



## DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

## PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: **072013-017**Project Number: 2013-06-039  
Installation ID: 029-0050

Parent Company: Magruder Limestone Company, Inc.

Parent Company Address: 255 Watson Road, Troy, MO 63379

Installation Name: Magruder Limestone Company, Inc.-Sunrise Beach

Installation Address: Highway 5 and Eddie Avenue, Sunrise Beach, MO 65079

Location Information: Camden County, S9, T39N, R17W

Application for Authority to Construct was made for:

Make the portable rock-crushing plant (PORT-0670) a stationary plant. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

 Standard Conditions (on reverse) are applicable to this permit. Standard Conditions (on reverse) and Special Conditions are applicable to this permit.**JUL 30 2013**

EFFECTIVE DATE

  
\_\_\_\_\_  
DIRECTOR OR DESIGNEE  
DEPARTMENT OF NATURAL RESOURCES

## STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Department's Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant sources(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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**SITE SPECIFIC SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

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*The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."*

1. **Best Management Practices Requirement**  
Magruder Limestone Company, Inc.-Sunrise Beach shall control fugitive emissions from all of the haul roads and vehicular activity areas at this site by performing Best Management Practices as defined in Attachment AA.
2. **Ambient Air Impact Limitation**
  - A. Magruder Limestone Company, Inc.-Sunrise Beach shall not cause an exceedance of the National Ambient Air Quality Standard (NAAQS) for particulate matter less than ten microns in aerodynamic diameter (PM<sub>10</sub>) of 150.0 µg/m<sup>3</sup> 24-hour average in ambient air.
  - B. Magruder Limestone Company, Inc.-Sunrise Beach shall demonstrate compliance with Special Condition 2.A using Attachment A and Attachment B or other equivalent forms that have been approved by the Air Pollution Control Program, including electronic forms. Magruder Limestone Company, Inc.-Sunrise Beach shall account for the impacts from other sources of PM<sub>10</sub> as instructed in the attachments.
3. **Annual Emission Limit**
  - A. Magruder Limestone Company, Inc.-Sunrise Beach shall emit less than 15.0 tons of PM<sub>10</sub> in any 12-month period from the entire installation.
  - B. Magruder Limestone Company, Inc.-Sunrise Beach shall demonstrate compliance with Special Condition 3.A using Attachment C or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.
4. **Moisture Content Testing Requirement**
  - A. Magruder Limestone Company, Inc.-Sunrise Beach shall verify that the moisture content of the processed rock is greater than or equal to 1.5 percent by weight.
  - B. Testing shall be conducted according to the method prescribed by the American Society for Testing Materials (ASTM) D-2216, C-566 or another method approved by the Director.

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**SITE SPECIFIC SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

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- C. The initial test shall be conducted no later than 45 days after the start of operation. A second test shall be performed the calendar year following the initial test during the months of July or August.
  - D. The test samples shall be taken from rock that has been processed by the plant or from each source of aggregate (e.g. quarry).
  - E. The written analytical report shall include the raw data and moisture content of each sample, the test date and the original signature of the individual performing the test. The report shall be filed on-site or at the Magruder Limestone Company, Inc.-Sunrise Beach main office within 30 days of completion of the required test.
  - F. If the moisture content of either of the two tests is less than the moisture content in Special Condition 4.A, another test may be performed within 15 days of the noncompliant test. If the results of that test also exceed the limit, Magruder Limestone Company, Inc.-Sunrise Beach shall either:
    - 1) Apply for a new permit to account for the revised information, or
    - 2) Submit a plan for the installation of wet spray devices to the Compliance/Enforcement Section of the Air Pollution Control Program within 10 days of the second noncompliant test. The wet spray devices shall be installed and operational within 40 days of the second noncompliant test.
  - G. In lieu of testing, Magruder Limestone Company, Inc.-Sunrise Beach may obtain test results that demonstrate compliance with the moisture content in Special Condition 4.A from the supplier of the aggregate.
5. Minimum Distance to Property Boundary Requirement  
The primary emission point, the primary crusher (EU-4), shall be located at least 400 feet from the nearest property boundary.
6. Primary Equipment Requirement  
Magruder Limestone Company, Inc.-Sunrise Beach shall process all rock through the primary crusher (EU-4). Bypassing the crusher is prohibited.
7. Non-road Engine Requirement
- A. To meet the definition of a non-road engine as stated in 40 CFR 89.2, the engine cannot remain in one physical location for longer than 12 months.
  - B. If at any time Magruder Limestone Company, Inc.-Sunrise Beach's diesel engine (EP-17) does not meet the requirements found in 40 CFR 89.2 "Non-Road Engine" in order to be classified as a non-road engine, Magruder Limestone

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**SITE SPECIFIC SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

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- Company, Inc.-Sunrise Beach must submit a new Application for Authority to Construct to account for the emissions from the diesel engines (EP-17).
- C. Magruder Limestone Company, Inc.-Sunrise Beach shall keep records of the relocation of their diesel engine (EP-17) within the site using Attachment D.
8. Record Keeping Requirement  
Magruder Limestone Company, Inc.-Sunrise Beach shall maintain all records required by this permit for not less than five years and make them available to any Missouri Department of Natural Resources' personnel upon request.
9. Reporting Requirement  
Magruder Limestone Company, Inc.-Sunrise Beach shall report to the Air Pollution Control Program Enforcement Section P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedances of the limitations imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE  
SECTION (6) REVIEW

Project Number: 2013-06-039  
Installation ID Number: 029-0050  
Permit Number:

Magruder Limestone Company, Inc.-Sunrise Beach Complete: June 14, 2013  
Highway 5 and Eddie Avenue  
Sunrise Beach, MO 65079

Parent Company:  
Magruder Limestone Company, Inc.  
255 Watson Road  
Troy, MO 63379

Camden County, S9, T39N, R17W

PROJECT DESCRIPTION

Magruder Limestone Company, Inc. has applied for authority to make the portable plant (PORT-0670) located in Sunrise Beach, Missouri a stationary plant at that site. The facility has a maximum hourly design rate (MHDR) of 300 tons per hour. The primary emission point of the plant is the crusher and it will be located at least 400 feet from the nearest property boundary, which is Highway 5 north of the plant.

The applicant is using one of the methods described in Attachment AA, "Best Management Practices," to control emissions from haul roads and vehicular activity areas.

The plant will be powered by a diesel engine, however it meets the definition of non-road engine as defined in 40 CFR 89.2 (1)(i). Therefore, the emissions of the engine were not included. Magruder Limestone Company, Inc. has requested engine relocation tracking to ensure the non-road engine status of the diesel engine.

This installation is located in Camden County, an attainment area for all criteria pollutants.

This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.

Magruder Limestone Company, Inc.-Sunrise Beach received a portable permit (052010-011) from the Air Pollution Control Program for this facility.

TABLES

The table below summarizes the emissions of this project. The existing actual emissions were taken from the previous year's EIQ. The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8760 hours per year). The conditioned potential emissions accounts for a voluntary PM<sub>10</sub> emission limit to avoid dispersion modeling requirements found in 10 CSR 10-6.060 Section (6).

Table 1: Emissions Summary (tons per year)

| Air Pollutant           | De Minimis Level | Existing Actual Emissions (2012 EIQ) | <sup>a</sup> Potential Emissions of the Application | Conditioned Potential Emissions |
|-------------------------|------------------|--------------------------------------|---|---------------------------------|
| PM                      | 25.0             | N/D                                  | 348.51  | 46.55                           |
| PM <sub>10</sub>        | 15.0             | 0.49                                 | 111.77  | <15.0                           |
| PM <sub>2.5</sub>       | 10.0             | N/D                                  | 13.83   | 1.86                            |
| SO <sub>x</sub>         | 40.0             | 0.20                                 | N/A   | N/A                             |
| NO <sub>x</sub>         | 40.0             | 3.02                                 | N/A   | N/A                             |
| VOC                     | 40.0             | 0.25                                 | N/A   | N/A                             |
| CO                      | 100.0            | 0.65                                 | N/A   | N/A                             |
| GHG (CO <sub>2</sub> e) | 100,000          | N/D                                  | N/A   | N/A                             |
| GHG (mass)              | 0.0 / 100.0      | N/D                                  | N/A   | N/A                             |
| Total HAPs              | 25.0             | N/D                                  | N/A   | N/A                             |

N/A = Not Applicable; N/D = Not Determined

<sup>a</sup>Includes site specific haul road and storage pile emissions

Table 2 summarizes the ambient air quality impact analysis. The maximum modeled impact is the impact of each pollutant when the plant is operating continuously. The daily limited impact is based on compliance with the NAAQS for PM<sub>10</sub>.

Table 2: Ambient Air Quality Impact Analysis

| Pollutant                                | <sup>a</sup> NAAQS (µg/m <sup>3</sup> ) | Averaging Time | <sup>b</sup> Maximum Modeled Impact (µg/m <sup>3</sup> ) | Limited Impact (µg/m <sup>3</sup> ) | Background (µg/m <sup>3</sup> ) | <sup>c</sup> Daily Limit (tons/day) |
|--|---|----------------|--|-------------------------------------|---------------------------------|-------------------------------------|
| <sup>d</sup> PM <sub>10</sub> (same)     | 150.0                                   | 24-hour        | 618.16   | 130.0                               | 20.0                            | 2,508                               |
| <sup>e</sup> PM <sub>10</sub> (separate) | 150.0                                   | 24-hour        | N/A  | 77.3                                | 72.7                            | 1,490                               |

<sup>a</sup>National Ambient Air Quality Standards (NAAQS) and Risk Assessment Level (RAL)

<sup>b</sup>Modeled impact at maximum capacity with controls

<sup>c</sup>Indirect limit based on compliance with NAAQS.

<sup>d</sup>Solitary operation or operation with other plants that are owned by Magruder Limestone Company, Inc.

<sup>e</sup>Operation with other plants that are not owned by Magruder Limestone Company, Inc.

## EMISSIONS CALCULATIONS

Emissions for the project were calculated using emission factors found in the United States Environmental Protection Agency (EPA) document AP-42 *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition (AP-42).

Emissions from the rock-crushing equipment were calculated using emission factors from AP-42 Section 11.19.2 "Crushed Stone Processing and Pulverized Mineral Processing," August 2004. The controlled emission factors were used because the inherent moisture content of the crushed rock is greater than 1.5 percent (%) by weight.

Emissions from the diesel engine were not considered in this review because of the non-road status of the engine as stated in Special Condition 7.

Emissions from haul roads and vehicular activity areas were calculated using the predictive equation from AP-42 Section 13.2.2 "Unpaved Roads," November 2006. A 90% control efficiency for PM and PM<sub>10</sub> and a 40% control efficiency for PM<sub>2.5</sub> are applied to the emission calculations for the use of BMPs. Emissions from load-in and load-out of storage piles were calculated using the predictive equation from AP-42 Section 13.2.4. The moisture content of the aggregate is 1.5% by weight. Emissions from wind erosion of storage piles were calculated using an equation found in the Air Pollution Control Program's Emissions Inventory Questionnaire Form 2.8 "Storage Pile Worksheet."

## AMBIENT AIR QUALITY IMPACT ANALYSIS

An ambient air quality impact analysis (AAQIA) was performed to determine the impact of the pollutants listed in Table 2. The Air Pollution Control Program requires an AAQIA of PM<sub>10</sub> for all asphalt, concrete and rock-crushing plants regardless of the level of PM<sub>10</sub> emissions if a permit is required. An AAQIA is required for other pollutants if their emissions exceed their respective de minimis or screening model action level (SMAL). The AAQIA was performed using the Air Pollution Control Program's generic nomographs and when appropriate the EPA modeling software AERSCREEN. For each pollutant that was modeled, the maximum concentration that occurs at or beyond the site boundary was compared to the National Ambient Air Quality Standard (NAAQS) or Risk Assessment Level (RAL) for the pollutant. If during continuous operation the modeled concentration of a pollutant is greater than the applicable NAAQS or RAL, the plant's production is limited to ensure compliance with the standard. This plant uses BMPs to control emissions from haul roads and vehicular activity areas, so emissions from these sources were not included in the AAQIA. Instead they were addressed as a background concentration of 20 µg/m<sup>3</sup> of PM<sub>10</sub> in accordance with the Air Pollution Control Program's BMPs interim policy.

## OPERATING SCENARIOS

The plant is permitted to operate with other plants located at the site as long as the NAAQS is not exceeded. The following scenarios explain how Magruder Limestone Company, Inc.-Sunrise Beach shall demonstrate compliance with the NAAQS.

- When no other plants are located at this site, which is referred to as solitary operation, Magruder Limestone Company, Inc. must calculate the daily impact of the plant and limit the total impact of the plant to not exceed the NAAQS using Attachment A.
- When plants that are owned by Magruder Limestone Company, Inc., which are referred to as same owner plants, are located at the site, Magruder Limestone Company, Inc. must calculate the daily impact of each plant and limit the total impact of all plants to not exceed the NAAQS using Attachment A.
- When plants that are not owned by Magruder Limestone Company, Inc., which are referred to as separate owner plants, are located at the site, Magruder Limestone Company, Inc. must account for the impacts of these plants as a background concentration and add it to the total impact of all plants owned by Magruder Limestone Company, Inc. that are operating at the site. This total is limited to not exceed the NAAQS. Magruder Limestone Company, Inc. will limit the total impact of all plants they own and operate at the site to  $77.3 \mu\text{g}/\text{m}^3$  when any plants they do not own are located at the site. Magruder Limestone Company, Inc.-Sunrise Beach is not permitted to operate with any plant that is not owned by Magruder Limestone Company, Inc. that has a separate owner background greater than  $52.7 \mu\text{g}/\text{m}^3$ . During this scenario, Magruder Limestone Company, Inc.-Sunrise Beach shall use Attachment B to demonstrate compliance with the NAAQS.

#### PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM are above the de minimis level.

#### APPLICABLE REQUIREMENTS

Magruder Limestone Company, Inc.-Sunrise Beach shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved.

#### GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110.
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220

- *Restriction of Emission of Odors*, 10 CSR 10-6.165
- A Basic Operating Permit application is required for this installation within 30 days of equipment startup.

#### SPECIFIC REQUIREMENTS

- 40 CFR 63 Subpart ZZZZ-National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines does not apply to the proposed equipment because of the non-road status as stated in Special Condition 7.
- 40 CFR 60 Subpart OOO, "Standards of Performance for Nonmetallic Mineral Processing Plants" applies to the equipment.
- 40 CFR 60 Subpart IIII, "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines," does not apply to the diesel engine/generator because the diesel engine/generator was manufactured before April 1, 2006 and constructed before July 11, 2005.
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260

#### STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

\_\_\_\_\_  
J Luebbert  
New Source Review Unit

\_\_\_\_\_  
Date

#### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated June 11, 2013, received June 14, 2013, designating Magruder Limestone Company, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.









## Attachment AA: Best Management Practices

Haul roads and vehicular activity areas shall be maintained in accordance with at least one of the following options when the portable plant is operating.

1. Pavement
  - A. The operator shall pave the area with materials such as asphalt, concrete or other materials approved by the Air Pollution Control Program. The pavement will be applied in accordance with industry standards to achieve control of fugitive emissions<sup>1</sup> while the plant is operating.
  - B. Maintenance and repair of the road surface will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
  - C. The operator shall periodically wash or otherwise clean all of the paved portions of the haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
  
2. Application of Chemical Dust Suppressants
  - A. The operator shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to unpaved areas.
  - B. The quantities of the chemical dust suppressant shall be applied and maintained in accordance with the manufacturer's recommendation (if available) and in sufficient quantities to achieve control of fugitive emissions from these areas while the plant is operating.
  - C. The operator shall record the time, date and the amount of material applied for each application of the chemical dust suppressant agent on the above areas. The operator shall keep these records with the plant for not less than five (5) years and make these records available to Department of Natural Resources' personnel upon request.
  
3. Application of Water-Documented Daily
  - A. The operator shall apply water to unpaved areas. Water shall be applied at a rate of 100 gallons per day per 1,000 square feet of unpaved or untreated surface area while the plant is operating.
  - B. Precipitation may be substituted for watering if the precipitation is greater than one quarter of one inch and is sufficient to control fugitive emissions.
  - C. Watering may also be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads.
  - D. The operator shall record the date, volume of water application and total surface area of active haul roads or the amount of precipitation that day. The operators shall also record the rationale for not watering (e.g. freezing conditions or not operating).
  - E. The operator shall keep these records with the plant for not less than five (5) years, and the operator shall make these records available to Department of Natural Resources' personnel upon request.

<sup>1</sup>For purposes of this document, Control of Fugitive Emissions means to control particulate matter that is not collected by a capture system and visible emissions to the extent necessary to prevent violations of the air pollution law or regulation. (Note: control of visible emission is not the only factor to consider in protection of ambient air quality.)

Mr. Harold Bono  
Treasurer  
Magruder Limestone Company, Inc.-Sunrise Beach  
255 Watson Road  
Troy, MO 63379

RE: New Source Review Permit - Project Number: 2013-06-039

Dear Mr. Bono:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your operating permit, and your new source review permit application is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact J Luebbert, at the department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp  
New Source Review Unit Chief

SH:jl

Enclosures

c: Southwest Regional Office  
PAMS File: 2013-06-039

Permit Number: