if:

1. Written notice of intent to transfer location and proof of public notice is sent to the Department.

2. The source will operate in the new location for a period of less than 1 year; and,

3. The source will not have any significant impact on any nonattainment area or any Class I area.

HSG must submit proof of compliance with the transfer and public notice requirements when they transfer to the location(s) covered by this addendum, and will only be allowed to stay in the new location for a period of less than 1 year. Also, implementing the conditions and controls of this addendum will keep HSG from having a significant impact on any PM_{10} nonattainment area.

IV. Emission Inventory

Summer Season – Emission Inventory

Summer (24 hrs/day)	**lbs/day**						
Emission Source	**PM**	**PM_{10}**	**$PM_{2.5}$**	**NOx**	**CO**	**VOC**	**SO_2**
Engine Generator: (1,495 bhp)	78.94	78.94	78.94	1112.28	239.68	90.21	73.55
Crushers (3) : (1100 ton/hr total)	31.68	14.26	2.64				
Screens (3) : (1300 ton/hr total)	68.64	23.09	1.56				
Haul Roads	124.60	34.34	3.43				
Conveyor Transfer Point (12 transfers) (controlled)	52.42	17.22	4.87				
Pile Forming (2 piles)	105.67	49.98	7.57				
Truck unloading (1 load)	0.50	0.50	0.50				
Diesel Storage Tank						3.86E-03	
Total Emissions	**462.45**	**218.33**	**99.51**	**1112.28**	**239.68**	**90.21**	**73.55**
Engine Generator: (201 bhp)	10.61	10.61	10.61	149.54	32.22	12.13	9.89

a. PM_{10} emissions are less than 547 pounds per day (operating 24 hrs/day).
b. The engine/generator may be operated 24 hours/day, but not more than 3,400 hrs/yr in accordance with the conditions and limitations in MAQP#2673-07.
c. Diesel storage tank emissions were previously calculated with TANKS 4.0.9d (submitted by applicant) (1.41 lb/yr x (1 yr/365 days) = 0.00386 lb/day)

*** CO = carbon monoxide
HAPs = hazardous air pollutants
hp = horsepower
lb = pound
N/A = not applicable
ND = no data available
NOX = oxides of nitrogen
PM = particulate matter
PM10 = particulate matter with an aerodynamic diameter of 10 microns or less
PM2.5 = particulate matter with an aerodynamic diameter of 2.5 microns or less
SOX = oxides of sulfur
TPH = tons per hour
TPY = tons per year
VOC = volatile organic compounds
yr = year

Winter Season – Emission Inventory

Winter (8 hrs/day)	**lbs/day**						
Emission Source	**PM**	**PM_{10}**	**$PM_{2.5}$**	**NOx**	**CO**	**VOC**	**SO_2**
Engine Generator: (1,495 bhp)	26.31	26.31	26.31	370.76	79.89	30.07	24.52
Crushers (3) : (1100 ton/hr total)	10.56	4.75	0.88				
Screens (3) : (1300 ton/hr total)	22.88	7.70	0.52				
Haul Roads	41.53	11.45	1.14				
Conveyor Transfer Point (12 transfers) (controlled)	17.47	5.74	1.62				

Pile Forming (2 piles)	35.22	16.66	0.09				
Truck unloading (1 load)	0.17	0.17	0.17				
Diesel Storage Tank						3.86E-03	
Total Emissions	**157.69**	**72.78**	**34.27**	**420.61**	**90.63**	**34.12**	**27.81**
Engine Generator: (201 bhp)	3.54	3.54	3.54	49.85	10.74	4.04	3.30

a. Inventory reflects an enforceable limit on hours of operation of 8 hr/day to maintain allowable PM_{10} emissions below 82 pounds per day.

b. Diesel storage tank emissions were previously calculated with TANKS 4.0.9d (submitted by applicant) (1.41 lb/yr x (1 yr/365 days) = 0.00386 lb/day)

Engine Generator: (201 bhp)

Operational Capacity of Engine = 201 bhp	201	bhp	
Engine = 150 kw	150	kw	(nameplate rating)
Hours of Operation	24.00	hrs/day	Summer
Hours of Operation	8.00	hrs/day	Winter

PM Emissions:

Emission Factor(AP-42, Sec. 3.3, Table 3.3-1, 10/96) =	2.20E-03	lbs/hp-hr	
Calculation: (201 bhp) * (24 hrs/day) * (0.0022 lbs/hp-hr) =	**10.61**	lbs/day	Summer
Calculation: (201 bhp) * (8 hrs/day) * (0.0022 lbs/hp-hr) =	**3.54**	lbs/day	Winter

PM-10 Emissions:

Emission Factor(AP-42, Sec. 3.3, Table 3.3-1, 10/96) =	2.20E-03	lbs/hp-hr	
Calculation: (201 bhp) * (24 hrs/day) * (0.0022 lbs/hp-hr) =	**10.61**	lbs/day	Summer
Calculation: (201 bhp) * (8 hrs/day) * (0.0022 lbs/hp-hr) =	**3.54**	lbs/day	Winter

PM-2.5 Emissions:

Emission Factor(AP-42, Sec. 3.3, Table 3.3-1, 10/96) =	2.20E-03	lbs/hp-hr	
Calculation: (201 bhp) * (24 hrs/day) * (0.0022 lbs/hp-hr) =	**10.61**	lbs/day	Summer
Calculation: (201 bhp) * (8 hrs/day) * (0.0022 lbs/hp-hr) =	**3.54**	lbs/day	Winter

NOx Emissions:

Emission Factor(AP-42, Sec. 3.3, Table 3.3-1, 10/96) =	3.10E-02	lbs/hp-hr	
Calculation: (201 bhp) * (24 hrs/day) * (0.0310 lbs/hp-hr) =	**149.54**	lbs/day	Summer
Calculation: (201 bhp) * (8 hrs/day) * (0.0310 lbs/hp-hr) =	**49.85**	lbs/day	Winter

CO Emissions:

Emission Factor (AP-42, Sec. 3.3, Table 3.3-1, 10/96)=	6.68E-03	lbs/hp-hr	
Calculation: (201 bhp) * (24 hrs/day) * (0.00668 lbs/hp-hr) =	**32.22**	lbs/day	Summer
Calculation: (201 bhp) * (8 hrs/day) * (0.00668 lbs/hp-hr) =	**10.74**	lbs/day	Winter

VOC Emissions:

	2.51E-03	lbs/hp-hr	
Calculation: (201 bhp) * (24 hrs/day) * (0.00251 lbs/hp-hr) =	**12.13**	lbs/day	Summer
Calculation: (201 bhp) * (8 hrs/day) * (0.00251 lbs/hp-hr) =	**4.04**	lbs/day	Winter

SOx Emissions:

Emission Factor(AP-42, Sec. 3.3, Table 3.3-1, 10/96) =	2.05E-03	lbs/hp-hr	
Calculation: (201 bhp) * (24 hrs/day) * (0.00205 lbs/hp-hr) =	**9.89**	lbs/day	Summer
Calculation: (201 bhp) * (8 hrs/day) * (0.00205 lbs/hp-hr) =	**3.30**	lbs/day	Winter

Engine Generator: (1,495 bhp)

Operational Capacity of Engine = 1,495 bhp (nameplate)	1,495	bhp	
Hours of operation	24.00	hrs/day	Summer
Hours of operation	8.00	hrs/day	Winter

PM Emissions:

Emission Factor(AP-42, Sec. 3.3, Table 3.3-1, 10/96) =	2.20E-03	lbs/hp-hr	
Calculation: (1,495 bhp) * (24 hrs/day) * (0.0022 lbs/hp-hr) =	**78.94**	lbs/day	Summer
Calculation: (1,495 bhp) * (8 hrs/day) * (0.0022 lbs/hp-hr) =	**26.31**	lbs/day	Winter

PM-10 Emissions:

Emission Factor(AP-42, Sec. 3.3, Table 3.3-1, 10/96) =	2.20E-03	lbs/hp-hr	
Calculation: (1,495 bhp) * (24 hrs/day) * (0.0022 lbs/hp-hr) =	**78.94**	lbs/day	Summer
Calculation: (1,495 bhp) * (8 hrs/day) * (0.0022 lbs/hp-hr) =	**26.31**	lbs/day	Winter

PM-2.5 Emissions:

Emission Factor(AP-42, Sec. 3.3, Table 3.3-1, 10/96) =	2.20E-03	lbs/hp-hr	
Calculation: (1,495 bhp) * (24 hrs/day) * (0.0022 lbs/hp-hr) =	**78.94**	lbs/day	Summer
Calculation: (1,495 bhp) * (8 hrs/day) * (0.0022 lbs/hp-hr) =	**26.31**	lbs/day	Winter

NOx Emissions:

Emission Factor(AP-42, Sec. 3.3, Table 3.3-1, 10/96) =	3.10E-02	lbs/hp-hr	
Calculation: (1,495 bhp) * (24 hrs/day) * (0.0310 lbs/hp-hr) =	**1,112.28**	lbs/day	Summer
Calculation: (1,495 bhp) * (8 hrs/day) * (0.0310 lbs/hp-hr) =	**370.76**	lbs/day	Winter

CO Emissions:

Emission Factor(AP-42, Sec. 3.3, Table 3.3-1, 10/96) =	6.68E-03	lbs/hp-hr	
Calculation: (1,495 bhp) * (24 hrs/day) * (0.0067 lbs/hp-hr) =	**239.68**	lbs/day	Summer
Calculation: (1,495 bhp) * (8 hrs/day) * (0.0067 lbs/hp-hr) =	**79.89**	lbs/day	Winter

VOC Emissions:

Emission Factor (AP-42, Table 3.3-1, TOC, Exhaust + Crankcase, 10/96)=	2.51E-03	lbs/hp-hr	
Calculation: (1,495 bhp) * (24 hrs/day) * (0.0025 lbs/hp-hr) =	**90.21**	lbs/day	Summer
Calculation: (1,495 bhp) * (8 hrs/day) * (0.0025 lbs/hp-hr) =	**30.07**	lbs/day	Winter

SOx Emissions:

Emission Factor(AP-42, Sec. 3.3, Table 3.3-1, 10/96) =	2.05E-03	lbs/hp-hr	
Calculation: (1,495 bhp) * (24 hrs/day) * (0.0021 lbs/hp-hr) =	**73.55**	lbs/day	Summer
Calculation: (1,495 bhp) * (8 hrs/day) * (0.0021 lbs/hp-hr) =	**24.52**	lbs/day	Winter

Crushers (3) : (1100 ton/hr total)

Hours of Operation	24.00	hr/day	Summer
Hours of Operation	8.00	hr/day	Winter
Process Rate	1,100	ton/hr	8,800 ton/day

PM Emissions:

Emission Factor (AP 42, Table 11.19.2-2, 8/04, controlled)	0.0012	lb/ton	
Calculation: (1100 ton/hr) * (0.0012 lb/ton) * (24 hr/day) =	**31.68**	lb/day	Summer
Calculation: (1100 ton/hr) * (0.0012 lb/ton) * (8 hr/day) =	**10.56**	lb/day	Winter

PM_{10} Emissions:

Emission Factor (AP 42, Table 11.19.2-2, 8/04, controlled)	0.00054	lb/ton	
Calculation: (1100 ton/hr) * (0.00054 lb/ton) * (24 hr/day) =	**14.26**	lb/day	Summer
Calculation: (1100 ton/hr) * (0.00054 lb/ton) * (8 hr/day) =	**4.75**	lb/day	Winter

$PM_{2.5}$ Emissions:

Emission Factor (AP 42, Table 11.19.2-2, 8/04, controlled)	0.0001	lb/ton	
Calculation: (1100 ton/hr) * (0.0001 lb/ton) * (24 hr/day) =	**2.64**	lb/day	Summer
Calculation: (1100 ton/hr) * (0.0001 lb/ton) * (8 hr/day) =	**0.88**	lb/day	Winter

Screens (3) : (1300 ton/hr total)

Hours of Operation	24.00	hr/day	Summer	
Hours of Operation	8.00	hr/day	Winter	
Process Rate	1,300	ton/hr	10,400 ton/day	

Total PM Emissions:

Emission Factor (AP 42, Table 11.19.2-2, 8/04)	0.0022	lb/ton	
Daily Calculation: (1,300 ton/hr) * (0.0022 lb/ton) * (24 hr/day) =	**68.64**	lb/day	Summer
Daily Calculation: (1,300 ton/hr) * (0.0022 lb/ton) * (8 hr/day) =	**22.88**	lb/day	Winter

Total PM_{10} Emissions:

Emission Factor (AP 42, Table 11.19.2-2, 8/04)	0.00074	lb/ton	
Daily Calculation: (1,300 ton/hr) * (0.00074 lb/ton) * (24 hr/day) =	**23.09**	lb/day	Summer
Daily Calculation: (1,300 ton/hr) * (0.00074 lb/ton) * (8 hr/day) =	**7.70**	lb/day	Winter

Total $PM_{2.5}$ Emissions:

Emission Factor (AP 42, Table 11.19.2-2, 8/04)	0.00005	lb/ton	
Daily Calculation: (1,300 ton/hr) * (0.0001 lb/ton) * (24 hr/day) =	**1.56**	lb/day	Summer
Daily Calculation: (1,300 ton/hr) * (0.0001 lb/ton) * (8 hr/day) =	**0.52**	lb/day	Winter

Haul Roads

Vehicle Miles Traveled (estimated)	10	VMT/day	(Est)	
Hours of Operation	24	hrs/day	Summer	
Hours of Operation	8	hrs/day	Winter	

PM Emissions:

Emission Factor = k * (s / 12)^a * (W / 3)^b = 12.46 lb/VMT	12.46	lb/VMT	
Where: k = constant (PM30/TSP, AP 42, Table 13.2.2-2, 11/06)	4.9	lbs/VMT	
s = surface silt content (Mean value, sand/gravel processing, mat'l storage area)	7.1	%	
W = mean vehicle weight(1994 average loaded/unloaded or a 40 ton truck)	54	tons	
a = constant (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	0.7		
b = constant (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	0.45		
Calculation: (10.00 VMT/day) * (12.46 lb/VMT) =	**124.60**	lbs/day	Summer
Calculation: (10.00 VMT/day) * (12.46 lb/VMT)* ((8 hrs/day) /(24 hrs/day)) =	**41.53**	lbs/day	Winter

PM_{10} Emissions:

Emission Factor = k * (s / 12)^a * (W / 3)^b = 3.43 lb/VMT	3.43	lb/VMT	
Where: k = constant (PM30/TSP, AP 42, Table 13.2.2-2, 11/06)	1.5	lbs/VMT	
s = surface silt content (Mean value, sand/gravel processing, mat'l storage area)	7.1	%	
W = mean vehicle weight(1994 average loaded/unloaded or a 40 ton truck)	54	tons	
a = constant (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	0.9		
b = constant (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	0.45		
Calculation: (10.00 VMT/day) * (3.43 lb/VMT) =	**34.34**	tons/yr	Summer

Calculation: (10.00 VMT/day) * (3.43 lb/VMT)* ((8 hrs/day) /(24 hrs/day)) =	**11.45**	lbs/day	Winter

$PM_{2.5}$ Emissions:

Emission Factor = k * (s / 12)^a * (W / 3)^b = 0.34 lb/VMT	0.34	lb/VMT	
Where: k = constant (PM30/TSP, AP 42, Table 13.2.2-2, 11/06)	0.15	lbs/VMT	
s = surface silt content (Mean value, sand/gravel processing, mat'l storage area)	7.1	%	
W = mean vehicle weight(1994 average loaded/unloaded or a 40 ton truck)	54	tons	
a = constant (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	0.9		
b = constant (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	0.45		
Calculation: (10.00 VMT/day) * (0.34 lb/VMT) =	**3.43**	tons/yr	Summer
Calculation: (10.00 VMT/day) * (0.34 lb/VMT)* ((8 hrs/day) /(24 hrs/day)) =	**1.14**	lbs/day	Winter

Conveyor Transfer Point (12 transfers) (controlled)

Process Rate	1,300	ton/hr	
Hours of Operation	24	hr/day	Summer
Hours of Operation	8	hr/day	Winter
Number of Transfers	12	transfer	

Total PM Emissions:

Emission Factor (AP 42, Table 11.19.2-2, 8/04)	0.00014	lb/ton	
Calculation: (1,300 ton/hr) * (0.00014 lb/ton) * (12 transfer)* (24 hr/day) =	**52.42**	lb/day	Summer
Calculation: (1,300 ton/hr) * (0.00014 lb/ton) * (12 transfer)* (8 hr/day) =	**17.47**	lb/day	Winter

Total PM_{10} Emissions:

Emission Factor (AP 42, Table 11.19.2-2, 8/04)	4.60E-05	lb/ton	
Calculation: (1,300 ton/hr) * (0.000046 lb/ton) * (12 transfer)* (24 hr/day) =	**17.22**	lb/day	Summer
Calculation: (1,300 ton/hr) * (0.000046 lb/ton) * (12 transfer)* (8 hr/day) =	**5.74**	lb/day	Winter

Total $PM_{2.5}$ Emissions:

Emission Factor (AP 42, Table 11.19.2-2, 8/04)	1.30E-05	lb/ton	
Calculation: (1,300 ton/hr) * (0.000013 lb/ton) * (12 transfer)* (24 hr/day) =	**4.87**	lb/day	Summer
Calculation: (1,300 ton/hr) * (0.000013 lb/ton) * (12 transfer)* (8 hr/day) =	**1.62**	lb/day	Winter

Pile Forming (2 piles)

Process Rate	1,300	ton/hr	
Hours of Operation	24	hr/day	Summer
Hours of Operation	8	hr/day	Winter
Number of Piles	2	piles	

PM Emissions: (AP 42, Sec. 13.2.4.3, 11/06)

Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 =	0.00169	lb/ton	
Where: k = particle size multiplier (Value for PM < 30 microns)	0.74		
U = mean wind speed (Average from values provided in AP 42)	8.15	mph	
M = material moisture content (from previous permit version)	4.00	%	
Calculation: (1,300 ton/hr) * (24 hr/day) * (2 piles)* (0.00169 lb/ton) =	**105.67**	lb/day	summer
Calculation: (1,300 ton/hr) * (8 hr/day) * (2 piles)* (0.00169 lb/ton) =	**35.22**	lb/day	winter

PM_{10} Emissions:

Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 =	0.00080	lb/ton	
Where: k = particle size multiplier (Value for PM < 30 microns)	0.35		
U = mean wind speed (Average from values provided in AP 42)	8.15	mph	

M = material moisture content (from previous permit version)	4.00	%	
Calculation: (1,300 ton/hr) * (24 hr/day) * (2 piles)* (0.00080 lb/ton) =	**49.98**	lb/day	summer
Calculation: (1,300 ton/hr) * (8 hr/day) * (2 piles)* (0.00080 lb/ton) =	**16.66**	lb/day	winter

$PM_{2.5}$ Emissions:

Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 =	0.00012	lb/ton	
Where: k = particle size multiplier (Value for PM < 30 microns)	0.053		
U = mean wind speed (Average from values provided in AP 42)	8.15	mph	
M = material moisture content (from previous permit version)	4.00	%	
Calculation: (1,300 ton/hr) * (24 hr/day) * (2 piles)* (0.00012 lb/ton) =	**7.57**	lb/day	summer
Calculation: (1,300 ton/hr) * (8 hr/day) * (2 piles)* (0.00012 lb/ton) =	**2.52**	lb/day	winter

Truck unloading (1 load)

Process Rate	1,300	ton/hr	
	24.00	hr/day	Summer
	8.00	hr/day	Winter
Number of Loads	1	load	

PM Emissions:

Emission Factor (AP 42, Sec. 11.19.2-2, 8/2004)	1.60E-05	lb/ton	
Calculation: (1,300 ton/hr) * (24 hr/day) * (1 load) * (ton/2000 lb) * (0.000016 lb/ton) =	**0.50**	lb/day	summer
Calculation: (1,300 ton/hr) * (8 hr/day) * (1 load) * (ton/2000 lb) * (0.000016 lb/ton) =	**0.17**	lb/day	winter

PM_{10} Emissions:

Emission Factor (AP 42, Sec. 11.19.2-2, 8/2004)	1.60E-05	lb/ton	
Calculation: (1,300 ton/hr) * (24 hr/day) * (1 load) * (ton/2000 lb) * (0.000016 lb/ton) =	**0.50**	lb/day	summer
Calculation: (1,300 ton/hr) * (8 hr/day) * (1 load) * (ton/2000 lb) * (0.000016 lb/ton) =	**0.17**		winter

$PM_{2.5}$ Emissions:

Emission Factor (AP 42, Sec. 11.19.2-2, 8/2004)	1.60E-05	lb/ton	
Calculation: (1,300 ton/hr) * (24 hr/day) * (1 load) * (ton/2000 lb) * (0.000016 lb/ton) =	**0.50**	lb/day	summer
Calculation: (1,300 ton/hr) * (8 hr/day) * (1 load) * (ton/2000 lb) * (0.000016 lb/ton) =	**0.17**		winter

V. Existing Air Quality

On July 1, 1987, the Environmental Protection Agency (EPA) promulgated new National Ambient Air Quality Standards (NAAQS) for PM_{10}. Due to exceedances of the national standards for PM_{10}, the cities of Kalispell (and the nearby Evergreen area), Columbia Falls, Butte, Whitefish, Libby, Missoula, and Thompson Falls were designated by EPA as nonattainment for PM_{10}. As a result of this designation, EPA required the Department and the City-County Health Departments to submit PM_{10} State Implementation Plans (SIP). The SIPs consisted of emission control plans that controlled fugitive dust emissions from roads, parking lots, construction, and demolition, since technical studies identified these sources to be the major contributors to PM_{10} emissions.

MAQP #2673-07 and Addendum 2 are for a portable crushing/screening plant that will locate at sites in or within 10 km of certain PM_{10} nonattainment areas during the Winter Season (October 1 – March 31). The more stringent operating conditions contained in the addendum will minimize any potential impact on the nonattainment areas and will protect the national ambient air quality standards. Also, this facility is a portable source that would be expected to operate on an intermittent and temporary basis and any effects on air quality would be expected to be minor and short-lived.

VI. Air Quality Impacts

Helena Sand and Gravel is allowed to operate a portable crushing/screening plant to be located at various locations throughout Montana. MAQP #2673-07 and Addendum 2 will cover the operations of this portable crushing/screening plant while operating at any location within Montana, excluding those counties that have a Department-approved permitting program and those areas that are tribal lands. Addendum 2 will cover the operations of this portable crushing/screening plant, while operating in or within 10 km of the Kalispell PM_{10} nonattainment area during the Winter Season (October - March 31). Additionally, the facility will also be allowed to operate in or within 10 km of PM_{10} nonattainment areas during the Summer Season (April 1 - September 30).

VII. Taking or Damaging Analysis

As required by 2-10-101 through 105, MCA, the Department conducted the following private property taking and damaging assessment:

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 deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	x	4. Does the action deprive the owner of all economically viable uses of the property?
	x	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (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? (consider economic impact, investment-backed expectations, character of government action)
	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?
	x	7a. Is the impact of government action direct, peculiar, and significant?
	x	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	x	7c. Has government action lowered 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?
	x	Takings or damaging implications? (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; the shaded areas)

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

VIII. Environmental Assessment

The current permit action is an administrative amendment and does not constitute a state action; therefore, an environmental assessment is not required for the proposed project.

Addendum Analysis Prepared by: Deanne Fischer
Date: April 1, 2012