



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: **02 2017 - 006**

Project Number: 2016-10-048
Installation ID: 019-0071

Parent Company: Con-Agg of MO, LLC

Parent Company Address: 2604 N. Stadium Blvd., Columbia, MO 65202

Installation Name: Con-Agg of MO LLC

Installation Address: 6791 N Highway VV, Columbia, MO 65202

Location Information: Boone County, S23 T49N R13W

Application for Authority to Construct was made for:
New asphalt 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
Sam Anzalone
New Source Review Unit

Director or Designee
Department of Natural Resources

FEB 14 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. Con-Agg of MO LLC shall emit less than 15.0 tons of PM₁₀ in any 12-month period from the entire installation.
 - B. Con-Agg of MO LLC 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

Con-Agg of MO LLC 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
 - A. Con-Agg of MO LLC shall control emissions from the drum dryer (EP-04) using baghouses as specified in the permit application.
 - B. The baghouses shall be operated and maintained in accordance with the manufacturer's specifications. The baghouse 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 shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
 - D. Con-Agg of MO LLC shall monitor and record the operating pressure drop across the baghouses at least once every 24 hours when the baghouse is in operation. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
 - E. Con-Agg of MO LLC shall maintain a copy of the baghouse manufacturer's performance warranty on site.

SITE SPECIFIC SPECIAL CONDITIONS:

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

- F. Con-Agg of MO LLC shall maintain an operating and maintenance log for the baghouses 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. Record Keeping Requirement

Con-Agg of MO LLC 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.

5. Reporting Requirement

Con-Agg of MO LLC 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: 2016-10-048
Installation ID Number: 019-0071

Permit Number: **022017-006**

Con-Agg of MO LLC:
6791 N Highway VV
Columbia, MO 65202

Complete: November 29, 2016

Parent Company:
Con-Agg of MO, LLC
2604 N. Stadium Blvd.
Columbia, MO 65202

Boone County, S23 T49N R13W

PROJECT DESCRIPTION

Con-Agg of MO, LLC has submitted an Application For Authority to Construction for the installation of a new stationary drum mix asphalt plant. This site was previously permitted for a portable rock crushing plant. However, with new ownership the portable rock crushing plate no longer exists for this site.

The new asphalt plant is a drum mix type plant with a MHDR of 400 tons of asphalt per hour. The facility will not be using BMPs. The particulate emissions from the drum dryer are controlled by a fabric filter. The dryer is equipped with a 100 MMBtu natural gas fired burner and a 1.2 MMBtu/hr asphaltic cement (AC) heater. The facility's electric power will be provide by the local utility.

Raw materials for making asphalt will consist of limestone rock, sand, recovered asphalt product (RAP) and AC. The limestone, sand, RAP, and AC will be delivered by truck via a paved haul road connecting the asphalt plant and North Highway VV. There is an unpaved haul road from the asphalt plant to the storage pile area. This haul road will be controlled with undocumented watering.

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

This installation is on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. Hot mix asphalt plants fall under Category 27. Fugitive emissions are counted toward major source applicability. However, Category 27 does not apply to the 100 tons per year major source level thresholds for construction permits. Therefore, the major source threshold for this asphalt plant is 250 tons per year.

TABLES

The following permits have been issued to Con-Agg of MO LLC from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
0299-010	Added conveyers and crushers to rock crushing plant
0699-033	Addition of screen plant

The table below summarizes the emissions of this project. The existing actual emissions were taken from 2010's EIQ because there was no production from 2011 until 2016. 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 include emissions from sources that will limit their production to ensure compliance with the annual emission limit for PM₁₀.

Table 2: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/SMAL	^a Existing Potential of Facility	Existing Actual Emissions (2010 EIQ)	^b Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	N/D	N/D	167.87	50.19
PM ₁₀	15.0	1.63	7.17	50.17	<15.0
PM _{2.5}	10.0	N/D	0.21	21.10	6.31
SO _x	40.0	0.08	N/D	0.26	0.08
NO _x	40.0	0.91	N/D	119.81	35.82
VOC	40.0	0.09	N/D	21.09	6.31
CO	100.0	0.20	N/D	37.33	11.16
GHG (CO ₂ e)	75,000	N/D	N/D	51,811	15,490.6
GHG (mass)	0.0 / 100.0 / 250.0	N/D	N/D	51,817	15,492.25
Formaldehyde	10.0/2.0 ^c	N/D	N/D	1.40	0.42
2-methylnapthalene ^d	10.0/0.01 ^c	N/D	N/D	0.03	0.01
Total HAPs	25.0	0.001	N/D	2.45	0.73

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

^aExisting Potential Emissions taken from Project #1999-01-089, all equipment has been removed from site

^bIncludes site specific haul road and storage pile emissions

^cSMAL

^d2-methylnapthalene is a member of the Polycyclic Organic Matter (POM) HAP group.

The plant's drum dryer (EP-04) was modeled using the AERSCREEN screen modeling software. The stack characteristic entered into the modeled are listed in Table 3.

Table 3: AERSCREEN Input Parameters

Equipment Description	Stack Height (m)	Stack Inside Diameter (m)	Stack Gas Exit Velocity (m/s)	Stack Gas Exit Temperature (K)	Dispersion Coefficient
Drum Dryer	9.14	0.914	388.7	121.92	Rural

Table 4 summarizes the ambient air quality impact analysis. The maximum modeled impact is the impact of each pollutant when the plant is operating continuously. The 24-hour impact and annual impact are based on compliance with the NAAQS for 2-methylnaphthalene.

Table 4: Ambient Air Quality Impact Analysis

Pollutant	NAAQS/ RAL ($\mu\text{g}/\text{m}^3$) ^a	Averaging Time	Maximum Modeled Impact ($\mu\text{g}/\text{m}^3$) ^b
$\text{C}_{11}\text{H}_{10}$ ^c	23	24-hour	0.0796
$\text{C}_{11}\text{H}_{10}$ ^c	2.3	Annual	0.00038

N/A = Not Applicable

^a National Ambient Air Quality Standards (NAAQS) and Risk Assessment Level (RAL)

^b Modeled impact at maximum capacity with controls

^c 2-methylnaphthalene is a member of the polycyclic organic matter (POM) HAP group.

EMISSIONS CALCULATIONS

Emissions for the project were calculated as described below and 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 drum mix asphalt plant:

- Calculated using emission factors from AP-42 Section 11.1 "Hot Mix Asphalt Plants," April 2004.
- SO_x emissions were calculated using the SO_2 and SO_3 emission factors from AP-42 Section 1.3 "Fuel Oil Combustion," September 1998 and assuming half of the sulfur up to 0.1 pound per ton of product is absorbed into the product.
- The asphalt plant is controlled by a baghouse, so the fabric filter controlled emission factor was used to calculate PM_{10} emissions.
- Emissions from plant load-out were calculated using predictive equations found in AP-42 Table 11.1-14. Default values were used for asphalt volatility and mix temperature.

Emissions from the asphalt heater:

- Calculated using emission factors from AP-42 Section 1.3.

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 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 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 levels and potential emissions of PM are above the de minimis level, but below major source levels...

APPLICABLE REQUIREMENTS

Con-Agg of MO LLC 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.
- *Operating Permits*, 10 CSR 10-6.065, the operating permit is required as the New Source Performance Standards (NSPS) Subpart I applies. Typically, submittal of a Basic operating permit application is required within 30 days after a construction permit is issued. However, there is a proposed rulemaking to remove the requirement to obtain a Basic operating permit for de minimis installations if the only criteria triggering the operating permit is NSPS applicability. Contact the Air Pollution Control Program's Permit Unit for an update prior to submitting an application
- *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
- 40 CFR 60 Subpart I, "Standards of Performance for hot Mix Asphalt Facilities" applies to the equipment of this asphalt plant.
- 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.
- *Control of Sulfur Dioxide Emissions*, 10 CSR 10-6.261

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 October, 27, 2016, received October, 27, 2016, designating Con-Agg of MO, LLC as the owner and operator of the installation.

APPENDIX A

Abbreviations and Acronyms

%	percent	MMBtu ...	Million British thermal units
°F	degrees Fahrenheit	MMCF.....	million cubic feet
acfm	actual cubic feet per minute	MSDS	Material Safety Data Sheet
BACT	Best Available Control Technology	NAAQS ..	National Ambient Air Quality Standards
BMPs	Best Management Practices	NESHAPs ..	National Emissions Standards for Hazardous Air Pollutants
Btu	British thermal unit	NO_x	nitrogen oxides
CAM	Compliance Assurance Monitoring	NSPS	New Source Performance Standards
CAS	Chemical Abstracts Service	NSR	New Source Review
CEMS	Continuous Emission Monitor System	PM	particulate matter
CFR	Code of Federal Regulations	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
CO	carbon monoxide	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter
CO₂	carbon dioxide	ppm	parts per million
CO_{2e}	carbon dioxide equivalent	PSD	Prevention of Significant Deterioration
COMS	Continuous Opacity Monitoring System	PTE	potential to emit
CSR	Code of State Regulations	RACT	Reasonable Available Control Technology
dscf	dry standard cubic feet	RAL	Risk Assessment Level
EQ	Emission Inventory Questionnaire	SCC	Source Classification Code
EP	Emission Point	scfm	standard cubic feet per minute
EPA	Environmental Protection Agency	SDS	Safety Data Sheet
EU	Emission Unit	SIC	Standard Industrial Classification
fps	feet per second	SIP	State Implementation Plan
ft	feet	SMAL	Screening Model Action Levels
GACT	Generally Available Control Technology	SO_x	sulfur oxides
GHG	Greenhouse Gas	SO₂	sulfur dioxide
gpm	gallons per minute	tph	tons per hour
gr	grains	tpy	tons per year
GWP	Global Warming Potential	VMT	vehicle miles traveled
HAP	Hazardous Air Pollutant	VOC	Volatile Organic Compound
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		



STATE OF MISSOURI
Eric R. Greitens, Governor • Carol S. Comer, Acting Director
DEPARTMENT OF NATURAL RESOURCES
dnr.mo.gov

FEB 14 2017

Mr. Alan Barnes
President
Con-Agg of MO LLC
2604 North Stadium Boulevard
Columbia, MO 65202

RE: New Source Review Permit - Project Number: 2016-10-048

Dear Mr. Barnes:

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/compliancec.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.



Mr. Alan Barnes
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If you have any questions regarding this permit, please do not hesitate to contact Sam Anzalone at the department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or by phone 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:smaj

Enclosures

c: Northeast Regional Office
PAMS File: 2016-10-048

Permit Number: **022017-006**