

**MISSOURI
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: 08 2017 - 003

Project Number: 2017-04-061
Installation ID: 097-0178

Parent Company: O'Brien Rock Company, Inc.

Parent Company Address: P.O. Box 217, St. Paul, Kansas 66771

Installation Name: O'Brien Ready Mix - Joplin Plant

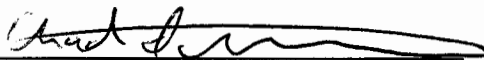
Installation Address: 2323 N Prosperity Ave., Joplin, MO 64802

Location Information: Jasper County, S33 T27N R32W

Application for Authority to Construct was made for:
New stationary concrete 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.



Prepared by
Chad Stephenson
New Source Review Unit



Director or Designee
Department of Natural Resources

AUG 11 2017

Effective Date

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 Enforcement and Compliance Section of 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 Enforcement and Compliance Section of 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's 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 the permit application and this permit and permit review shall be kept at the installation address and shall be made available to Department's 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 source(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 using the contact information below.

Contact Information:
Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102-0176
(573) 751-4817

The regional office information can be found at the following website:
<http://dnr.mo.gov/regions/>

SITE SPECIFIC SPECIAL CONDITIONS:

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

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. Annual Emission Limit

A. O'Brien Ready Mix - Joplin Plant shall emit less than 15.0 tons of PM₁₀ in any 12-month period from the entire installation, as defined in Table 1.

Table 1: Summary of Emission Sources

Emission Point (EP) Number	Emission Unit Description	MHDR
1	Aggregate Transfer	150 tph
2	Sand Transfer	150 tph
3	Cement unloading to silo	150 tph
4	Supplement unloading	150 tph
5	Weigh hopper loading	150 tph
6	Mixer Loading	150 tph
7	Storage Pile 1	0.12 acres
8	Storage Pile 2	0.15 acres
9	Haul Road 1 Aggregate	1,100 feet
10	Haul Road 2 Sand	800 feet
11	Haul Road 3 Delivery	225 feet
12	Natural Gas Water Heater	1.0 mmBtu/hr

B. O'Brien Ready Mix - Joplin Plant shall demonstrate compliance with Special Condition 1.A using Attachment A or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.

2. Undocumented Watering Requirement

O'Brien Ready Mix - Joplin Plant shall apply a water spray on all haul roads and vehicular activity areas whenever conditions exist that would allow visible emissions from these sources to leave the property.

3. Control Device Requirement-Baghouse/Cartridge Filter

A. O'Brien Ready Mix - Joplin Plant shall control emissions from the equipment listed below using baghouses or cartridge filters as specified in the permit application.

- 1) Cement Silo
- 2) Supplement Silo

SITE SPECIFIC SPECIAL CONDITIONS:

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

- B. The baghouses or cartridge filters shall be operated and maintained in accordance with the manufacturer's specifications. The baghouses and cartridge filters shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that Department of Natural Resources' employees may easily observe them.
 - C. Replacement filters for the baghouses or cartridge filters shall be kept on hand at all times. The bags or cartridge filters shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
 - D. O'Brien Ready Mix - Joplin Plant shall monitor and record the operating pressure drop across the baghouses or cartridge filters at least once every 24 hours while in operation. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
 - E. O'Brien Ready Mix - Joplin Plant shall maintain a copy of the baghouse or cartridge filter manufacturer's performance warranty on site.
 - F. O'Brien Ready Mix - Joplin Plant shall maintain an operating and maintenance log for the baghouses or cartridge filters which shall include the following:
 - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
4. **Fuel Requirement – Water Heater**
O'Brien Ready Mix - Joplin Plant shall exclusively burn natural gas in their hot water heater (EP-10) during concrete production.
5. **Record Keeping Requirement**
O'Brien Ready Mix - Joplin Plant 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.
6. **Reporting Requirement**
O'Brien Ready Mix - Joplin Plant shall report to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 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: 2017-04-061
Installation ID Number: 097-0178
Permit Number:

082017-003

O'Brien Ready Mix - Joplin Plant
2323 N Prosperity Ave.
Joplin, MO 64802

Complete: May 1, 2017

Parent Company:
O'Brien Rock Company, Inc.
P.O. Box 217
St. Paul, Kansas 66771

Jasper County, S33 T27N R32W

PROJECT DESCRIPTION

O'Brien Rock Company, Inc. will be constructing a stationary plant consisting of a Stephens Manufacturing Company Stallion. According to the applicant, the MHDR is 150 tons per hour for the desired concrete product. The concrete plant will be a central mix plant. Raw material will be delivered to the site by 1,100 and 800 foot long haul roads. There will be an additional haul road for hauling out that is 225 feet. The raw material haul roads form a circular drive. The plant will have two storage piles that are approximately 0.12 acres and 0.15 acres. The plant will be powered off the grid but will include a natural gas fired water heater rated at 1.0 MMBtu/hr. The applicant is using undocumented watering to control emissions from haul roads and vehicular activity areas.

This installation is located in Jasper 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.

No permits have been previously issued to O'Brien Ready Mix - Joplin Plant from the Air Pollution Control Program.

TABLES

The table below summarizes the emissions of this project. The potential emissions of the process equipment exclude emissions from haul roads and wind erosion. There are no existing actual emissions since this project is for a new plant. The potential

emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8760 hours per year). Conditioned potential emissions account for a voluntary PM₁₀ de minimis limit to avoid dispersion modeling requirements found in 10 CSR-6.060 Section (6).

Table 2: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/SMAL	^a Potential Emissions of Process Equipment	Existing Actual Emissions	^b Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	48.51	N/A	181.91	46.08
PM ₁₀	15.0	17.32	N/A	59.21	<15.0
PM _{2.5}	10.0	3.18	N/A	8.38	2.12
SO _x	40.0	0.003	N/A	0.003	N/D
NO _x	40.0	0.43	N/A	0.43	N/D
VOC	40.0	0.02	N/A	0.02	N/D
CO	100.0	0.36	N/A	0.36	N/D
Total HAPs	25.0	0.01	N/A	0.01	N/D

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

^a Excludes haul road and storage pile emissions

^b Includes site specific haul road and storage pile emissions

EMISSIONS CALCULATIONS

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

Emissions from the concrete batch plant:

- Calculated using emission factors from AP-42 Section 11.12 "Concrete Batching," June 2006.
- This section cites Equation (1) in Section 13.2.4 "Aggregate Handling and Storage Piles," November 2006 for calculating the emissions from aggregate and sand transfer.
- The cement and supplement silos are controlled with baghouses, so the controlled emission factors were used.

Emissions from the aggregate weigh hopper:

- Calculated using AP-42 Section 13.2.4, Equation (1).
- Emissions from mixer loading are uncontrolled, so the uncontrolled emission factor was used.

Emissions from the water heater:

- Calculated using emission factors from AP-42 Section 1.3 "Fuel Oil Combustion", May 2010.

Emissions from haul roads and vehicular activity areas:

- Calculated using the predictive equation from AP-42 Section 13.2.2 "Unpaved Roads," November 2006.
- A 50% control efficiency for PM and PM₁₀ and a 22% control efficiency for PM_{2.5} were applied to the emission calculations for the use of undocumented watering.

Emissions from storage piles:

- Load-in and load-out of storage piles were calculated using the predictive equation from AP-42 Section 13.2.4.
- The default moisture content of the aggregate is 0.7% 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."

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 PM₁₀ are conditioned below de minimis and no refined modeling is required. Potential emissions of PM are above de minimis but below major source levels. There are no modeling requirements for PM.

APPLICABLE REQUIREMENTS

O'Brien Ready Mix - Joplin Plant 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

- *Start-Up, Shutdown, and Malfunction Conditions*, 10 CSR 10-6.050
- *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

SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400 applies to the mixer loading. The mixer loading (EP-06) has a potential to emit 8.56 pounds per hour. Using the process weight equation in 10 CSR 10-6.400(3)(A)1, EP-06 has an allowable emission rate of 55.11 pounds per hour.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) or National Emission Standards for Hazardous Air Pollutants for Source Categories (MACTS) apply to the proposed equipment.

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*, it is recommended that this permit be granted with special conditions.

PERMIT DOCUMENTS

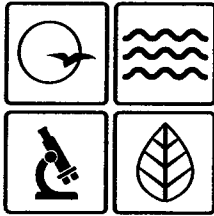
The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated April 20, 2017, received April 25, 2017, designating O'Brien Rock Company, Inc. as the owner and operator of the installation.

APPENDIX A

Abbreviations and Acronyms

%	percent	MSDS	Material Safety Data Sheet
°F	degrees Fahrenheit	NAAQS	National Ambient Air Quality Standards
acfm	actual cubic feet per minute	NESHAPs ..	National Emissions Standards for Hazardous Air Pollutants
BACT	Best Available Control Technology	NO_x	nitrogen oxides
BMPs	Best Management Practices	NSPS	New Source Performance Standards
Btu	British thermal unit	NSR	New Source Review
CAM	Compliance Assurance Monitoring	PM	particulate matter
CAS	Chemical Abstracts Service	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
CEMS	Continuous Emission Monitor System	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter
CFR	Code of Federal Regulations	ppm	parts per million
CO	carbon monoxide	PSD	Prevention of Significant Deterioration
CO₂	carbon dioxide	PTE	potential to emit
CO₂e	carbon dioxide equivalent	RACT	Reasonable Available Control Technology
COMS	Continuous Opacity Monitoring System	RAL	Risk Assessment Level
CSR	Code of State Regulations	SCC	Source Classification Code
dscf	dry standard cubic feet	scfm	standard cubic feet per minute
EIQ	Emission Inventory Questionnaire	SDS	Safety Data Sheet
EP	Emission Point	SIC	Standard Industrial Classification
EPA	Environmental Protection Agency	SIP	State Implementation Plan
EU	Emission Unit	SMAL	Screening Model Action Levels
fps	feet per second	SO_x	sulfur oxides
ft	feet	SO₂	sulfur dioxide
GACT	Generally Available Control Technology	SSM	startup, shutdown, malfunction
GHG	Greenhouse Gas	tph	tons per hour
gpm	gallons per minute	tpy	tons per year
gr	grains	VMT	vehicle miles traveled
GWP	Global Warming Potential	VOC	Volatile Organic Compound
HAP	Hazardous Air Pollutant		
hr	hour		
hp	horsepower		
lb	pound		
lbs/hr	pounds per hour		
MACT	Maximum Achievable Control Technology		
µg/m³	micrograms per cubic meter		
m/s	meters per second		
Mgal	1,000 gallons		
MW	megawatt		
MHDR	maximum hourly design rate		
MMBtu	Million British thermal units		
MMCF	million cubic feet		



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

AUG 11 2017

Mr. Dwayne O'Brien
Chief Operating Officer
O'Brien Ready Mix - Joplin Plant
P.O. Box 217
St. Paul, Kansas 66771

RE: New Source Review Permit - Project Number: 2017-04-061

Dear Mr. O'Brien:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions 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 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.

This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at the following website: <http://dnr.mo.gov/regions/>. The online CAV request can be found at <http://dnr.mo.gov/cav/compliance.htm>.

If you were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty 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 administrative hearing commission, whose contact information is: Administrative Hearing Commission, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc.



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Mr. Dwayne O'Brien
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If you have any questions regarding this permit, please do not hesitate to contact Chad Stephenson, 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:csj

Enclosures

c: Southwest Regional Office
PAMS File: 2017-04-061

Permit Number: 08 2017 - 003