

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:

022015 - 007

Project Number: 2014-10-052

Installation ID: 099-P094

Parent Company:

N. B. West Contracting Co., Inc.

Parent Company Address: 2780 Mary Avenue, St. Louis, MO 63144

Installation Name:

N. B. West Contracting

Installation Address:

5251 Hillsboro, House Springs, MO 63501

Location Information:

Jefferson County, S10 T42N R4E

Application for Authority to Construct was made for:

Upgrade current 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.

FEB 09 2015

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 startup 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 startup 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.

Page No.	3
Permit No.	
Project No.	2014-10-052

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. Superseding Condition

The conditions of this permit supersede all special conditions found in the previously issued construction permits 0487-012A and 1397-005 from the Air Pollution Control Program.

1. Best Management Practices Requirement

N. B. West Contracting shall control fugitive emissions from all of the haul roads and vehicular activity areas at this site by performing BMPs as defined in Attachment AA.

2. Ambient Air Impact Limitation

A. N. B. West Contracting shall not cause an exceedance of the NAAQS for PM₁₀ of 150.0 µg/m³ 24-hour average in ambient air.

B. N. B. West Contracting shall demonstrate compliance with Special Condition 2.A using Attachment A or other equivalent forms that have been approved by the Air Pollution Control Program, including electronic forms. N. B. West Contracting shall account for the impacts from other sources of PM₁₀ as instructed in the attachments.

3. Annual Emission Limit

A. N. B. West Contracting shall emit less than 15.0 tons of PM₁₀ in any 12-month period from the entire installation.

B. N. B. West Contracting 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. Control Device Requirement-Baghouse

A. N. B. West Contracting shall control emissions from the drum dryer (EP-4) using baghouse as specified in the permit application.

B. The baghouse 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.

Page No.	4
Permit No.	
Project No.	2014-10-052

SITE SPECIFIC SPECIAL CONDITIONS:

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

- C. Replacement filters for the baghouse 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. N. B. West Contracting shall monitor and record the operating pressure drop across the baghouse at least once every 24 hours while operating. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
 - E. N. B. West Contracting shall maintain a copy of the baghouse manufacturer's performance warranty on site.
 - F. N. B. West Contracting shall maintain an operating and maintenance log for the baghouse 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.
5. Wet Suppression Control System Requirement
- A. N. B. West Contracting shall install and operate wet spray devices on vibrating screen (EP-3).
 - B. Watering may be suspended during periods of freezing condition, when use of the wet spray devices may damage the equipment. During these conditions, N. B. West Contracting shall adjust the production rate to control emissions from these units. N. B. West Contracting shall record a brief description of such events.
 - C. Water spray devices may be suspended during rain periods when precipitation is greater than one quarter of one inch and is sufficient to control fugitive emissions. At any time when visual emissions are observed, water spray devices shall be resumed.
6. Minimum Distance to Property Boundary Requirement
- The primary emission point shall be located at least 213 feet from the nearest property boundary.
7. Concurrent Operation Restriction
- N. B. West Contracting is prohibited from operating whenever other plants are located at the site.

Page No.	5
Permit No.	
Project No.	2014-10-052

SITE SPECIFIC SPECIAL CONDITIONS:

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

8. Fuel Requirement-Drum Dryer and Asphalt Heater
N. B. West Contracting shall burn in their Drum Dryer (EP-4) and Asphalt Heater (EP-7) propane during asphalt production.
9. Record Keeping Requirement
N. B. West Contracting 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.
10. Reporting Requirement
N. B. West Contracting 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: 2014-10-052
Installation ID Number: 099-P094
Permit Number:

N. B. West Contracting
5251 Hillsboro
House Springs, MO 63501

Complete: November 19, 2014

Parent Company:
N. B. West Contracting Co., Inc.
2780 Mary Avenue
St. Louis, MO 63144

Jefferson County, S10 T42N R4E

INSTALLATION DESCRIPTION

According to Air Pollution Control Program's records, a portable asphalt plant was permitted to this House Springs site in 1990, Permit 0487-012A. In 1997, Permit 0397-005 increased production for this portable plant. The portable plant has not moved since 1990 and has received Basic Operating Permits since 1998/2001. This plant is now a stationary plant.

PROJECT DESCRIPTION

N. B. West is upgrading their current dryer/mixer drum to a dryer drum with a separate rotary mixer drum. They will also be converting the burner, dryer, and asphalt heater from diesel/waste oil to propane. The MHDR of the asphalt plant will be 220 tons per hour. It will be located 213 feet from the nearest property line. The conveyors and associated equipment will be powered from the grid (Ameren).

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.

This installation is located in Jefferson County, a nonattainment area for the 8-hour ozone standard and the PM_{2.5} standard and an attainment area for all other criteria pollutants. Part of Jefferson County is a nonattainment area for lead. The installation is located in the Jefferson County lead nonattainment area.

This installation is on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. Fugitive emissions are counted toward major source applicability. However, Category 27 does not apply to the 100 tons per year major source level

thresholds. Therefore, the major source threshold for this asphalt plant is 250 tons per year.

TABLES

The following permits have been issued to N. B. West Contracting from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
0487-012A	Portable Asphalt Plant Relocation (Section 4)
0397-005	Increase production of a portable plant

The table below summarizes the emissions of this project. The potential emissions of the process equipment, which excluded emissions from haul roads and wind erosion, are not site specific and should not vary from site to site. 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). Due to the fuel change and reconfiguration of the drum dryer, the entire plant is being re-permitted. The conditioned potential emissions include emissions from sources that will limit their production to ensure compliance with the annual emission limit.

Table 2: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/SMAL	Potential Emission of Process Emissions	Existing Actual Emissions (2014 EIQ)	^a Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	45.51	N/D	132.07	32.08
PM ₁₀	15.0	27.84	4.16	61.76	<15.0
PM _{2.5}	10.0	23.47	1.40	33.78	8.20
SO _x	40.0	0.00054	1.35	0.00054	0.00013
NO _x	40.0	41.44	0.44	41.44	10.07
VOC	40.0	46.42	0.0003	46.42	11.27
CO	100.0	26.35	2.38	26.35	6.4
GHG (CO ₂ e)	75,000 / 100,000	9,650.14	N/D	39,734.08	9,650.14
GHG (mass)	0.0 / 100.0 / 250.0	9,600.43	N/D	39,529.39	9,600.43
Formaldehyde	10.0/2.0 ^d	3.07	N/D	3.07	0.75
2-methylnaphthalene ^c	10.0/0.01 ^b	0.07	N/D	0.07	0.02
Total HAPs	25.0	5.37	0.00	5.37	1.30

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

^aIncludes site specific haul road and storage pile emissions

^bSMAL

^c2-methylnaphthalene is a member of the Polycyclic Organic Matter (POM) HAP group.

Table 3 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 limited impacts and daily limit are based on compliance with the NAAQS for PM₁₀. The annual limited impacts are based on the annual PM₁₀ de minimis limit.

Table 3: Ambient Air Quality Impact Analysis

Pollutant	NAAQS/RAL ($\mu\text{g}/\text{m}^3$)	Averaging Time	^a Maximum Modeled Impact ($\mu\text{g}/\text{m}^3$)	Limited Impact ($\mu\text{g}/\text{m}^3$)	Background ($\mu\text{g}/\text{m}^3$)	^b Daily Limit (tons/day)
^c PM ₁₀ (solitary)	150.0	24-hour	333.37	130.0	20.0	2,553.7
^d 2- methylnaphthalene	23.0	24-hour	0.1672	N/A	N/A	N/A
2- methylnaphthalene	2.3	Annual	0.03	N/A	N/A	N/A

^aModeled impact at maximum capacity with controls

^bIndirect limit based on compliance with NAAQS.

^cSolitary operation

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

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 drum mix asphalt plant were calculated using emission factors from AP-42 Section 11.1 "Hot Mix Asphalt Plants," April 2004. 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 for the vibrating screen because the equipment is controlled by water spray devices. The uncontrolled emission factors were used for the three conveyors.

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 PM₁₀ and a 40% control efficiency for PM_{2.5} were 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 0.7% by weight. Emissions from wind erosion of storage piles were calculated using an equation found in the Air

AMBIENT AIR QUALITY IMPACT ANALYSIS

An ambient air quality impact analysis (AAQIA) was performed to determine the impact of the pollutants listed in Table 3. 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 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 NAAQS or 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/m³ of PM₁₀ in accordance with the Air Pollution Control Program's BMPs interim policy.

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

N. B. West Contracting 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.
- A Basic Operating Permit application is required for this installation because the facility is subject to 40 CFR 60 Subpart I, "Standards of Performance for Hot Mix Asphalt Facilities".

- *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 does not apply because the drum dryer is controlled by a baghouse. All other sources are fugitive.
- 40 CFR 60 Subpart I, "Standards of Performance for Hot Mix Asphalt Facilities" 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.

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.

Kathy Kolb
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 October 15, 2014, received October 20, 2014, designating N. B. West Contracting Co., 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 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 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.

APPENDIX A

Abbreviations and Acronyms

%percent	MMBtu Million British thermal units
°Fdegrees Fahrenheit	MMCF million cubic feet
acfmactual cubic feet per minute	MSDS Material Safety Data Sheet
BACTBest 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	

Mr. Larry West
Owner
N. B. West Contracting
2780 Mary Avenue
St. Louis, MO 63144

RE: New Source Review Permit - Project Number: 2014-10-052

Dear Mr. West:

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, 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 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, Truman State Office Building, Room 640, 301 W. High Street, P.O. Box 1557, Jefferson City, MO 65102, telephone number: (573) 751-2422, fax number (573) 751-5018, website: www.oa.mo.gov/ahc.

Mr. Larry West
Page Two

If you have any questions, please do not hesitate to contact Kathy Kolb, at the department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, or by telephone 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:kkk

Enclosures

c: St. Louis Regional Office
PAMS File: 2014-10-052

Permit Number: