

STATE OF MISSOURI

PERMIT BOOK



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:

032010-001

Project Number: 2009-11-048

Installation ID: PORT-0658

Parent Company:

G & M Concrete & Asphalt Co., Inc.

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

Installation Name:

G & M Concrete & Asphalt Co., Inc.

Installation Address:

5199 County Road 371, Shelbina, MO 63468

Location Information:

Shelby County, S5, T57N, R9W

Application for Authority to Construct was made for:

The addition of a new 400 ton per hour portable 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.

MAR - 1 2010

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 Departments' 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 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 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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GENERAL 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. **Equipment Identification Requirement**
G & M Concrete & Asphalt Co., Inc. shall maintain easily read permanent markings on each component of the plant. These markings shall be the equipment's serial number or a company assigned identification number that uniquely identifies the individual component. These identification numbers must be submitted to the Air Pollution Control Program no later than 15 days after start-up of the portable rock crushing plant.
2. **Relocation of Portable Rock Crushing Plant**
 - A. G & M Concrete & Asphalt Co., Inc. shall not be operated at any location longer than 24 consecutive months.
 - B. A complete "Portable Source Relocation Request" application must be submitted to the Air Pollution Control Program prior to any relocation of this portable rock crushing plant.
 - 1) If the portable rock crushing plant is moving to a site previously permitted, and if the circumstances at the site have not changed (e.g. the site was only permitted for solitary operation and now another plant is located at the site), then the application must be received by the Air Pollution Control Program at least seven days prior to the relocation.
 - 2) If the portable rock crushing plant is moving to a new site, or if circumstances at the site have changed, then the application must be received by the Air Pollution Control Program at least 21 days prior to the relocation. The application must include written notification of any concurrently operating plants.
3. **Record Keeping Requirement**
G & M Concrete & Asphalt Co., Inc. shall maintain all records required by this permit for not less than five years and shall make them available to any Missouri Department of Natural Resources' personnel upon request.
4. **Reporting Requirement**
G & M Concrete & Asphalt Co., Inc. 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.

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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."

PORT ID Number: PORT-0658

Site ID Number: 205-0026

Site Name: Midwest Stone, LLC.

Site Address: 5199 County Road 371 Shelbina, MO 63468

Site County: Shelby S5, T57N, R9W

1. **Best Management Practices Requirement**
G & M Concrete & Asphalt Co., Inc. 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. G & M Concrete & Asphalt Co., Inc. shall not cause an exceedance of the National Ambient Air Quality Standard (NAAQS) for particulate matter less than ten microns in aerodynamic diameter (PM₁₀) of 150.0 µg/m³ 24-hour average in ambient air.

 - B. G & M Concrete & Asphalt Co., Inc. shall demonstrate compliance with Special Condition 2.A using Attachment B or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form. G & M Concrete & Asphalt Co., Inc. shall account for the impacts from other sources of PM₁₀ as instructed in Attachment B.

3. **Annual Emission Limit**
 - A. G & M Concrete & Asphalt Co., Inc. shall emit less than 50.0 tons of SO_x in any 12-month period from the entire installation.

 - B. G & M Concrete & Asphalt Co., Inc. shall demonstrate compliance with Special Condition 3.A using Attachment B or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.

4. **Moisture Content Testing Requirement**
 - A. G & M Concrete & Asphalt Co., Inc. shall verify that the moisture content of the processes rock is greater than or equal to 1.5% weight.

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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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- 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.
 - 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 G & M Concrete & Asphalt Co., Inc. 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 with 15 days of the noncompliant test. If the results of that test also exceed the limit, G & M Concrete & Asphalt Co., Inc. 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 Air Pollution Control Program Compliance Assistance section 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, G & M Concrete & Asphalt Co., Inc. may obtain test results that demonstrate compliance with the moisture content in Special Condition 4.A from the supplier of the aggregate.
5. Control Device Requirement-Baghouse
- A. G & M Concrete & Asphalt Co., Inc. shall control emissions from the drum dryer 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 the Department of Natural Resources employees may easily observe them.

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The permittee is authorized to construct and operate subject to the following Special Conditions:

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- 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. G & M Concrete & Asphalt Co., Inc. shall monitor and record the operating pressure drop across the baghouses at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
 - E. G & M Concrete & Asphalt Co., Inc. shall maintain an operating and maintenance log for the baghouses and drum 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.
6. Minimum Distance to Property Boundary Requirement
The primary emission point shall be located at least 250 feet from the nearest property boundary.
7. Record Keeping Requirement
G & M Concrete & Asphalt Co., Inc. shall maintain all records required by this permit for five years and make them available to any Missouri Department of Natural Resources personnel upon request.
8. Reporting Requirement
G & M Concrete & Asphalt Co., Inc. 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: 2009-11-048
Installation ID Number: PORT-0658
Permit Number:

G & M Concrete & Asphalt Co., Inc.
5199 County Road 371
Shelbina, MO 63468

Complete: December 1, 2009

Parent Company:
G & M Concrete & Asphalt Co., Inc.
255 Watson Road
Troy, MO 63379

Shelby County, S5, T57N, R9W

PROJECT DESCRIPTION

This permit is granting authority to G & M Concrete & Asphalt Co., Inc. (205-0026) to install and operate a new portable asphalt plant with a maximum hourly design rate (MHDR) of 400 tons per hour (tph). Two diesel generator sets are used to power the equipment of this plant: a 725 kW Caterpillar Model SR4 (972.24 HP) and a 225 kW Caterpillar Model SR4 (301.73 HP). The PM₁₀ emissions are controlled by a baghouse. 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.

G & M Concrete & Asphalt Co., Inc. will be operating concurrently with a stationary rock crushing plant with a MHDR of 400 tph. This stationary rock crushing plant is owned by Midwest Stone, LLC and allows for the concurrent, separate-owner operating scenario but limits separately owned operations to less than 88.18 µg/m³.

This permit meets the requirements for a Section (6) permit. G & M Concrete & Asphalt Co., Inc. has taken a voluntary limit for sulfur oxides (SO_x) to meet the requirements in 10 CSR 10-6.060(6)(B)3.

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

TABLES

The table below summarizes the emissions of this project. The potential emissions of process equipment excluding emissions from haul roads and wind erosion, which is site specific, should not vary from site to site. 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 of SO_x and nitrogen oxides (NO_x) are above *de minimis* levels, but are acceptable because they passed the impact analysis.

Table 1: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/ SMAL	¹ Potential Emissions of Process Equipment	Existing Actual Emissions	² Potential Emissions of the Application	⁴ Conditioned Potential Emissions
PM ₁₀	15.0	47.84	N/A	75.70	26.11
SO _x	40.0	144.98	N/A	144.98	< 50.0
NO _x	40.0	236.85	N/A	236.85	81.68
VOC	40.0	90.15	N/A	90.15	31.09
CO	100.0	267.39	N/A	267.39	92.22
³ Lead	0.01	0.03	N/A	0.03	0.009
³ Formaldehyde	2.0	5.59	N/A	5.59	1.927
Total HAPs	25.0	20.95	N/A	20.95	7.22

N/A = Not Applicable

¹ Not site-specific and excludes haul road and storage pile emissions; should not vary much from site to site

² Includes site specific haul road and storage pile emissions

³ Screening Model Action Level (SMAL)

⁴ Conditioned potential emissions are based upon PM₁₀ NAAQS condition. Other pollutants are indirectly limited.

Table 2: Ambient Air Quality Impact Analysis

Pollutant	¹ NAAQS/ RAL (µg/m ³)	Averaging Time	² Maximum Modeled Impact (µg/m ³)	Limited Impact (µg/m ³)	Background (µg/m ³)	³ Daily Limit (tons/day)
⁴ PM ₁₀	150.0	24-hour	121.61	N/A	20.0	9,600
⁵ PM ₁₀ (separate)	150.0	24-hour	N/A	88.18	61.8	7,477
SO _x	1,300	3-hour	6.39	6.39	N/A	N/A
SO _x	365	24-hour	2.84	2.21	N/A	N/A
SO _x	80	Annual	0.57	0.21	N/A	N/A
NO _x	100	Annual	33.54	12.54	N/A	N/A
Lead	2	8-hour	0	0	N/A	N/A
Formaldehyde	9.8	24-hour	5.92	4.24	N/A	N/A
⁶ Formaldehyde	0.8	Annual	1.18	0.41	N/A	N/A

¹National Ambient Air Quality Standards (NAAQS) and Risk Assessment Level (RAL)

²Modeled impact at maximum capacity with controls

³Indirect limit based on compliance with NAAQS.

⁴Solitary operation or operation with other plants that are owned by G & M Concrete & Asphalt Co., Inc.

⁵Operation with other plants that are not owned by G & M Concrete & Asphalt Co., Inc.

⁶Annual formaldehyde standard is 10 times the annual RAL (0.08 µg/m³)

The plant's SO_x, NO_x, lead and formaldehyde emissions were modeled using the SCREEN3 screen modeling software. The stack characteristic entered into the modeled are listed in Table 3.

Table 3: SCREEN3 Input Parameters

Equipment Description	Stack Height (m)	Stack Inside Diameter (m)	Stack Gas Exit Velocity (m/s)	Stack Gas Exit Temperature (K)	Dispersion Coefficient
Dryer	13.41	1.52	15.48	394.26	Rural
Heater	3.66	0.28	460.51	394.26	Rural
725 kW Generator	2.74	0.30	36.91	774.26	Rural
225 kW Generator	2.44	0.15	55.81	734.82	Rural

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 drum mix asphalt plant were calculated using emission factors from AP-42 Section 11.1 “Hot Mix Asphalt Plants,” April 2004. Sulfur oxide (SO_x) emissions were calculated using the SO₂ and SO₃ 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 PM₁₀ 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 were calculated using emission factors from AP-42 Section 1.3. Emissions from aggregate handling 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 or equal to 1.5% weight.

Emissions from the diesel generators were calculated using emission factors from AP-42 Section 3.4 “Large Stationary Diesel and All Stationary Dual-fuel Engines,” October 1996.

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 is 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% 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 PM₁₀. The Air Pollution Control Program requires an AAQIA of PM₁₀ for all asphalt, concrete and rock-crushing plants regardless of the level of PM₁₀ emissions if a permit is required. An AAQIA was required for SO_x, lead, formaldehyde, and NO_x since emissions exceed the de minimis or screening model action level (SMAL) for applicable pollutants. The AAQIA was performed using the Air Pollution Control Program's generic nomographs and the EPA modeling software SCREEN3. 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. The maximum modeled impact of formaldehyde was found to exceed its annual RAL. The annual formaldehyde impact is below the respective RAL when considering the SO_x limit and limits associated with compliance for the PM₁₀ NAAQS. The distance from the plant to the nearest site boundary/residence is 250 feet.

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 20.0 µg/m³ of PM₁₀ 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 G & M Concrete & Asphalt Co., Inc. shall demonstrate compliance with the NAAQS.

- When plants that are owned by G & M Concrete & Asphalt Co., Inc. are located at the site, G & M Concrete & Asphalt Co., Inc. must calculate the daily impact of each plant and limit the total impact of all plants below the NAAQS.
- When plants that are not owned by G & M Concrete & Asphalt Co., Inc. are located at the site, G & M Concrete & Asphalt Co., 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 G & M Concrete & Asphalt Co., Inc. that are operating at the site. This total is limited below the NAAQS.
- G & M Concrete & Asphalt Co., Inc. will limit the total impact of all plants they own and operate at the site to 88.18 µg/m³ when any plants they do not own are located at the site.
- G & M Concrete & Asphalt Co., Inc. is not permitted to operate with any plant that is not owned by G & M Concrete & Asphalt Co., Inc. that has a separate owner limited impact greater than 41.82 µg/m³.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

APPLICABLE REQUIREMENTS

G & M Concrete & Asphalt Co., Inc. 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. The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required June 1 for the previous year's emissions.
- No Operating Permit is required for this installation.
- *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 10-3.090

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.
- 40 CFR 60 Subpart III, "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines" applies to the equipment.
- 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.
- *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.

Daronn Williams
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated November 19, 2009, received November 20, 2009, designating G & M Concrete & Asphalt Co., Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Northeast Regional Office Site Survey, dated December 7, 2009.

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 emissions¹ 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

¹For 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.)

Attachment BB: Emission Calculations
G & M Concrete & Asphalt Co., Inc.
2009-11-048

Description	¹ MHDR	MHDR Units	² PM ₁₀ EF	EF Units	Control Eff. %	Emissions (lb/hr)	³ Modeling Rate (lb/hr)
Aggregate Handling Bins-Spray Bars	1900.00	tph	0.00110	lb/ton	95.80	0.09	0.068
Aggregate Handling Conveyor-Spray Bars	1140.00	tph	0.00110	lb/ton	95.80	0.05	0.041
Grizzly Feeder-Spray Bars	380.00	tph	0.00110	lb/ton	95.80	0.02	0.014
Drum Dryer - #5 Fuel Oil	400.00	tph	6.50000	lb/ton	99.65	9.20	7.165
Silo Loading	400.00	tph	0.00059	lb/ton	0.00	0.23	0.183
Plant Loadout	400.00	tph	0.00052		0.00	0.21	0.163
Asphalt Heater - #2 Fuel Oil (Diesel)	0.0250	1000 gal/hr	2.38000	lb/1000gal	0.00	0.06	0.046
Generator - Large Stationary Diesel Engine	0.0504	1000 gal/hr	7.85000	lb/1000gal	0.00	0.40	0.308
Storage Pile - Load In MC 1.5	380.00	tph	0.00410	lb/ton	0.00	1.56	1.213
Storage Pile - Load Out MC 1.5	380.00	tph	0.00410	lb/ton	0.00	1.56	1.213
Storage Pile - Wind Erosion	1.00	acres	0.08917	lb/acre-hr	0.00	0.09	0.069
Storage Pile - Vehicular Activity	0.60	VMT/hr	2.84254	lb/VMT	90.00	0.17	0.133
Haul Road Road	11.05	VMT/hr	2.70377	lb/VMT	90.00	2.99	2.326

¹Maximum Hourly Design Rate (MHDR)

²Emission Factor (EF)

³The Modeling Rate is the emission rate scaled to the daily hours of operation at MHDR allow by the permit.

Mr. Dean McDonald
Vice-President
G & M Concrete & Asphalt Co., Inc.
255 Watson Road
Troy, MO 63379

RE: New Source Review Permit - Project Number: 2009-11-048

Dear Mr. McDonald:

Enclosed with this letter is your permit to construct. Please study it carefully. 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 in 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 Daronn Williams, at the Departments' 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

Kendall B. Hale
New Source Review Unit Chief

KBH:dwl

Enclosures

c: Northeast Regional Office
PAMS File: 2009-11-048

Permit Number: