



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

*Mitchell E. Daniels Jr.*  
Governor

*Thomas W. Easterly*  
Commissioner

100 North Senate Avenue  
Indianapolis, Indiana 46204  
(317) 232-8603  
Toll Free (800) 451-6027  
[www.idem.IN.gov](http://www.idem.IN.gov)

## NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT

### Preliminary Findings Regarding the Renewal of a **Federally Enforceable State Operating Permit (FESOP)**

for **E & B Paving, Inc.** in **Allen County**

**Permit No. F 003-30534-03125**

The Indiana Department of Environmental Management (IDEM) has received an application from E & B Paving, Inc. located at 320 S. Thomas Road, Ft. Wayne, Indiana 46804 for a renewal of its FESOP issued on February 20, 2007. If approved by IDEM's Office of Air Quality (OAQ), this proposed renewal would allow E & B Paving, Inc to continue to operate its existing source.

This draft FESOP does not contain any new equipment that would emit air pollutants; however, some conditions from previously issued permits/approvals have been corrected, changed or removed. These corrections, changes, and removals may include Title I changes. This notice fulfills the public notice procedures to which those conditions are subject. IDEM has reviewed this application, and has developed preliminary findings, consisting of a draft permit and several supporting documents, that would allow for these changes.

A copy of the permit application and IDEM's preliminary findings are available at:

Allen County Public Library  
900 Library Plaza  
Ft. Wayne, IN 46802

A copy of the preliminary findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>.

### **How can you participate in this process?**

The date that this notice is published in a newspaper marks the beginning of a 30-day public comment period. If the 30<sup>th</sup> day of the comment period falls on a day when IDEM offices are closed for business, all comments must be postmarked or delivered in person on the next business day that IDEM is open.

You may request that IDEM hold a public hearing about this draft permit. If adverse comments concerning the **air pollution impact** of this draft permit are received, with a request for a public hearing, IDEM will decide whether or not to hold a public hearing. IDEM could also decide to hold a public meeting instead of, or in addition to, a public hearing. If a public hearing or meeting is held, IDEM will make a separate announcement of the date, time, and location of that hearing or meeting. At a hearing, you would have an opportunity to submit written comments and make verbal comments. At a meeting, you would have an opportunity to submit written comments, ask questions, and discuss any air pollution concerns with IDEM staff.

Comments and supporting documentation, or a request for a public hearing should be sent in writing to IDEM at the address below. If you comment via e-mail, please include your full U.S. mailing address so

that you can be added to IDEM's mailing list to receive notice of future action related to this permit. If you do not want to comment at this time, but would like to receive notice of future action related to this permit application, please contact IDEM at the address below. Please refer to permit number F 003-30534-03125 in all correspondence.

**Comments should be sent to:**

Ms. Renee Traivaranon  
IDEM, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
(800) 451-6027, ask for extension 4-5615  
Or dial directly: (317) 234-5615  
Fax: (317)-232-6749 attn: Renee Traivaranon  
E-mail: Rtraivar@idem.in.gov

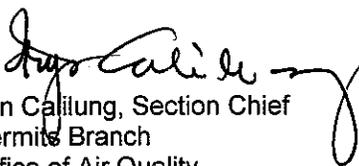
All comments will be considered by IDEM when we make a decision to issue or deny the permit. Comments that are most likely to affect final permit decisions are those based on the rules and laws governing this permitting process (326 IAC 2), air quality issues, and technical issues. IDEM does not have legal authority to regulate zoning, odor or noise. For such issues, please contact your local officials.

For additional information about air permits and how you can participate, please see IDEM's **Guide for Citizen Participation** and **Permit Guide** on the Internet at: [www.idem.in.gov](http://www.idem.in.gov).

**What will happen after IDEM makes a decision?**

Following the end of the public comment period, IDEM will issue a Notice of Decision stating whether the permit has been issued or denied. If the permit is issued, it may be different than the draft permit because of comments that were received during the public comment period. If comments are received during the public notice period, the final decision will include a document that summarizes the comments and IDEM's response to those comments. If you have submitted comments or have asked to be added to the mailing list, you will receive a Notice of the Decision. The notice will provide details on how you may appeal IDEM's decision, if you disagree with that decision. The final decision will also be available on the Internet at the address indicated above, at the local library indicated above, and the IDEM public file room on the 12<sup>th</sup> floor of the Indiana Government Center North, 100 N. Senate Avenue, Indianapolis, Indiana 46204-2251.

If you have any questions please contact Ms. Renee Traivaranon of my staff at the above address.

  
Iryn Calilung, Section Chief  
Permits Branch  
Office of Air Quality

RT



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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DRAFT

## Federally Enforceable State Operating Permit Renewal OFFICE OF AIR QUALITY

**E&B Paving, Inc.**  
**320 S. Thomas Road**  
**Ft. Wayne, Indiana 46804**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

**The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.**

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a FESOP under 326 IAC 2-8.

Operation Permit No.: F 003-30534-03125	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date:  Expiration Date:

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## SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

### A.1 General Information [326 IAC 2-8-3(b)]

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The Permittee owns and operates a stationary batch hot mix asphalt plant.

Source Address:	320 S. Thomas Road, Ft. Wayne, Indiana 46804
General Source Phone Number:	(765) 643-5358
SIC Code:	2951 (Asphalt Paving Mixtures and Blocks)
County Location:	Allen
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

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This stationary source consists of the following emission units and pollution control devices:

- (a) one (1) aggregate batch mix dryer, identified as EU-05, constructed in 1986, with a maximum capacity of 125 tons per hour, equipped with one (1) natural gas fired dryer burner with a maximum heat input of 90 million (MM) Btu per hour, using No. 2 distillate fuel oil as back-up fuel; using one (1) baghouse (ID No. B-1) for particulate matter control, exhausting to one (1) stack (ID No. SV-1);
- (b) feeding, conveying and loading operations, processing a maximum of 125 tons per hour;
- (c) one (1) 12,000 gallon asphalt cement storage tank (ID No. T-02), constructed in 1986;
- (d) one (1) 15,000 gallon asphalt cement storage tank (ID No. T-06), constructed in 1986;
- (e) one (1) 500,000 gallon asphalt cement storage tank (ID No. T-09), constructed in 1986.

Under NSPS Subpart I, the above units are considered affected facilities.

- (f) cold-mix (stockpile mix) asphalt manufacturing operations, constructed in 1986.

### A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

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This stationary source also includes the following insignificant activities:

- (a) one (1) direct-fired hot oil heater, with a maximum heat input of 1.3 MMBtu per hour, firing No. 2 distillate fuel oil with natural gas as back-up fuel, exhausting to one (1) stack (ID No. SV-11);
- (b) sand, crushed stone and reclaimed asphalt pavement storage piles with a maximum total storage capacity of 60,000 tons;
- (c) one (1) 10,000 gallon asphalt cement storage tank (ID No. T-01);

- (d) one (1) 6,000 gallon asphalt cement storage tank (ID No. T-03);
- (e) two (2) 8,000 gallon asphalt cement storage tanks (ID Nos. T-04 & T-05);
- (f) one (1) 300 gallon gasoline storage tank (ID No. T-07);
- (g) one (1) 4,000 gallon fuel oil storage tank (ID No. T-08);
- (h) one (1) test trailer; and
- (i) paved and unpaved roadways.

A.4 FESOP Applicability [326 IAC 2-8-2]

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This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) to renew a Federally Enforceable State Operating Permit (FESOP).

## SECTION B GENERAL CONDITIONS

### B.1 Definitions [326 IAC 2-8-1]

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Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

### B.2 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

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- (a) This permit, F 003-30534-03125, is issued for a fixed term of ten (10) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

### B.3 Term of Conditions [326 IAC 2-1.1-9.5]

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Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

- (a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or
- (b) the emission unit to which the condition pertains permanently ceases operation.

### B.4 Enforceability [326 IAC 2-8-6] [IC 13-17-12]

---

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

### B.5 Severability [326 IAC 2-8-4(4)]

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The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

### B.6 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]

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This permit does not convey any property rights of any sort or any exclusive privilege.

### B.7 Duty to Provide Information [326 IAC 2-8-4(5)(E)]

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- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

### B.8 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]

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- (a) A certification required by this permit meets the requirements of 326 IAC 2-8-5(a)(1) if:

- (1) it contains a certification by an "authorized individual", as defined by 326 IAC 2-1.1-1(1), and
- (2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

B.9 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
  - (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
  - (2) The compliance status;
  - (3) Whether compliance was continuous or intermittent;
  - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and
  - (5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.10 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.11 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)][326 IAC 2-8-5(a)(1)]

- (a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
  - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
  - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

The Permittee shall implement the PMPs.

- (b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
  - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
  - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

The Permittee shall implement the PMPs.

- (c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

**B.12 Emergency Provisions [326 IAC 2-8-12]**

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- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation except as provided in 326 IAC 2-8-12.

- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
- (2) The permitted facility was at the time being properly operated;
- (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
- (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or  
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)  
Facsimile Number: 317-233-6865

- (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
- (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
- (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.
- (g) Operations may continue during an emergency only if the following conditions are met:
- (1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
- (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:
- (A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
- (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to F 003-30534-03125 and issued pursuant to permitting programs approved into the state implementation plan have been either:
- (1) incorporated as originally stated,
- (2) revised, or

(3) deleted.

(b) All previous registrations and permits are superseded by this permit.

**B.14 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]**

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The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-9.

**B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination  
[326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]**

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(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]

(c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

**B.16 Permit Renewal [326 IAC 2-8-3(h)]**

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(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management  
Permit Administration and Support Section, Office of Air Quality  
100 North Senate Avenue

MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
- (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
  - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-8-3(g), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:
- Indiana Department of Environmental Management  
Permit Administration and Support Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251
- Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.18 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) through (d) without a prior permit revision, if each of the following conditions is met:
- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
  - (2) Any approval required by 326 IAC 2-8-11.1 has been obtained;
  - (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
  - (4) The Permittee notifies the:

Indiana Department of Environmental Management  
Permit Administration and Support Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V  
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

- (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(b) through (d). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-8-15(b)(2), (c)(1), and (d).

- (b) Emission Trades [326 IAC 2-8-15(c)]  
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(c).
- (c) Alternative Operating Scenarios [326 IAC 2-8-15(d)]  
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.
- (d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

**B.19 Source Modification Requirement [326 IAC 2-8-11.1]**

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A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

**B.20 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]**

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Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.21 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

- (a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:  
  
Indiana Department of Environmental Management  
Permit Administration and Support Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
  
Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.22 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ no later than thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Failure to pay may result in administrative enforcement action or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

**B.23 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]**

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For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

## SECTION C SOURCE OPERATION CONDITIONS

Entire Source

### Emission Limitations and Standards [326 IAC 2-8-4(1)]

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM) and greenhouse gases (GHGs), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.
- (4) The potential to emit greenhouse gases (GHGs) from the entire source shall be limited to less than one hundred thousand (100,000) tons of CO<sub>2</sub> equivalent emissions (CO<sub>2</sub>e) per twelve (12) consecutive month period.

(b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period.

(c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.3 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.4 Open Burning [326 IAC 4-1] [IC 13-17-9]

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The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.5 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

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The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

C.6 Fugitive Dust Emissions [326 IAC 6-4]

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The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

C.7 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]

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Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the attached plan as in Attachment A.

C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

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- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
  - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
  - (2) If there is a change in the following:
    - (A) Asbestos removal or demolition start date;
    - (B) Removal or demolition contractor; or
    - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (e) **Procedures for Asbestos Emission Control**  
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and Renovation**  
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Licensed Asbestos Inspector**  
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

### **Testing Requirements [326 IAC 2-8-4(3)]**

#### **C.9 Performance Testing [326 IAC 3-6]**

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- (a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:  
  
Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
  
no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted

by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

**Compliance Requirements [326 IAC 2-1.1-11]**

C.10 Compliance Requirements [326 IAC 2-1.1-11]

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The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

**Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]**

C.11 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

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Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or of initial start-up, whichever is later, to begin such monitoring. If due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance or the date of initial startup, whichever is later, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a permit revision shall be implemented when operation begins.

C.12 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)][326 IAC 2-8-5(1)]

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- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.
- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

**Corrective Actions and Response Steps [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]**

C.13 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

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Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

- (a) The Permittee shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.
- (b) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.14 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.15 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:

- (a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:
  - (1) initial inspection and evaluation;
  - (2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or
  - (3) any necessary follow-up actions to return operation to normal or usual manner of operation.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
  - (1) monitoring results;
  - (2) review of operation and maintenance procedures and records; and/or
  - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall record the reasonable response steps taken.

C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.
- (b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ

that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline

- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

### **Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]**

#### **C.17 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]**

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- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

#### **C.18 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]**

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- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.
- (b) The address for report submittal is:
- Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

- (d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

### **Stratospheric Ozone Protection**

#### **C.19 Compliance with 40 CFR 82 and 326 IAC 22-1**

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Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with applicable standards for recycling and emissions reduction.

## SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description:

- (a) one (1) aggregate batch mix dryer, identified as EU-05, constructed in 1986, with a maximum capacity of 125 tons per hour, equipped with one (1) natural gas fired dryer burner with a maximum heat input of 90 million (MM) Btu per hour, using No. 2 distillate fuel oil as back-up fuel; using one (1) baghouse (ID No. B-1) for particulate matter control, exhausting to one (1) stack (ID No. SV-1);
- (b) feeding, conveying and loading operations, processing a maximum of 125 tons per hour;
- (c) one (1) 12,000 gallon asphalt cement storage tank (ID No. T-02), constructed in 1986;
- (d) one (1) 15,000 gallon asphalt cement storage tank (ID No. T-06), constructed in 1986;
- (e) one (1) 500,000 gallon asphalt cement storage tank (ID No. T-09), constructed in 1986.

Under NSPS Subpart I, the above units are considered affected facilities.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards [326 IAC 2-8-4(1)]

#### D.1.1 PSD Minor Limit [326 IAC 2-2] [326 IAC 2-8]

In order to render 326 IAC 2-2 not applicable;

- (a) The amount of hot-mix asphalt processed shall not exceed 490,185 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) PM emissions from the dryer/mixer shall not exceed 0.830 pounds per ton of asphalt processed.

Compliance with these limits, combined with the potential to emit PM from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than 250 tons per 12 consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

#### D.1.2 FESOP Limits: PM10, PM2.5, and CO [326 IAC 2-8-4][326 IAC 2-2]

Pursuant to 326 IAC 2-8-4, the Permittee shall comply with the following:

- (a) The amount of hot-mix asphalt processed shall not exceed 490,185 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The PM10 emissions from the dryer/mixer shall not exceed 0.351 pounds per ton of asphalt processed.
- (c) The PM2.5 emissions from the dryer/mixer shall not exceed 0.375 pounds per ton of asphalt processed.
- (d) The CO emissions from the dryer/mixer shall not exceed 0.40 pounds per ton of asphalt processed.

Compliance with these limits, combined with the potential to emit PM10, PM2.5, and CO from all other emission units at this source, shall limit the source-wide total potential to emit of PM10, PM2.5, and CO to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits), and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), not applicable.

D.1.3 FESOP Limits: SO2 [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4, the Permittee shall comply with the following:

(a) Fuel Specifications and Single Usage Limitations

- (1) The sulfur content of the No. 2 fuel oil shall not exceed 0.50% by weight.
- (2) No. 2 fuel oil usage shall not exceed 2,731,742 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Note: The source is permitted to burn the natural gas and fuel oil #2 only.

(b) Multiple Fuel Usage Limitation:

When combusting both No. 2 fuel oil and natural gas per twelve (12) consecutive month period in the dryer/mixer burner, SO<sub>2</sub> emissions shall not exceed 96.98 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the limit, combined with the potential to emit SO<sub>2</sub>, from all other emission units at this source, shall limit the source-wide total potential to emit of SO<sub>2</sub> to less than 100 tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-7 (Part 70 Permits), not applicable.

D.1.4 Sulfur Dioxide (SO2) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

- (a) Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), the sulfur dioxide (SO<sub>2</sub>) emissions from the dryer/mixer burner shall not exceed five tenths (0.5) pounds per MMBtu when using distillate oil.
- (b) Pursuant to 326 IAC 7-2-1 compliance shall be demonstrated on a thirty (30) day calendar-month average.

Note: No. 2 fuel oil is considered distillate oil.

D.1.5 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for these facilities and any corresponding control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

**Compliance Determination Requirements**

D.1.6 Particulate Control

In order to comply with Conditions D.1.1(b), D.1.2(b), and D.1.2(c), the baghouse for particulate control shall be in operation and control emissions from the dryer/mixer at all times when the dryer/mixer is in operation.

D.1.7 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.1.1(b), D.1.2(b), and D.1.2(c), the Permittee shall perform PM, PM10, and PM2.5 testing of the dryer/mixer not later than 60 days

after achieving maximum capacity but not later than 180 days after initial start up. This testing shall be conducted utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM10 and PM2.5 includes filterable and condensable particulate matter.

#### D.1.8 Sulfur Dioxide (SO<sub>2</sub>) Emissions and Sulfur Content

Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed five-tenths (0.5) pounds per million British thermal units heat input when combusting No. 2 fuel oil, compliance with the fuel limitations established in Conditions D.1.3(a)(1), and D.1.4(a) shall be determined utilizing one of the following options:

- (1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification; or
- (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
  - (i) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
  - (ii) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
- (3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified above shall not be refuted by evidence of compliance pursuant to the other method.

#### D.1.9 Multiple Fuel Usage Limitations

to demonstrate compliance with the Condition D.1.3(b) when combusting more than one type of fuel per twelve (12) consecutive month period in the dryer/mixer burner, in the aggregate mix, the Permittee shall calculate SO<sub>2</sub> emissions using the following formulas:

##### Sulfur Dioxide (SO<sub>2</sub>) Emission Calculation

$$S = \frac{G(E_G) + O(E_O)}{2,000 \text{ lbs/ton}}$$

where:

S = tons of sulfur dioxide emissions for a 12 month consecutive period

G = million cubic feet of natural gas used in the last 12 months

O = gallons of No. 2 fuel oil used in the last 12 months

Emission Factors

E<sub>G</sub> = 0.60 lb/million cubic feet of natural gas

E<sub>O</sub> = .071 lb/gallons of No. 2 fuel oil

## Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

### D.1.10 Visible Emissions Notations

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- (a) Visible emission notations from the conveyors, material transfer points, and dryer/mixer stack (SV-1) exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

### D.1.11 Parametric Monitoring

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The Permittee shall record the pressure drop across the baghouse used in conjunction with the dryer/mixer, at least once per day when dryer/mixer is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 2.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response. On and after the date the stack test results are available the pressure drop shall be maintained within the normal range or minimum as observed during the compliant stack test. Section C – Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside of the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.

### D.1.12 Broken or Failed Bag Detection

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In the event that bag failure has been observed:

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emission unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

### **Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]**

#### **D.1.13 Record Keeping Requirements**

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- (a) To document the compliance status with Conditions D.1.1(a), and D.1.2(a), the Permittee shall keep monthly records of the amount of asphalt processed through the dryer/mixer.
- (b) To document the compliance status with Conditions D.1.3 and D.1.4, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) below shall be taken monthly and shall be complete and sufficient to establish compliance with the limits established in Conditions D.1.3 and D.1.4.
  - (1) Calendar dates covered in the compliance determination period;
  - (2) Actual fuel usage, sulfur content, heat content, and equivalent sulfur dioxide, each fuel used at the source since the last compliance determination period;
  - (3) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and
  - (4) If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
    - (i) Fuel supplier certifications;
    - (ii) The name of the fuel supplier; and
    - (iii) A statement from the fuel supplier that certifies the sulfur content of the No. 2.
- (c) To document the compliance status with Condition D.1.10, the Permittee shall maintain records of visible emission notations of the dryer/mixer stack (SV-1) exhaust once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).
- (e) To document the compliance status with Condition D.1.11, the Permittee shall maintain a daily record of the pressure drop across the baghouse controlling the dryer/mixer. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g., the dryer/mixer did not operate that day).
- (f) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

#### D.1.14 Reporting Requirements

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A quarterly summary of the information to document compliance status with Conditions D.1.1(a), D.1.2(a), D.1.3(a)(2), and D.1.3(b) shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

## SECTION D.2

## FACILITY OPERATION CONDITIONS

### Emissions Unit Description:

Cold-mix cutback asphalt production and storage piles.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards [326 IAC 2-8-4(1)]

#### D.2.1 Volatile Organic Compounds (VOC) [326 IAC 8-5-2]

Pursuant to 326 IAC 8-5-2 (Miscellaneous Operations: Asphalt Paving), the use of cutback asphalt or asphalt emulsion shall not contain more than seven percent (7%) oil distillate by volume of emulsion for any paving application except the following purposes:

- (a) Penetrating prime coating
- (b) Stockpile storage
- (c) Application during the months of November, December, January, February, and March.

#### D.2.2 Volatile Organic Compounds (VOC) [326 IAC 2-8-4] [326 IAC 2-2]

- (a) Pursuant to 326 IAC 2-8-4, the amount of VOC solvent used in emulsified asphalt shall not exceed 189.2 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. This is equivalent to VOC emissions of 87.8 tons per twelve (12) consecutive month period from the cold-mix asphalt operation.
- (b) Emulsified asphalt with solvent shall be defined as containing a maximum of 15.0% of liquid binder by weight of VOC solvent and 46.4% by weight of the VOC solvent in the liquid blend evaporating. The percent oil distillate in emulsified asphalt with solvent liquid, as determined by ASTM, must be seven percent (7%) or less of the total emulsion by volume.

Compliance with these limits, combined with the VOC emissions from all other emission units at this source, will limit source-wide VOC emissions to less than one hundred (100) tons per twelve (12) consecutive month period, and render 326 IAC 2-7 (Part 70 Permit Program) and 326 IAC 2-2 (PSD)) not applicable.

### Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

#### D.2.3 Record Keeping Requirements

- (a) To document the compliance status with Condition D.2.2, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limits established in Condition D.2.2.

- (1) Calendar dates covered in the compliance determination period;
- (2) Emulsified asphalt binder usage in the production of cold mix asphalt since the last compliance determination period;
- (3) VOC solvent content by weight of the Emulsified asphalt binder used in the production of cold mix asphalt since the last compliance determination period; and
- (4) Amount of VOC solvent used in the production of cold mix asphalt, and the amount of VOC emitted since the last compliance determination period.

Records may include: delivery tickets, manufacturer's data, material safety data sheets (MSDS), and other documents necessary to verify the type and amount used. Test results of ASTM tests for asphalt cutback and asphalt emulsion may be used to document volatilization.

- (b) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

#### D.2.4 Reporting Requirements

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A quarterly summary of the information to document the compliance status with Condition D.2.2 shall be submitted no later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

## SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description:

- (a) one (1) aggregate batch mix dryer, identified as EU-05, constructed in 1986, with a maximum capacity of 125 tons per hour, equipped with one (1) natural gas fired dryer burner with a maximum heat input of 90 million (MM) Btu per hour, using No. 2 distillate fuel oil as back-up fuel; using one (1) baghouse (ID No. B-1) for particulate matter control, exhausting to one (1) stack (ID No. SV-1);
- (b) feeding, conveying and loading operations, processing a maximum of 125 tons per hour;
- (c) one (1) 12,000 gallon asphalt cement storage tank (ID No. T-02), constructed in 1986;
- (d) one (1) 15,000 gallon asphalt cement storage tank (ID No. T-06), constructed in 1986; and
- (e) one (1) 500,000 gallon asphalt cement storage tank (ID No. T-09), constructed in 1986.

Under NSPS Subpart I, the above units are considered affected facilities.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

### New Source Performance Standards (NSPS) Requirements [326 IAC 2-8-4(1)]

#### E.1.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

- (a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, except as otherwise specified in 40 CFR 60, Subpart I.
- (b) Pursuant to 40 CFR 60.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

#### E.1.2 New Source Performance Standards (NSPS) for Hot Mix Asphalt Facilities [40 CFR Part 60, Subpart I] [326 IAC 12]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart I (included as Attachment B of this permit), which are incorporated by reference as 326 IAC 12, except as otherwise specified in 40 CFR Part 60, Subpart I:

- (a) 40 CFR 60.90
- (b) 40 CFR 60.91
- (c) 40 CFR 60.92
- (d) 40 CFR 60.93

E.1.3 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

The Permittee shall perform the stack testing required under NSPS 40 CFR 60, Subpart I, utilizing methods as approved by the Commissioner to document compliance with Condition E.1.2. These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH  
FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)  
CERTIFICATION**

Source Name: E&B Paving, Inc.  
Source Address: 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
FESOP Permit No.: F 003-30534-03125

**This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.**

Please check what document is being certified:

- Annual Compliance Certification Letter
- Test Result (specify)\_\_\_\_\_
- Report (specify)\_\_\_\_\_
- Notification (specify)\_\_\_\_\_
- Affidavit (specify)\_\_\_\_\_
- Other (specify)\_\_\_\_\_

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
Phone: (317) 233-0178  
Fax: (317) 233-6865**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)  
EMERGENCY OCCURRENCE REPORT**

Source Name: E&B Paving, Inc.  
Source Address: 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
FESOP Permit No.: F 003-30534-03125

**This form consists of 2 pages**

**Page 1 of 2**

- |   |
|---|
| <input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12) <ul style="list-style-type: none"><li>• The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and</li><li>• The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16</li></ul> |
|---|

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency?    Y    N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO <sub>2</sub> , VOC, NO <sub>x</sub> , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: \_\_\_\_\_

Title / Position: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH**

**FESOP Quarterly Report**

Source Name: E&B Paving, Inc.  
Source Address: 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
FESOP Permit No.: F 003-30534-03125  
Facility: dryer/mixer  
Parameter: hot-mix asphalt production  
Limit: 490,185 tons per twelve (12) consecutive month period, with compliance determined at the end of each month

YEAR: \_\_\_\_\_

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.  
Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
Title / Position: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_  
Phone: \_\_\_\_\_

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH**

**FESOP Quarterly Report**

Source Name: E&B Paving, Inc.  
Source Address: 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
FESOP Permit No.: F 003-30534-03125  
Facility: Dryer/Mixer Burner  
Parameter: No. 2 Fuel Oil Usage.  
Limit: 2,731,742 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR: \_\_\_\_\_

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.  
Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
Title / Position: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_  
Phone: \_\_\_\_\_

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF AIR QUALITY  
 COMPLIANCE AND ENFORCEMENT BRANCH**

**FESOP Quarterly Report**

Source Name: E&B Paving, Inc.  
 Source Address: 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
 FESOP Permit No.: F 003-30534-03125  
 Facility: Dryer/Mixer Burner  
 Parameter: SO2 emissions  
 Limit: SO2 emissions from the dryer/mixer burner shall not exceed 96.98 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.  
 Sulfur dioxide (SO2) emissions shall be determined using the following equation:

$$S = \frac{G(E_G) + O(E_O)}{2,000 \text{ lbs/ton}}$$

<p><u>Where:</u>          S = tons of sulfur dioxide emissions for a 12 month consecutive period          G = million cubic feet of natural gas used in the last 12 months          O = gallons of No. 2 fuel oil used in the last 12 months</p>	<p><u>Emission Factors:</u>          EG = 0.60 lb/million cubic feet of natural gas          EO = .071 lb/gallons of No. 2 fuel oil</p>
--	---

QUARTER: \_\_\_\_\_ YEAR: \_\_\_\_\_

		Usage This Month	Usage Previous 11 Months	Usage 12 Month Total	SO <sub>2</sub> Emissions 12 months total (Tons)
Month 1	Natural gas (million cubic feet)				
	No. 2 Fuel Oil (gallons)				
Month 2	Natural gas (million cubic feet)				
	No. 2 Fuel Oil (gallons)				
Month 3	Natural gas (million cubic feet)				
	No. 2 Fuel Oil (gallons)				

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.  
 Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
 Title / Position: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Phone: \_\_\_\_\_

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH**

**FESOP Quarterly Report**

Source Name: E&B Paving, Inc.  
Source Address: 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
FESOP Permit No.: F 003-30534-03125  
Facility: Cold-mix Asphalt Production  
Parameter: VOC binder usage limitation  
Limit: The amount of VOC solvent binder used in emulsified asphalt shall not exceed 189.2 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR: \_\_\_\_\_

Month	Column 1	Column 2	Column 1 + Column 2
	Usage This Month	Usage Previous 11 Months	Usage 12 Month Total
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.  
Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
Title / Position: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_  
Phone: \_\_\_\_\_

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH  
FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)  
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: E&B Paving, Inc.  
Source Address: 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
FESOP Permit No.: F 003-30534-03125

Months: \_\_\_\_\_ to \_\_\_\_\_ Year: \_\_\_\_\_

Page 1 of 2

<p>This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked <math>\Delta</math>No deviations occurred this reporting period@.</p>	
<input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
<input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	

<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	

Form Completed by: \_\_\_\_\_

Title / Position: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

**FEDERALLY ENFORCEABLE  
STATE OPERATING PERMIT RENEWAL  
OFFICE OF AIR QUALITY**

**E & B Paving, Inc.  
320 S. Thomas Road  
Ft. Wayne, Indiana 46804**

**Attachment A  
ASPHALT PLANT SITE FUGITIVE DUST CONTROL PLAN**

## **ASPHALT PLANT SITE FUGITIVE DUST CONTROL PLAN**

- Fugitive particulate matter (dust) emissions from interior roads and parking lots shall be controlled by one or more of the following measures:
  - Paving with asphalt.
  - Treating with emulsified asphalt on an as needed basis.
  - Treating with calcium chloride on an as needed basis.
  - Treating with water on an as needed basis.
- Fugitive particulate matter (dust) emissions from aggregate stockpiles shall be controlled by one or more of the following measures:
  - Clean and maintain stockpile areas.
  - Treating around the stockpile areas with water on an as needed basis.
  - Treating the stockpiles with water on an as needed basis.
- Fugitive particulate matter (dust) emissions from conveying of aggregates shall be controlled by treating with water on an as needed basis.
- Fugitive particulate matter (dust) emissions from the transferring of aggregates shall be controlled by one of the following measures:
  - Locate stockpiles as close as possible to feed bins.
  - Limit transfer points to three foot drops or less.
  - Apply water on an as needed basis.
- Fugitive particulate matter (dust) emissions from transporting of aggregates shall be controlled by one of the following measures:
  - Tarping the aggregate hauling vehicles.
  - Ensure tailgates are tight and do not leak.
  - Maintain a 10 MPH speed limit on site.
- Fugitive particulate matter (dust) emissions from the loading and unloading of aggregates shall be controlled by one or more of the following measures:
  - Limit free fall distance.
  - Limit the rate of discharge of the aggregate.
  - Apply water on an as needed basis.
- Material Handling Operations
  - The size of the aggregate stockpiles will vary. Materials delivered to the plant site will be kept reasonably balanced with plant production. The actual drying and mixing of the aggregate mixture is done inside the asphalt plant. Emissions are controlled, at this point, by plant dust control systems.

**FEDERALLY ENFORCEABLE  
STATE OPERATING PERMIT RENEWAL  
OFFICE OF AIR QUALITY**

**E & B Paving, Inc.  
320 S. Thomas Road  
Ft. Wayne, Indiana 46804**

**Attachment B**

**Title 40: Protection of Environment**

**[PART 60—NEW SOURCE PERFORMANCE STANDARDS](#)**

**SUBPART I - STANDARDS OF PERFORMANCE  
FOR HOT MIX ASPHALT FACILITIES**

## 40 CFR 60, SUBPART I — STANDARDS OF PERFORMANCE FOR HOT MIX ASPHALT FACILITIES

### § 60.90 Applicability and designation of affected facility.

- (a) The affected facility to which the provisions of this subpart apply is each hot mix asphalt facility. For the purpose of this subpart, a hot mix asphalt facility is comprised only of any combination of the following: dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler, systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.
- (b) Any facility under paragraph (a) of this section that commences construction or modification after June 11, 1973, is subject to the requirements of this subpart.

[42 FR 37936, July 25, 1977, as amended at 51 FR 12325, Apr. 10, 1986]

### § 60.91 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

- (a) *Hot mix asphalt facility* means any facility, as described in §60.90, used to manufacture hot mix asphalt by heating and drying and mixing with asphalt cements.

[51 FR 12325, Apr. 10, 1986]

### § 60.92 Standard for particulate matter.

- (a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall discharge or cause the discharge into the atmosphere from any affected facility any gases which:
  - (1) Contain particulate matter in excess of 90 mg/dscm (four hundredths (0.04) gr/dscf).
  - (2) Exhibit 20 percent opacity, or greater.

[39 FR 9314, Mar. 8, 1974, as amended at 40 FR 46259, Oct. 6, 1975]

### § 60.93 Test methods and procedures.

- (a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).
- (b) The owner or operator shall determine compliance with the particulate matter standards in §60.92 as follows:
  - (1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.90 dscm (31.8 dscf).
  - (2) Method 9 and the procedures in §60.11 shall be used to determine opacity.

[54 FR 6667, Feb. 14, 1989]

### Reference

The US EPA Electronic Code of Federal Regulations - 40 CFR 60, Subpart I: Standards of Performance for Hot Mix Asphalt Facilities weblink:  
<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=875648a88dd2168ac2096fe26e3e4c98&rqn=div6&view=text&node=40:6.0.1.1.1.20&idno=40>

**Indiana Department of Environmental Management**  
Office of Air Quality

Technical Support Document (TSD) for a Federally Enforceable State Operating Permit  
Renewal

**Source Background and Description**

<b>Source Name:</b>	<b>E &amp; B Paving, Inc.</b>
<b>Source Location:</b>	<b>320 S. Thomas Road, Ft. Wayne, Indiana 46804</b>
<b>County:</b>	<b>Allen</b>
<b>SIC Code:</b>	<b>2951 (Asphalt Paving Mixtures and Blocks)</b>
<b>Permit Renewal No.:</b>	<b>F 003-30534-03125</b>
<b>Permit Reviewer:</b>	<b>Renee Traivaranon</b>

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from E & B Paving, Inc relating to the operation of a stationary batch hot mix asphalt plant. On May 11, 2011, E & B Paving, Inc submitted an application to the OAQ requesting to renew its operating permit. E & B Paving, Inc. was issued a second FESOP Renewal F003-23047-03125 on February 20, 2007.

**History**

This source has not been operated prior to and during the renewal process. At the time of this renewal, this source is primary for a placed holder only. The company agrees that they should evaluate this site prior to starting operation. Therefore, the intention of this renewal is to keep the permit active and the source will need to decide and modify the permit accordingly prior to starting operation again, if any new units are needed or if shingles or slag will be used in the operation.

**Permitted Emission Units and Pollution Control Equipment**

The source consists of the following permitted emission units:

- (a) one (1) aggregate batch mix dryer, identified as EU-05, constructed in 1986, with a maximum capacity of 125 tons per hour, equipped with one (1) natural gas fired dryer burner with a maximum heat input of 90 million (MM) Btu per hour, using No. 2 distillate fuel oil as back-up fuel; using one (1) baghouse (ID No. B-1) for particulate matter control, exhausting to one (1) stack (ID No. SV-1);
- (b) feeding, conveying and loading operations, processing a maximum of 125 tons per hour;
- (c) one (1) 12,000 gallon asphalt cement storage tank (ID No. T-02), constructed in 1986;
- (d) one (1) 15,000 gallon asphalt cement storage tank (ID No. T-06), constructed in 1986;
- (e) one (1) 500,000 gallon asphalt cement storage tank (ID No. T-09), constructed in 1986.

Under NSPS Subpart I, the above units are considered affected facilities.

- (f) cold-mix (stockpile mix) asphalt manufacturing operations, constructed in 1986.

### **Emission Units and Pollution Control Equipment Constructed or Operated without a Permit**

This is an inactive source during this renewal process. Therefore, all new equipment will be evaluated prior to starting operation, including any changes to emissions units and the additional use of materials such as slag or shingles in the operation.

### **Emission Units and Pollution Control Equipment Removed From the Source**

The application indicated that some units have been removed, such as tanks, cold-mix storage piles. However, this permit lists the equipment as in the previous permit only. (See history above.)

### **Insignificant Activities**

The source also consists of the following insignificant activities:

- (a) one (1) direct-fired hot oil heater, with a maximum heat input of 1.3 MMBtu per hour, firing No. 2 distillate fuel oil with natural gas as back-up fuel, exhausting to one (1) stack (ID No. SV-11);
- (b) sand, crushed stone and reclaimed asphalt pavement storage piles with a maximum total storage capacity of 60,000 tons;
- (c) one (1) 10,000 gallon asphalt cement storage tank (ID No. T-01);
- (d) one (1) 6,000 gallon asphalt cement storage tank (ID No. T-03);
- (e) two (2) 8,000 gallon asphalt cement storage tanks (ID Nos. T-04 & T-05);
- (f) one (1) 300 gallon gasoline storage tank (ID No. T-07);
- (g) one (1) 4,000 gallon fuel oil storage tank (ID No. T-08);
- (h) one (1) test trailer; and
- (i) paved and unpaved roadways.

### **Existing Approvals**

Since the issuance of the Second FESOP Renewal F003 - 23047 - 03125 on February 20, 2007, the source has not constructed or has been operating under any other approvals.

All terms and conditions of previous permits issued pursuant to permitting programs approved into the State Implementation Plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

### **Enforcement Issue**

There are no enforcement actions pending.

**Emission Calculations**

See Appendix A.1 and Appendix A.2 of this document for detailed emission calculations.

**County Attainment Status**

The source is located in Allen County.

Pollutant	Designation
SO <sub>2</sub>	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O <sub>3</sub>	Attainment effective February 12, 2007, for the Fort Wayne area, including Allen County, for the 8-hour ozone standard. <sup>1</sup>
PM <sub>10</sub>	Unclassifiable effective November 15, 1990.
NO <sub>2</sub>	Cannot be classified or better than national standards.
Pb	Not designated.
<sup>1</sup> Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.	
Unclassifiable or attainment effective April 5, 2005, for PM <sub>2.5</sub> .	

- (a) **Ozone Standards**  
 Volatile organic compounds (VOC) and Nitrogen Oxides (NO<sub>x</sub>) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to ozone. Allen County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
  
- (b) **PM<sub>2.5</sub>**  
 Allen County has been classified as attainment for PM<sub>2.5</sub>. On May 8, 2008, U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM<sub>2.5</sub> emissions. These rules became effective on July 15, 2008. On May 4, 2011 the air pollution control board issued an emergency rule establishing the direct PM<sub>2.5</sub> significant level at ten (10) tons per year. This rule became effective, June 28, 2011. Therefore, direct PM<sub>2.5</sub> and SO<sub>2</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.
  
- (c) **Other Criteria Pollutants**  
 Allen County has been classified as attainment or unclassifiable in Indiana for all other pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

**Fugitive Emissions**

This type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, however, there is an applicable New Source Performance Standard that was in effect on August 7, 1980, therefore fugitive emissions, from the affected

facilities to which the New Source Performance Standard is applicable, are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

<b>Unrestricted Potential Emissions</b>
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This table reflects the unrestricted potential emissions of the source.

Unrestricted Potential Emissions	
Pollutant	Tons/year
PM	Greater than 250
PM <sub>10</sub>	Greater than 250
PM <sub>2.5</sub>	Greater than 100, less than 250
SO <sub>2</sub>	Greater than 100, less than 250
VOC	Greater than 250
CO	Greater than 100, less than 250
NO <sub>x</sub>	Less than 100
GHGs as CO <sub>2</sub> e	Less than 100,000
Single HAP	Greater than 10
Total HAP	Greater than 25

Appendix A.1 of this TSD reflects the unrestricted potential emissions of the source.

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of each PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, VOC, and CO is greater than 100 tons per year. However, the Permittee has agreed to limit the source's PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, VOC, and CO emissions to less than Title V levels, therefore the Permittee will be issued a FESOP Renewal.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all other criteria pollutants are less than 100 tons per year.
- (c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of GHGs is less than one hundred thousand (100,000) tons of CO<sub>2</sub> equivalent emissions (CO<sub>2</sub>e) per year.
- (d) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is greater than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is greater than twenty-five (25) tons per year. However, the Permittee has agreed to limit the source's single HAP emissions and total HAP emissions below Title V levels. Therefore, the Permittee will be issued a FESOP Renewal.

**Potential to Emit After Issuance**

The source has opted to remain a FESOP source. The table below summarizes the potential to emit, reflecting all limits of the emission units. Any control equipment is considered enforceable only after issuance of this FESOP and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Renewal (tons/year)									
	PM	PM10*	PM2.5**	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	GHGs as CO <sub>2</sub> e	Total HAPs	Worst Single HAP
<b>Ducted Emissions</b>										
Dryer/Mixer <sup>(1)</sup> (Process)	203.5	86.1	91.95	21.6	29.4	2.0	98.0	9,107	1.87	0.66 Xylene
Fuel Combustion <sup>(2)</sup> (worst case)	2.7	4.5	4.5	96.98	39.4	2.2	33.1	47,633	0.8	0.71 Hexane
Hot Oil Heaters Fuel Combustion	0.1	0.13	0.13	2.9	0.8	0.03	0.5	919.2	0.01	0.01 Hexane
<b>Worst Case Emissions</b>	<b>203.5</b>	<b>86.3</b>	<b>92.1</b>	<b>99.9</b>	<b>40.2</b>	<b>2.2</b>	<b>98.5</b>	<b>48,552</b>	<b>1.9</b>	<b>0.71 Hexane</b>
<b>Fugitive Emissions</b>										
Asphalt Load-Out, Silo Filling, On-Site Yard	0.27	0.27	0.27	0	0	4.2	0.71	0	0.1	0.02 Formaldehyde
Material Storage Piles	0.71	0.25	0.25	0	0	0	0	0	0	0
Material Processing and Handling	1.58	0.75	0.11	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	6.5	2.3	2.3	0	0	0	0	0	0	0
Paved and Unpaved Roads (worst case)	17.4	4.4	0.4	0	0	0	0	0	0	0
Cold Mix Asphalt Production <sup>(3)</sup>	0	0	0	0	0	87.8	0	0	22.9	7.9 Xylenes
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	0.04	0	0	0.04	0.02 Xylenes
<b>Total Fugitive Emissions</b>	<b>26.5</b>	<b>7.99</b>	<b>3.36</b>	<b>0</b>	<b>0</b>	<b>92.04</b>	<b>0.71</b>	<b>0</b>	<b>23.02</b>	<b>7.92 Xylenes</b>
<b>Total PTE of Entire Source</b>	<b>230.1</b>	<b>94.8</b>	<b>96.0</b>	<b>99.9</b>	<b>40.2</b>	<b>94.2</b>	<b>99.2</b>	<b>48,552</b>	<b>24.9</b>	<b>8.58 Xylenes</b>
Title V Major Source Thresholds	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	100,000	NA	NA
Emission Offset/ Nonattainment NSR Major Source Thresholds	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p><sup>1</sup> Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".</p> <p>**PM<sub>2.5</sub> listed is direct PM<sub>2.5</sub>.</p> <p>(1) Limited PTE based upon annual production limit and lb/ton emission limits to comply with 326 IAC 2-2 (PSD) and 326 IAC 2-8 (FESOP).</p> <p>(2) Limited PTE based upon annual production and fuel usage limits to comply with 326 IAC 2-2 (PSD) and 326 IAC 2-8 (FESOP).</p> <p>(3) Limited PTE based upon maximum annual VOC usage limit to comply with 326 IAC 2-8 (FESOP).</p>										

(a) FESOP Status

This existing source is not a Title V major stationary source, because the potential to emit criteria pollutants from the entire source will be limited to less than the Title V major source threshold levels. In addition, this existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because the potential to emit HAPs is limited to less than ten (10) tons per year for a single HAP and twenty-five (25) tons per year of total HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act and is subject to the provisions of 326 IAC 2-8 (FESOP).

(1) Pursuant to 326 IAC 2-8-4, the Permittee shall comply with the following:

- (i) The amount of hot-mix asphalt processed shall not exceed 490,185 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. This is an existing limit.
- (ii) The PM10 emissions from the dryer/mixer shall not exceed 0.351 pounds per ton of asphalt processed. This is an existing limit.
- (iii) The PM2.5 emissions from the dryer/mixer shall not exceed 0.375 pounds per ton of asphalt processed. This is an existing limit.
- (vi) The CO emissions from the dryer/mixer shall not exceed 0.40 pounds per ton of asphalt processed. This is an existing limit.

Compliance with these limits, combined with the potential to emit PM10, PM2.5, and CO from all other emission units at this source, shall limit the source-wide total potential to emit of PM10, PM2.5, and CO to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits), and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), not applicable.

Note: There is no need to limit VOC and NOx emission from this hot mix asphalt operation since the unlimited PTE of each is already less than 100 tons per year.

Fuel Specifications and Single Usage Limitations

(2) In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), the source shall comply with the following:

- (i) The sulfur content of the No. 2 fuel oil shall not exceed 0.50% by weight.
- (ii) No. 2 fuel oil usage shall not exceed 2,731,742 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. This is an existing limit.

Note: The source is permitted to burn the natural gas and fuel oil #2.

The unlimited PTE of SO2 is less than 0.3 tons per year for natural gas fuel usage and the worst criteria pollutant is NOx, and the unlimited PTE NOx is less than 100 tons per year. Therefore; natural gas usage limitation will not be required if the source uses only natural gas as a single fuel usage.

Multiple Fuel Usage Limitation:

- (3) When combusting both No. 2 fuel oil and natural gas per twelve (12) consecutive month period in the dryer/mixer burner, SO<sub>2</sub> emissions shall not exceed 96.98 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limits, combined with the potential to emit SO<sub>2</sub> from all other emission units at this source, shall limit the source-wide total potential to emit of SO<sub>2</sub> to less than 100 tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-7 (Part 70 Permits), not applicable.

Cold-mix (cutback) Asphalt Production Limitation:

- (4) Pursuant to 326 IAC 2-8-4:
- (a) The amount of VOC solvent used in emulsified asphalt shall not exceed 189.2 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. This is equivalent to VOC emissions of 87.8 tons per twelve (12) consecutive month period from the cutback asphalt production.
- (b) Emulsified asphalt with solvent shall be defined as containing a maximum of 15.0% of liquid binder by weight of VOC solvent and 46.4% by weight of the VOC solvent in the liquid blend evaporating. The percent oil distillate in emulsified asphalt with solvent liquid, as determined by ASTM, must be seven percent (7%) or less of the total emulsion by volume.

Compliance with these limits, combined with the VOC emissions from all other emission units at this source, will limit source-wide VOC emissions to less than one hundred (100) tons per twelve (12) consecutive month period, and render 326 IAC 2-7 (Part 70 Permit Program) and 326 IAC 2-2 (PSD)) not applicable.

Note: VOC usages have been reduced due the new calculation which is accounted for the HAPs. Therefore, it is necessary to keep the total HAPs to less than 25 tons per year by decreasing the amount of the liquid binders used in the cutback asphalt production. These are Title I changes.

(b) PSD Minor Source

This existing source is not a major stationary source, under PSD (326 IAC 2-2), because the potential to emit PM is limited to less than 250 tons per year, the potential to emit all other attainment regulated criteria pollutants are less or limited to than 250 tons per year, the potential to emit greenhouse gases (GHGs) is less than the PSD subject to regulation threshold of one hundred thousand (100,000) tons of CO<sub>2</sub> equivalent emissions (CO<sub>2</sub>e) per year, and this source is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1). Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the source shall comply with the following:

- (1) The amount of hot-mix asphalt processed shall not exceed 490,185 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (2) PM emissions from the dryer/mixer shall not exceed 0.830 pounds per ton of asphalt processed. This is an existing limit.

Compliance with these limits, combined with the potential to emit PM from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than 250 tons per 12 consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

### Federal Rule Applicability

#### *New Source Performance Standards (NSPS)*

(a) 40 CFR 60, Subpart I - Standards for Hot-mix Asphalt Facilities

The existing stationary drum hot-mix asphalt plant, constructed in 1986, is subject to the New Source Performance Standard, 40 CFR 60, Subpart I (326 IAC 12), because it meets the definition of a hot-mix asphalt facility pursuant to the rule and was constructed after June 11, 1973.

Therefore, pursuant to 40 CFR 60.92(a), particulate matter emissions from the above listed units, shall not exceed four hundredths (0.04) grains per dry standard cubic foot (gr/dscf), and visible emissions shall not exceed twenty percent (20%) opacity.

The source will comply with this rule by using a baghouse to limit particulate matter emissions from the dryer/mixer to less than four hundredths (0.04) gr/dscf, and by applying the management techniques outlined in their Fugitive Dust Plan (included as Attachment A of the permit).

The hot-mix asphalt facility is subject to the following portions of 40 CFR 60, Subpart I (included as Attachment B of the permit):

- |                   |                   |
|-------------------|-------------------|
| (1) 40 CFR 60.90. | (3) 40 CFR 60.92. |
| (2) 40 CFR 60.91. | (4) 40 CFR 60.93. |

Note: this NSPS includes testing requirements applicable to this source.

The provisions of 40 CFR 60 Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the hot-mix asphalt facility except when otherwise specified in 40 CFR 60 Subpart I.

(b) 40 CFR 60, Subpart Kb - Standards for Volatile Organic Liquid Storage Vessels

The requirements of the New Source Performance Standard for Volatile Organic Liquid Storage Vessels, 40 CFR 60, Subpart Kb (326 IAC 12), apply to storage tanks for which Construction, Reconstruction, or Modification Commenced after July 23, 1984. This rule does not apply to tanks having a storage capacity less than 75 cubic meters or having storage capacity greater than or equal to 151 m<sup>3</sup> storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa).

Although all the storage tanks at this plant were constructed after 1984, these requirements do not apply for the following reasons:

Storage tanks (ID Nos. T-01, T-02, T-03, T-04, T-05, T-06, T-07 and T-08) each have capacities of less than 75 cubic meters (m<sup>3</sup>) (19,813 gallons), and are therefore not subject to this rule.

Storage tank (ID No. T-09), constructed in 1986, has capacity of greater than 151 cubic meters (m<sup>3</sup>) (39,890 gallons) and stores asphalt cement with a maximum true vapor pressure of less than 3.5 kPa. Therefore, it is not subject to this rule.

(c) 40 CFR 60, Subpart OOO - Standards for Nonmetallic Mineral Processing Plants

The asphalt plant is not subject to the New Source Performance Standard 326 IAC 12 (40CFR 60.670 through 60.676, Subpart OOO) "Standards of Performance for Nonmetallic Mineral

Processing Plants” for recycled asphalt pavement (RAP) usage since the RAP is received onsite ready-to-use, and there is no crushing or grinding of the RAP prior to loading into the first storage silo/bin. Therefore, these requirements were not included in the permit.

- (d) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit for this source.

*National Emission Standards for Hazardous Air Pollutants (NESHAP)*

- (e) 40 CFR 63, Subpart LLLLL - NESHAPs for Asphalt Processing and Asphalt Roofing Manufacturing  
The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Asphalt Processing and Asphalt Roofing Manufacturing, 40 CFR 63, Subpart LLLLL (326 IAC 20-71), are not included in the permit, because the stationary drum hot-mix asphalt plant does not meet the definition of an asphalt processing plant or an asphalt roofing manufacturing facility, since it does not engage in the preparation of asphalt flux or asphalt roofing materials. Additionally, it is not a major source of HAPs, nor is it a part of a major source of HAP emissions.
- (f) 40 CFR 63, Subpart CCCCC - NESHAP for the Source Category Identified as Gasoline Dispensing Facilities (GDF)  
This source is not subject to the National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities, 40 CFR 63, Subpart CCCCC (326 IAC 20), because the source does not operate a gasoline dispensing facility during this review period.
- (g) 40 CFR 63, Subpart JJJJJ - NESHAPs for Industrial, Commercial, and Institutional Boilers Area Sources  
The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63, Subpart JJJJJ, are not included in the permit for the dryer/mixer burner and the hot oil heater, even through this existing source is an area source of hazardous air pollutants (HAP), as defined in §63.2, the dryer/mixer burner and the hot oil heater are not a boiler, as define in 40 CFR 63.11237.
- (h) 40 CFR 63, Subpart AAAAAA - NESHAP for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing  
The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing, 40 CFR 63, Subpart AAAAAA (326 IAC 20), are not included in the permit, although the stationary drum hot-mix asphalt plant is an area source of hazardous air pollutant (HAP) emissions, as defined in §63.2, it does not meet the definition of an asphalt processing operation or an asphalt roofing manufacturing operation, as defined in §63.11566, since it does not engage in the preparation of asphalt flux or asphalt roofing materials.
- (i) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

*Compliance Assurance Monitoring (CAM)*

- (j) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the potential to emit of the source is limited to less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

**State Rule Applicability - Entire Source**

- (a) 326 IAC 1-6-3 (Preventive Maintenance Plan)  
The requirements 326 IAC 1-6-3 apply to this source because it is operated under the Federally Enforceable State Operating Permit (FESOP) Program, 326 IAC 2-8, and required the use control device to limit the particulate emissions of PM, PM10 and PM2.5 to less than PSD and TV thresholds.
- (b) 326 IAC 1-7 (Stack Height)  
The requirements of 326 IAC 1-7 (Stack Height) are not included in the permit, although the unlimited and uncontrolled PM10 and SO2 emissions from this existing source, are each greater than one hundred (100) tons per year, asphalt concrete plants are still specifically exempted under 326 IAC 1-7-5(c).
- (c) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))  
PSD applicability is discussed under the "PTE of the Entire Source after Issuance of the FESOP" section above.
- (d) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))  
The potential to emit HAPs, from the the source has been limited to less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, the requirements of 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) still do not apply, see the "Potential to Emit after Issuance" section above.
- (e) 326 IAC 2-6 (Emission Reporting)  
This source is not subject to 326 IAC 2-6 (Emission Reporting) because it is not required to have an operating permit pursuant to 326 IAC 2-7 (Part 70); it is not located in Lake, Porter, or LaPorte County, and its potential to emit lead is less than 5 tons per year. Therefore, this rule does not apply.
- (f) 326 IAC 5-1 (Opacity Limitations)  
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
- (1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
  - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (g) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)  
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the existing source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.
- (h) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)  
The requirements of 326 IAC 6-5 apply to this source because the potential to emit fugitive particulate emissions greater than twenty-five (25) tons per year. Therefore, pursuant to 326 IAC 6-5, fugitive particulate matter emissions shall continue to be controlled according to the Fugitive Particulate Emissions Control Plan, which is included as Attachment A to the permit.

- (i) 326 IAC 6.5 PM Limitations Except Lake County  
This source is not subject to 326 IAC 6.5 because it is located Delaware County which is not in one of the following counties: Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo or Wayne.
- (j) 326 IAC 6.5-1-2 (Particulate Emissions Limitations)  
The requirements of this rule apply to stationary sources located in the counties listed in 326 IAC 6.5-1-1. This source is located in Allen County which is not one of the specifically listed counties in 326 IAC 6.5-1-1(a). Therefore, this rule is not applicable to this source.
- (k) 326 IAC 10-1 (Nitrogen Oxides Control in Clark and Floyd Counties)  
The source is not located in Clark or Floyd Counties, therefore, the requirements of 326 IAC 10-1 are not applicable.
- (l) 326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Category)  
This source is not included in any specific source categories as described in the rules. Therefore the requirements of 326 IAC 10-3 are not included in this permit.
- (m) 326 IAC 12 (New Source Performance Standards)  
See Federal Rule Applicability Section of this TSD.
- (n) 326 IAC 20 (Hazardous Air Pollutants)  
See Federal Rule Applicability Section of this TSD.

<b>State Rule Applicability – Individual Facilities</b>
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*Dryer/Mixer Burner Operation:*

- (a) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)  
The aggregate mixing and drying operation is not subject to the requirements of 326 IAC 6-3-2. This rule does not apply if the limitation established in the rule is not consistent with applicable limitations in 326 IAC 12, 40 CFR 60, Subpart I. Since the applicable PM limit established by 326 IAC 12, 40 CFR 60, Subpart I, is more stringent than the PM limits that would be established by 326 IAC 6-3-2, the limits pursuant to 326 IAC 6-3-2 do not apply.
- (b) 326 IAC 7-1.1 (Sulfur Dioxide Emissions Limitations)  
The batch mix dryer burner is subject to 326 IAC 7-1.1 because it has potential SO<sub>2</sub> emissions of greater than 25 tons per year. Pursuant to this rule, sulfur dioxide emissions from the dryer burner shall be limited to 0.5 pounds per MMBtu for distillate oil combustion.  
  
Note: No. 2 fuel oil is considered distillate oil.
- (c) 326 IAC 7-2-1 (Sulfur Dioxide Reporting Requirements)  
Pursuant to this rule, the source shall submit reports of calendar month average sulfur content, heat content, fuel consumption, and sulfur dioxide emission rate, to the OAQ upon request.

- (d) 326 IAC 8-1-6 (VOC rules: General Reduction Requirements for New Facilities)  
The unlimited potential VOC emissions from the existing dryer/mixer, are less than twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 8-1-6 Best Available Control Technology (BACT) are not applicable.

Cold Mix Operation:

- (e) 326 IAC 8-5-2 (Asphalt paving rules)  
This rule applies to any paving application constructed after January 1, 1980 located anywhere in the state. Pursuant to this rule, the source shall not cause or allow the use of cutback asphalt or asphalt emulsion containing more than seven percent (7%) oil distillate by volume of emulsion for any paving application, except in the following purposes:
- (a) penetrating prime coating
  - (b) stockpile storage
  - (c) application during the months of November, December, January, February and March.

Storage Tanks:

- (f) 326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)  
Pursuant to 326 IAC 8-4-1 (Applicability) and 326 IAC 8-4-3 (Petroleum Liquid Storage Facilities), all petroleum liquid storage vessels with capacities greater than one hundred fifty thousand (150,000) liters (39,000 gallons) containing VOC whose true vapor pressure is greater than 10.5 kPa (1.52 psi) shall comply with the requirements and the specified record keeping and reporting requirements.

The asphalt cement storage tank (T-09) (500,000 gallons), is not subject to IAC 8-4-3 because its liquid asphalt vapor pressure is less than the rule applicability threshold of 10.5 kPa, and tanks (ID Nos. T-01, T-02, T-03, T-04, T-05, T-06, T-07 and T-08), are not subject to IAC 8-4-3 because their capacities are less than the rule applicability threshold capacity of 39,000 gallons.

<b>Compliance Determination and Monitoring Requirements</b>
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Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance determination requirements applicable to this source are as follows:

- (1) In order to comply with the PM, PM10, and PM2.5 limitations in the permit, the baghouse for the dryer/mixer, shall continue to be in operation and control emissions from the dryer/mixer at all times when the dryer/mixer is in operation.
- (2) Fuel characteristics and fuel usage limits will be used to determine compliance with the FESOP and Sulfur Dioxide Emissions limitations.
- (3) The SO2 emission limitations from multiple fuel usages shall be determined using the following equations:

$$S = \frac{G(E_G) + O(E_O)}{2,000 \text{ lbs/ton}}$$

where:

S = tons of sulfur dioxide emissions for a 12-month consecutive period

G = million cubic feet of natural gas used in the last 12 months

O = gallons of No. 2 fuel oil used in the last 12 months

Emission Factors

E<sub>G</sub> = 0.60 lb/million cubic feet of natural gas

E<sub>O</sub> = .071 lb/gallons of No. 2 fuel oil

The compliance testing requirements applicable to this source are as follows:

Emission Unit	Control Device	Timeframe for Testing	Pollutant	Frequency of Testing
Dryer/Mixer	Baghouse	60 days after achieving maximum capacity but not later than 180 days after initial start up <sup>(1)</sup>	PM, PM10, PM2.5	Once every 5 years.

<sup>(1)</sup>the testing date has been pending since 2006.

The compliance monitoring requirements applicable to this source are as follows:

Control	Parameter	Frequency	Range	Excursions and Exceedances
dryer/mixer baghouse (B-1)	Water Pressure Drop	Daily	2 to 6 inches	Response Steps
	Visible Emissions		Normal-Abnormal	

**Recommendation**

The staff recommends to the Commissioner that the FESOP Renewal be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on May 11, 2011. Additional information was received on July 22, 2011.

<b>Conclusion</b>
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The operation of this stationary batch hot mix asphalt plant shall be subject to the conditions of the attached FESOP Renewal No. F 003-30534-03125.

<b>IDEM Contact</b>
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- (a) Questions regarding this proposed permit can be directed to Ms. Renee Traivaranon at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) (234-5615) or toll free at 1-800-451-6027 extension 4-5615.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: [www.idem.in.gov](http://www.idem.in.gov)

**Appendix A.1: Unlimited Emissions Calculations  
Entire Source**

**Company Name:** E&B Paving Inc  
**Source Address:** 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
**Permit Number:** F003-30534-03125  
**Reviewer:** Renee Traivaranon

**Asphalt Plant Maximum Capacity**

Maximum Hourly Asphalt Production =	125	ton/hr									
Maximum Annual Asphalt Production =	1,095,000	ton/yr									
Maximum Annual Blast Furnace Slag Usage =	0	ton/yr	1.1	% sulfur							
Maximum Annual Steel Slag Usage =	0	ton/yr	0.66	% sulfur							
Maximum Dryer Fuel Input Rate =	90.0	MMBtu/hr									
Natural Gas Usage =	788	MMCF/yr									
No. 2 Fuel Oil Usage =	5,631,429	gal/yr, and	0.50	% sulfur							
No. 4 Fuel Oil Usage =	0	gal/yr, and	0.50	% sulfur							
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and	0.50	% sulfur							
Propane Usage =	0	gal/yr, and	0.20	gr/100 ft3 sulfur							
Butane Usage =	0	gal/yr, and	0.22	gr/100 ft3 sulfur							
Used/Waste Oil Usage =	0	gal/yr, and	1.00	% sulfur	0.50	% ash	0.200	% chlorine,	0.010	% lead	
Unlimited PM Dryer/Mixer Emission Factor =	32.0	lb/ton of asphalt production									
Unlimited PM10 Dryer/Mixer Emission Factor =	4.5	lb/ton of asphalt production									
Unlimited PM2.5 Dryer/Mixer Emission Factor =	0.27	lb/ton of asphalt production									
Unlimited VOC Dryer/Mixer Emission Factor =	0.036	lb/ton of asphalt production									
Unlimited CO Dryer/Mixer Emission Factor =	0.4	lb/ton of asphalt production									
Unlimited Blast Furnace Slag SO2 Dryer/Mixer Emission Factor =	0.54	lb/ton of slag processed									
Unlimited Steel Slag SO2 Dryer/Mixer Emission Factor =	0.0014	lb/ton of slag processed									

**Unlimited/Uncontrolled Emissions**

Process Description	Unlimited/Uncontrolled Potential to Emit (tons/year)									
	Criteria Pollutants							Greenhouse Gas Pollutants	Hazardous Air Pollutants	
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	CO <sub>2</sub> e	Total HAPs	Worst Case HAP
<b>Ducted Emissions</b>										
Dryer Fuel Combustion (worst case)	5.63	9.29	9.29	199.92	56.31	2.17	33.11	63,638.47	0.91	0.71 (hydrogen chloride)
Dryer/Mixer and Batch Tower (Process)	17,520.00	2,463.75	147.83	48.18	65.70	4.49	219.00	20,342.58	4.18	1.48 (formaldehyde)
Dryer/Mixer Slag Processing (worst case)	0	0	0	0.00	0	0	0	0.00	0	0
Hot Oil Heater Fuel Combustion (worst case)	0.08	0.13	0.13	2.89	0.81	0.03	0.48	919.22	0.013	0.010 (hexane)
<b>Worst Case Emissions*</b>	<b>17,520.08</b>	<b>2,463.88</b>	<b>147.96</b>	<b>202.80</b>	<b>66.51</b>	<b>4.52</b>	<b>219.48</b>	<b>64,557.69</b>	<b>4.19</b>	<b>1.48 (hydrogen chloride)</b>
<b>Fugitive Emissions</b>										
Asphalt Load-Out, Silo Filling, On-Site Yard	0.61	0.61	0.61	0	0	9.38	1.58	0	0.16	0.05 (formaldehyde)
Material Storage Piles	0.71	0.25	0.25	0	0	0	0	0	0	0
Material Processing and Handling	3.54	1.67	0.25	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	14.56	5.10	5.10	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	38.93	9.92	0.99	0	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	3,810.60	0	0	993.95	342.95 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.17	0	0	0.04	0.02 (xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	0
<b>Total Fugitive Emissions</b>	<b>58.35</b>	<b>17.55</b>	<b>7.20</b>	<b>0.00</b>	<b>0.00</b>	<b>3,820.15</b>	<b>1.58</b>	<b>0.00</b>	<b>994.15</b>	<b>342.97 (xylenes)</b>
<b>Totals Unlimited/Uncontrolled PTE</b>	<b>17,578.43</b>	<b>2,481.43</b>	<b>155.16</b>	<b>202.80</b>	<b>66.51</b>	<b>3,824.67</b>	<b>221.06</b>	<b>64,557.69</b>	<b>998.34</b>	<b>342.97 (xylenes)</b>

negl = negligible

Worst Case Fuel Combustion is based on the fuel with the highest emissions for each specific pollutant.

\*Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Worst Case Emissions from Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion

Fuel component percentages provided by the source.

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**Appendix A.1: Unlimited Emissions Calculations  
Dryer/Mixer Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

**Company Name: E&B Paving Inc  
Source Address: 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
Permit Number: F003-30534-03125  
Reviewer: Renee Traivaranon**

The following calculations determine the unlimited/uncontrolled emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer at the source.

**Maximum Capacity**

Maximum Hourly Asphalt Production =	125	ton/hr
Maximum Annual Asphalt Production =	1,095,000	ton/yr
Maximum Fuel Input Rate =	90	MMBtu/hr
Natural Gas Usage =	788	MMCF/yr
No. 2 Fuel Oil Usage =	5,631.429	gal/yr, and
No. 4 Fuel Oil Usage =	0	gal/yr, and
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and
Propane Usage =	0	gal/yr, and
Butane Usage =	0	gal/yr, and
Used/Waste Oil Usage =	0	gal/yr, and

	0.50	% sulfur
	0.50	% sulfur
	0.50	% sulfur
	0.20	gr/100 ft3 sulfur
	0.22	gr/100 ft3 sulfur
	1.00	% sulfur
	0.50	% ash
	0.200	% chlorine
	0.010	% lead

**Unlimited/Uncontrolled Emissions**

Criteria Pollutant	Emission Factor (units)							Unlimited/Uncontrolled Potential to Emit (tons/yr)							Worse Case Fuel (tons/yr)
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)	
PM	1.9	2.0	7.0	7.815	0.5	0.6	32.0	0.75	5.63	0.00	0.00	0.000	0.000	0.00	5.63
PM10/PM2.5	7.6	3.3	8.3	9.315	0.5	0.6	25.5	3.00	9.29	0.00	0.00	0.000	0.000	0.00	9.29
SO2	0.6	71.0	75.0	78.5	0.020	0.020	147.0	0.24	199.92	0.00	0.00	0.000	0.000	0.00	199.92
NOx	100	20.0	20.0	55.0	13.0	15.0	19.0	39.42	56.31	0.00	0.00	0.00	0.00	0.00	56.31
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	2.17	0.56	0.00	0.00	0.00	0.00	0.00	2.17
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	33.1128	14.08	0.00	0.00	0.00	0.00	0.00	33.11
<b>Hazardous Air Pollutant</b>															
HCl							13.2							0.00	0.00
Antimony			5.25E-03	5.25E-03			negl			0.00E+00	0.00E+00			0.00E+00	0.0E+00
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	7.9E-05	1.58E-03	0.00E+00	0.00E+00			0.00E+00	1.6E-03
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	4.7E-06	1.18E-03	0.00E+00	0.00E+00			0.00E+00	1.2E-03
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	4.3E-04	1.18E-03	0.00E+00	0.00E+00			0.00E+00	1.2E-03
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	5.5E-04	1.18E-03	0.00E+00	0.00E+00			0.00E+00	1.2E-03
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	3.3E-05		0.00E+00	0.00E+00			0.00E+00	3.3E-05
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.55	2.0E-04	3.55E-03	0.00E+00	0.00E+00			0.00E+00	0.00
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	1.5E-04	2.37E-03	0.00E+00	0.00E+00			0.00E+00	0.00
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				1.0E-04	1.18E-03	0.00E+00	0.00E+00			0.00E+00	1.2E-03
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	8.3E-04	1.18E-03	0.00E+00	0.00E+00		0.00E+00	0.00	0.001
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	9.5E-06	5.91E-03	0.00E+00	0.00E+00			0.00E+00	5.9E-03
1,1,1-Trichloroethane			2.36E-04	2.36E-04						0.00E+00	0.00E+00			0.00E+00	0.0E+00
1,3-Butadiene														0.00E+00	0.0E+00
Acetaldehyde														0.00E+00	0.0E+00
Acrolein														0.00E+00	0.0E+00
Benzene	2.1E-03		2.14E-04	2.14E-04				8.3E-04		0.00E+00	0.00E+00			0.00E+00	8.3E-04
Bis(2-ethylhexyl)phthalate							2.2E-03							0.00E+00	0.0E+00
Dichlorobenzene	1.2E-03						8.0E-07	4.7E-04						0.00E+00	4.7E-04
Ethylbenzene			6.36E-05	6.36E-05						0.00E+00	0.00E+00			0.00E+00	0.0E+00
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				3.0E-02	1.72E-01	0.00E+00	0.00E+00			0.00E+00	0.172
Hexane	1.8E+00							0.71						0.00E+00	0.710
Phenol							2.4E-03							0.00E+00	0.0E+00
Toluene	3.4E-03		6.20E-03	6.20E-03				1.3E-03		0.00E+00	0.00E+00			0.00E+00	1.3E-03
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02			0.00E+00	0.00E+00			0.00E+00	0.0E+00
Polycyclic Organic Matter		3.30E-03							9.29E-03					0.00E+00	9.3E-03
Xylene			1.09E-04	1.09E-04						0.00E+00	0.00E+00			0.00E+00	0.0E+00
<b>Total HAPs</b>							<b>0.74</b>	<b>0.20</b>	<b>0.00</b>	<b>0.00</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.00</b>	<b>0.91</b>

**Methodology**

Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 MMCF/1,000 MMBtu]  
 Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 gal/0.140 MMBtu]  
 Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 gal/0.0905 MMBtu]  
 Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 gal/0.0974 MMBtu]  
 Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] \* [Emission Factor (lb/MMCF)] \* [ton/2000 lbs]  
 All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] \* [Emission Factor (lb/kgal)] \* [ton/2000 lbs]  
 Sources of AP-42 Emission Factors for fuel combustion:  
 Natural Gas: AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4  
 No. 2, No. 4, and No. 6 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11  
 Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)  
 Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5

**Abbreviations**

PM = Particulate Matter  
 PM10 = Particulate Matter (<10 um)  
 PM2.5 = Particulate Matter (< 2.5 um)  
 SO2 = Sulfur Dioxide  
 NOx = Nitrous Oxides  
 VOC = Volatile Organic Compounds  
 CO = Carbon Monoxide  
 HAP = Hazardous Air Pollutant  
 HCl = Hydrogen Chloride  
 PAH = Polycyclic Aromatic Hydrocarbon

\*Since there are no specific AP-42 HAP emission factors for combustion of No. 4 fuel oil, it was assumed that HAP emissions from combustion of No. 4 fuel oil were equal to combustion of residual or No. 6 fuel oil.

**Appendix A.1: Unlimited Emissions Calculation:  
Greenhouse Gas (CO2e) Emissions from the  
Dryer/Mixer Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

**Company Name:** E&B Paving Inc  
**Source Address:** 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
**Permit Number:** F003-30534-03125  
**Reviewer:** Renee Traivaranon

The following calculations determine the unlimited/uncontrolled emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer at the source.

**Maximum Capacity**

Maximum Hourly Asphalt Production =	125	ton/hr							
Maximum Annual Asphalt Production =	1,095,000	ton/yr							
Maximum Fuel Input Rate =	90	MMBtu/hr							
Natural Gas Usage =	788	MMCF/yr							
No. 2 Fuel Oil Usage =	5,631,429	gal/yr, and		0.50	% sulfur				
No. 4 Fuel Oil Usage =	0	gal/yr, and		0.50	% sulfur				
Refinery Blend, and Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and		0.50	% sulfur				
Propane Usage =	0	gal/yr, and		0.20	gr/100 ft3 sulfur				
Butane Usage =	0	gal/yr, and		0.22	gr/100 ft3 sulfur				
Used/Waste Oil Usage =	0	gal/yr, and		1.00	% sulfur	0.50	0.200	0.010	% ash, % chlorine, % lead

**Unlimited/Uncontrolled Emissions**

CO2e Fraction	Emission Factor (units)							Greenhouse Warming Potentials (GWP)		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Name	Chemical Formula	Global warming potential
CO2	120,161.84	22,501.41	24,153.46	24,835.04	12,500.00	14,506.73	22,024.15	Carbon dioxide	CO <sub>2</sub>	1
CH4	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH <sub>4</sub>	21
N2O	2.2	0.26	0.19	0.53	0.9	0.9	0.18	Nitrous oxide	N <sub>2</sub> O	310

CO2e Fraction	Unlimited/Uncontrolled Potential to Emit (tons/yr)						
	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/ Waste Oil (tons/yr)
CO2	47,367.80	63,357.54	0.00	0.00	0.00	0.00	0.00
CH4	0.98	2.57	0.00	0.00	0.00	0.00	0.00
N2O	0.87	0.73	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>47,369.65</b>	<b>63,360.84</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

<b>CO2e for Worst Case Fuel* (tons/yr)</b>
<b>63,638.47</b>

**Methodology**

Fuel Usage from TSD Appendix A.1, page 1 of 14.  
 Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 MMCF/1,000 MMBtu]  
 Fuel Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 gal/0.140 MMBtu]  
 Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 gal/0.0915 MMBtu]  
 Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 gal/0.102 MMBtu]  
 Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

**Abbreviations**

PTE = Potential to Emit  
 CO2 = Carbon Dioxide  
 CH4 = Methane  
 N2O = Nitrogen Dioxide

Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)

- Natural Gas: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N2O from AP-42 Chapter 1.4 (dated 7/98), Table 1.4-2
- No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8
- No.4 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8
- Residual (No. 5 or No. 6) Fuel Oil: Emission Factor for CO2 from 40 CFR Part 98 Subpart C, Table C-1, has been converted from kg/mmBtu to lb/kgal. Emission Factors for CH4 and N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8
- Propane: Emission Factor for CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, has been converted from kg/mmBtu to lb/kgal. Emission Factors for CO2 and N2O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1
- Butane: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1
- Waste Oil: Emission Factors for CO2, CH4, and N2O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.

**Emission Factor (EF) Conversions**

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) \* Conversion Factor (2.20462 lbs/kg) \* Heating Value of Natural Gas (MMBtu/scf) \* Conversion Factor (1,000,000 scf/MMCF)]  
 Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) \* Conversion Factor (2.20462 lbs/kg) \* Heating Value of the Fuel Oil (MMBtu/gal) \* Conversion Factor (1000 gal/kgal)]

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] \* [Emission Factor (lb/MMCF)] \* [ton/2000 lbs]

All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] \* [Emission Factor (lb/kgal)] \* [kgal/1000 gal] \* [ton/2000 lbs]

Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 of "worst case" fuel (ton/yr) x CO2 GWP (1) + Unlimited Potential to Emit CH4 of "worst case" fuel (ton/yr) x CH4 GWP (21) + Unlimited Potential to Emit N2O of "worst case" fuel (ton/yr) x N2O GWP (310).

**Appendix A.1: Unlimited Emissions Calculations  
Dryer/Mixer and Batch Tower**

**Company Name: E&B Paving Inc**  
**Source Address: 320 S. Thomas Road, Ft. Wayne, Indiana 46804**  
**Permit Number: F003-30534-03125**  
**Reviewer: Renee Traivaranon**

The following calculations determine the unlimited/uncontrolled emissions from the aggregate drying/mixing and the batch tower.

Maximum Hourly Asphalt Production =  ton/hr  
 Maximum Annual Asphalt Production =  ton/yr

Criteria Pollutant	Uncontrolled Emission Factors (lb/ton)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			Worse Case PTE
	Batch-Mix Plant (dryer, hot screens, and mixer)			Batch-Mix Plant (dryer, hot screens, and mixer)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM*	32	32	32	17520	17520	0	17520
PM10*	4.5	4.5	4.5	2463.75	2463.75	0	2463.75
PM2.5*	0.27	0.27	0.27	147.825	147.825	0	147.8
SO2**	0.0046	0.088	0.088	2.5	48.2	0.0	48.2
NOx**	0.025	0.12	0.12	13.7	65.7	0.0	65.7
VOC**	0.0082	0.0082	0.036	4.5	4.5	0.0	4.5
CO***	0.4	0.4	0.4	219.0	219.0	0.0	219.0
<b>Hazardous Air Pollutant</b>							
Arsenic	4.60E-07	4.60E-07	4.60E-07	2.52E-04	2.52E-04	0.00E+00	2.52E-04
Beryllium	1.50E-07	1.50E-07	1.50E-07	8.21E-05	8.21E-05	0.00E+00	8.21E-05
Cadmium	6.10E-07	6.10E-07	6.10E-07	3.34E-04	3.34E-04	0.00E+00	3.34E-04
Chromium	5.70E-07	5.70E-07	5.70E-07	3.12E-04	3.12E-04	0.00E+00	3.12E-04
Lead	8.90E-07	8.90E-07	1.00E-05	4.87E-04	4.87E-04	0.00E+00	4.87E-04
Manganese	6.90E-06	6.90E-06	6.90E-06	3.78E-03	3.78E-03	0.00E+00	3.78E-03
Mercury	4.10E-07	4.10E-07	4.10E-07	2.24E-04	2.24E-04	0.00E+00	2.24E-04
Nickel	3.00E-06	3.00E-06	3.00E-06	1.64E-03	1.64E-03	0.00E+00	1.64E-03
Selenium	4.90E-07	4.90E-07	4.90E-07	2.68E-04	2.68E-04	0.00E+00	2.68E-04
Acetaldehyde	3.20E-04	3.20E-04	3.20E-04	0.18	0.15	0.00	0.18
Benzene	2.80E-04	2.80E-04	2.80E-04	0.15	0.15	0.00	0.15
Ethylbenzene	2.20E-03	2.20E-03	2.20E-03	1.20	1.20	0.00	1.20
Formaldehyde	7.40E-04	7.40E-04	7.40E-04	0.41	0.41	0.00	0.41
Quinone	2.70E-04	2.70E-04	2.70E-04	0.15	0.15	0.00	0.15
Toluene	1.00E-03	1.00E-03	1.00E-03	0.55	0.55	0.00	0.55
Total PAH Haps	1.10E-04	1.10E-04	2.30E-04	0.06	0.06	0.00	0.06
Xylene	2.70E-03	2.70E-03	2.70E-03	1.48	1.48	0.00	1.48
<b>Total HAPs</b>							<b>4.18</b>
<b>Worst Single HAP</b>							<b>1.48 (Xylene)</b>

**Methodology**  
 Unlimited/Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) \* (Emission Factor (lb/ton)) \* (ton/2000 lbs)  
 Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-1, 11.1-2, 11.1-5, 11.1-6, 11.1-19, and 11.1-11  
 Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.

\* PM, PM10, and PM2.5 AP-42 emission factors based on drum mix dryer fired with natural gas, propane, fuel oil, and waste oil. According to AP-42 fuel type does not significantly effect PM, PM10, and PM2.5 emissions.

\*\* SO2, NOx, and VOC AP-42 emission factors are for natural gas, No. 2 fuel oil, and waste oil only.

\*\*\* CO AP-42 emission factor determined by combining data from drum mix dryer fired with natural gas, No. 6 fuel oil, and No. 2 fuel oil to develop single CO emission factor.

**Abbreviations**

VOC - Volatile Organic Compounds                      HAP = Hazardous Air Pollutant  
 HCl = Hydrogen Chloride                                      PAH = Polyaromatic Hydrocarbon  
 SO2 = Sulfur Dioxide

**Appendix A.1: Unlimited Emissions Calculations  
Greenhouse Gas (CO<sub>2</sub>e) Emissions from the  
Batch-Mix Plant (Dryer/Mixer) Process Emissions**

**Company Name:** E&B Paving Inc  
**Source Address:** 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
**Permit Number:** F003-30534-03125  
**Reviewer:** Renee Traivaranon

The following calculations determine the unlimited/uncontrolled emissions from the aggregate drying/mixing

Maximum Hourly Asphalt Production = 125 ton/hr  
 Maximum Annual Asphalt Production = 1,095,000 ton/yr

Criteria Pollutant	Emission Factor (lb/ton) Batch-Mix Plant (dryer/mixer)			Greenhouse Gas Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr) Batch-Mix Plant (dryer/mixer)			CO <sub>2</sub> e for Worst Case Fuel (tons/yr)
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO <sub>2</sub>	37	37	37	1	20,257.50	20,257.50	0.00	20,342.58
CH <sub>4</sub>	0.0074	0.0074	0.0074	21	4.05	4.05	0.00	
N <sub>2</sub> O				310	0	0	0	
Total					20,261.55	20,261.55	0.00	
CO <sub>2</sub> e Equivalent Emissions (tons/yr)					20,342.58	20,342.58	0.00	

**Methodology**

Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-7 and 11.1-8

There are no emission factors for N<sub>2</sub>O available in either the 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no N<sub>2</sub>O emission anticipated from this process.

Unlimited/Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) \* (Emission Factor (lb/ton)) \* (ton/2000 lbs)

Unlimited Potential to Emit CO<sub>2</sub>e (tons/yr) = Unlimited Potential to Emit CO<sub>2</sub> of "worst case" fuel (ton/yr) x CO<sub>2</sub> GWP (1) + Unlimited Potential to Emit CH<sub>4</sub> of "worst case" fuel (ton/yr) x CH<sub>4</sub> GWP (21) + Unlimited Potential to Emit N<sub>2</sub>O of "worst case" fuel (ton/yr) x N<sub>2</sub>O GWP (310).

**Abbreviations**

CO<sub>2</sub> = Carbon Dioxide

CH<sub>4</sub> = Methane

N<sub>2</sub>O = Nitrogen Dioxide

PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations  
Dryer/Mixer Slag Processing**

**Company Name:** E&B Paving Inc  
**Source Address:** 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
**Permit Number:** F003-30534-03125  
**Reviewer:** Renee Traivaranon

The following calculations determine the unlimited emissions from the processing of slag in the aggregate drying/mixing

Maximum Annual Blast Furnace Slag Usage\* =  ton/yr       % sulfur  
 Maximum Annual Steel Slag Usage\* =  ton/yr       % sulfur

Type of Slag	SO2 Emission Factor (lb/ton)**	Unlimited Potential to Emit SO2 (tons/yr)
Blast Furnace Slag	0.54	0.0
Steel Slag	0.0014	0.0

**Methodology**

\* The maximum annual slag usage was provided by the source.

\*\* Testing results for blast furnace slag, obtained January 9, 2009 from similar operations at Rieth-Riley Construction Co., Inc. facility located in Valparaiso, IN (permit #127-27075-05241), produced an Emission Factor of 0.54 lb/ton from blast furnace slag containing 1.10% sulfur content.

\*\* Testing results for steel slag, obtained June 2009 from E & B Paving, Inc. facility located in Huntington, IN. The testing results showed a steel slag emission factor of 0.0007 lb/ton, from slag containing 0.33% sulfur content. A safety factor has been added to the % sulfur to allow up to 0.66%.

Unlimited Potential to Emit SO2 from Slag (tons/yr) = [(Maximum Annual Slag Usage (ton/yr)) \* [Emission Factor (lb/ton)] \* [ton/2000 lbs]

**Abbreviations**

SO2 = Sulfur Dioxide

**Appendix A.1: Unlimited Emissions Calculations**  
**Hot Oil Heater**  
**Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

**Company Name:** E&B Paving Inc  
**Source Location:** 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
**Permit Number:** F003-30534-03125  
**Reviewer:** Renee Traivaranon

Maximum Hot Oil Heater Fuel Input Rate = 1.30 MMBtu/hr  
 Natural Gas Usage = 11 MMCF/yr  
 No. 2 Fuel Oil Usage = 81,343 gal/yr, and 0.50 % sulfur

**Unlimited/Uncontrolled Emissions**

Criteria Pollutant	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case Fuel (tons/yr)
	Hot Oil Heater		Hot Oil Heater		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	
PM	1.9	2.0	0.011	0.081	0.08
PM10/PM2.5	7.6	3.3	0.043	0.134	0.13
SO2	0.6	71.0	0.003	2.888	2.89
NOx	100	20.0	0.569	0.813	0.81
VOC	5.5	0.20	0.031	0.008	0.03
CO	84	5.0	0.478	0.203	0.48
<b>Hazardous Air Pollutant</b>					
Arsenic	2.0E-04	5.6E-04	1.1E-06	2.28E-05	2.3E-05
Beryllium	1.2E-05	4.2E-04	6.8E-08	1.71E-05	1.7E-05
Cadmium	1.1E-03	4.2E-04	6.3E-06	1.71E-05	1.7E-05
Chromium	1.4E-03	4.2E-04	8.0E-06	1.71E-05	1.7E-05
Cobalt	8.4E-05		4.8E-07		4.8E-07
Lead	5.0E-04	1.3E-03	2.8E-06	5.12E-05	5.1E-05
Manganese	3.8E-04	8.4E-04	2.2E-06	3.42E-05	3.4E-05
Mercury	2.6E-04	4.2E-04	1.5E-06	1.71E-05	1.7E-05
Nickel	2.1E-03	4.2E-04	1.2E-05	1.71E-05	1.7E-05
Selenium	2.4E-05	2.1E-03	1.4E-07	8.54E-05	8.5E-05
Benzene	2.1E-03		1.2E-05		1.2E-05
Dichlorobenzene	1.2E-03		6.8E-06		6.8E-06
Ethylbenzene					0.0E+00
Formaldehyde	7.5E-02	6.10E-02	4.3E-04	2.48E-03	2.5E-03
Hexane	1.8E+00		0.01		1.0E-02
Phenol					0.0E+00
Toluene	3.4E-03		1.9E-05		1.9E-05
Total PAH Haps	negl		negl		0.0E+00
Polycyclic Organic Matter		3.30E-03		1.34E-04	1.3E-04
<b>Total HAPs =</b>			<b>1.1E-02</b>	<b>2.9E-03</b>	<b>0.013</b>

**Methodology**

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 MMCF/1,000 MMBtu]  
 Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 gal/0.140 MMBtu]  
 Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] \* [Emission Factor (lb/MMCF)] \* [ton/2000 lbs]  
 All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] \* [Emission Factor (lb/kgal)] \* [kgal/1000 gal] \* [ton/2000 lbs]  
 Sources of AP-42 Emission Factors for fuel combustion:  
 Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4  
 No. 2 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11

**Abbreviations**

PM = Particulate Matter  
 PM10 = Particulate Matter (<10 um)  
 SO2 = Sulfur Dioxide  
 NOx = Nitrous Oxides  
 VOC = Volatile Organic Compounds  
 CO = Carbon Monoxide  
 HAP = Hazardous Air Pollutant  
 HCl = Hydrogen Chloride  
 PAH = Polyaromatic Hydrocarbon

**Appendix A.1: Unlimited Emissions Calculations  
Greenhouse Gas (CO2e) Emissions from  
Hot Oil Heater Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

**Company Name:** E&B Paving Inc  
**Source Address:** 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
**Permit Number:** F003-30534-03125  
**Reviewer:** Renee Traivaranon

Maximum Hot Oil Heater Fuel Input Rate = 1.30 MMBtu/hr  
 Natural Gas Usage = 11.39 MMCF/yr  
 No. 2 Fuel Oil Usage = 81,342.86 gal/yr, 0.50 % sulfur

**Unlimited/Uncontrolled Emissions**

Criteria Pollutant	Emission Factor (units)		Greenhouse Global Warming Potentials (GWP)	Potential to Emit (tons/yr)	
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)		Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)
CO2	120,161.84	22,501.41	1	684.20	915.16
CH4	2.49	0.91	21	0.01	0.04
N2O	2.2	0.26	310	0.01	0.01
				684.23	915.21

<b>Worse Case CO2e Emissions (tons/yr)</b>
<b>919.22</b>

CO2e Equivalent Emissions (tons/yr)	688.38	919.22
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**Methodology**

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 MMCF/1,000 MMBtu]

Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 gal/0.140 MMBtu]

Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)

Natural Gas: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu

No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu

Emission Factor (EF) Conversions

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) \* Conversion Factor (2.20462 lbs/kg) \* Heating Value of Natural Gas (MMBtu/scf)]

Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) \* Conversion Factor (2.20462 lbs/kg) \* Heating Value of the Fuel Oil (MMBtu/gal) \*

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] \* [Emission Factor (lb/MMCF)] \*

All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] \* [Emission Factor (lb/kgal)] \* [kgal/1000 gal] \*

Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 of "worst case" fuel (ton/yr) x CO2 GWP (1) + Unlimited Potential to

**Abbreviations**

CO2 = Carbon Dioxide  
 CH4 = Methane

N2O = Nitrogen Dioxide  
 PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations  
Asphalt Load-Out, Silo Filling, and Yard Emissions**

**Company Name: E&B Paving Inc  
Source Address: 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
Permit Number: F003-30534-03125  
Reviewer: Renee Traivaranon**

The following calculations determine the unlimited/uncontrolled fugitive emissions from hot asphalt mix load-out, silo filling, and on-site yard for a drum mix hot mix asphalt plant

Asphalt Temperature, T =	325	F
Asphalt Volatility Factor, V =	-0.5	
Maximum Annual Asphalt Production =	1,095,000	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM*	5.2E-04	5.9E-04	NA	0.29	0.32	NA	0.61
Organic PM	3.4E-04	2.5E-04	NA	0.19	0.139	NA	0.33
TOC	0.004	0.012	0.001	2.28	6.67	0.602	9.6
CO	0.001	0.001	3.5E-04	0.74	0.646	0.193	1.58

NA = Not Applicable (no AP-42 Emission Factor)

<b>PM/HAPs</b>	<b>0.013</b>	<b>0.016</b>	<b>0</b>	<b>0.029</b>
<b>VOC/HAPs</b>	<b>0.034</b>	<b>0.085</b>	<b>0.009</b>	<b>0.127</b>
<b>non-VOC/HAPs</b>	<b>1.8E-04</b>	<b>1.8E-05</b>	<b>4.6E-05</b>	<b>2.4E-04</b>
<b>non-VOC/non-HAPs</b>	<b>0.17</b>	<b>0.09</b>	<b>0.04</b>	<b>0.30</b>

<b>Total VOCs</b>	<b>2.14</b>	<b>6.67</b>	<b>0.6</b>	<b>9.4</b>
<b>Total HAPs</b>	<b>0.05</b>	<b>0.10</b>	<b>0.009</b>	<b>0.16</b>
		<b>Worst Single HAP</b>		<b>0.049</b>
				<b>(formaldehyde)</b>

**Methodology**

The asphalt temperature and volatility factor were provided by the source.

Unlimited/Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) \* (Emission Factor (lb/ton)) \* (ton/2000 lbs)

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-14, 11.1-15, and 11.1-16

Plant Load-Out Emission Factor Equations (AP-42 Table 11.1-14)::

Total PM/PM10/PM2.5 Ef = 0.000181 + 0.00141(-V)e<sup>-(0.0251)(T+460)-20.43)</sup>

Organic PM Ef = 0.00141(-V)e<sup>-(0.0251)(T+460)-20.43)</sup>

TOC Ef = 0.0172(-V)e<sup>-(0.0251)(T+460)-20.43)</sup>

CO Ef = 0.00558(-V)e<sup>-(0.0251)(T+460)-20.43)</sup>

Silo Filling Emission Factor Equations (AP-42 Table 11.1-14):

PM/PM10 Ef = 0.000332 + 0.00105(-V)e<sup>-(0.0251)(T+460)-20.43)</sup>

Organic PM Ef = 0.00105(-V)e<sup>-(0.0251)(T+460)-20.43)</sup>

TOC Ef = 0.0504(-V)e<sup>-(0.0251)(T+460)-20.43)</sup>

CO Ef = 0.00488(-V)e<sup>-(0.0251)(T+460)-20.43)</sup>

On Site Yard CO emissions estimated by multiplying the TOC emissions by 0.32

\*No emission factors available for PM10 or PM2.5, therefore IDEM assumes PM10 and PM2.5 are equivalent to Total PM.

**Abbreviations**

TOC = Total Organic Compounds

CO = Carbon Monoxide

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

**Appendix A.1: Unlimited Emissions Calculations  
Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)**

Company Name: E&B Paving Inc  
 Source Address: 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
 Permit Number: F003-30534-03125  
 Reviewer: Renee Traivaranon

**Organic Particulate-Based Compounds (Table 11.1-15)**

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
PAH HAPs										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	4.9E-04	6.5E-04	NA	1.1E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	5.2E-05	1.9E-05	NA	7.2E-05
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	1.3E-04	1.8E-04	NA	3.1E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	3.5E-05	7.8E-05	NA	1.1E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	1.4E-05	0	NA	1.4E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	4.1E-06	0	NA	4.1E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	3.5E-06	0	NA	3.5E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	4.3E-06	0	NA	4.3E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	1.5E-05	1.3E-05	NA	2.8E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	1.9E-04	2.9E-04	NA	4.8E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	6.9E-07	0	NA	6.9E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	9.3E-05		NA	9.3E-05
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	1.4E-03	1.4E-03	NA	2.8E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	8.8E-07	0	NA	8.8E-07
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	4.4E-03	7.3E-03	NA	0.012
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	2.3E-03	2.5E-03	NA	4.9E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	4.1E-05	4.2E-05	NA	8.3E-05
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	1.5E-03	2.5E-03	NA	4.0E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	2.8E-04	6.1E-04	NA	8.9E-04
<b>Total PAH HAPs</b>							<b>0.011</b>	<b>0.016</b>	<b>NA</b>	<b>0.027</b>
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	2.2E-03	0	0	2.2E-03

NA = Not Applicable (no AP-42 Emission Factor)

**Methodology**

Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Speciation Profile (%)] \* [Organic PM (tons/yr)]  
 Speciation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

**Abbreviations**

PM = Particulate Matter  
 HAP = Hazardous Air Pollutant  
 POM = Polycyclic Organic Matter

**Appendix A.1: Unlimited Emissions Calculations  
Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)**

Company Name: E&B Paving Inc  
Source Address: 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
Permit Number: F003-30534-03125  
Reviewer: Renee Traivaranon

**Organic Volatile-Based Compounds (Table 11.1-16)**

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
<b>VOC</b>		VOC	---	TOC	94%	100%	<b>2.14</b>	<b>6.67</b>	<b>0.57</b>	<b>9.38</b>
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	1.5E-01	1.7E-02	3.9E-02	0.205
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	1.0E-03	3.7E-03	2.8E-04	0.005
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	1.6E-02	7.3E-02	4.3E-03	0.094
<b>Total non-VOC/non-HAPS</b>					<b>7.30%</b>	<b>1.40%</b>	<b>0.166</b>	<b>0.093</b>	<b>0.044</b>	<b>0.30</b>
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	1.2E-03	2.1E-03	3.1E-04	3.6E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	2.2E-04	3.3E-04	5.8E-05	6.0E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	1.1E-03	2.6E-03	3.0E-04	4.0E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	3.0E-04	1.1E-03	7.8E-05	1.4E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	4.8E-06	2.7E-04	1.3E-06	2.7E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	3.4E-04	1.5E-03	9.0E-05	2.0E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	2.5E-03	0	6.6E-04	3.2E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	6.4E-03	2.5E-03	1.7E-03	0.011
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	2.0E-03	4.6E-02	5.3E-04	0.049
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	3.4E-03	6.7E-03	9.0E-04	0.011
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	4.1E-05	2.1E-05	1.1E-05	7.3E-05
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	1.8E-05	0	1.8E-05
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	1.7E-04	3.6E-04	4.4E-05	5.7E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	1.8E-04	0	4.6E-05	2.2E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	4.8E-03	4.1E-03	1.3E-03	0.010
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	0	3.0E-05	0	7.8E-06	3.7E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	9.3E-03	1.3E-02	2.5E-03	0.025
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	1.8E-03	3.8E-03	4.8E-04	6.1E-03
<b>Total volatile organic HAPs</b>					<b>1.50%</b>	<b>1.30%</b>	<b>0.034</b>	<b>0.087</b>	<b>0.009</b>	<b>0.130</b>

**Methodology**

Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Speciation Profile (%)] \* [TOC (tons/yr)]  
Speciation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

**Abbreviations**

TOC = Total Organic Compounds  
HAP = Hazardous Air Pollutant  
VOC = Volatile Organic Compound  
MTBE = Methyl tert butyl ether

**Appendix A.1: Unlimited Emissions Calculations  
Material Storage Piles**

**Company Name:** E&B Paving Inc  
**Source Address:** 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
**Permit Number:** F003-30534-03125  
**Reviewer:** Renee Traivaranon

The following calculations determine the amount of emissions created by wind erosion of storage stockpiles, based on 8,760 hours of use and USEPA's AP-42 (Pre 1983 Edition), Section 11.2.3.

$$E_f = 1.7 \cdot (s/1.5) \cdot (365-p) / 235 \cdot (f/15)$$

where  $E_f$  = emission factor (lb/acre/day)  
 $s$  = silt content (wt %)  
 $p$  =  days of rain greater than or equal to 0.01 inches  
 $f$  =  % of wind greater than or equal to 12 mph

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.49	0.269	0.094
Limestone	1.6	1.85	1.16	0.392	0.137
RAP	0.5	0.58	0.47	0.050	0.017
Gravel	1.6	1.85	0.00	0.000	0.000
Slag	3.8	4.40	0.00	0.000	0.000
<b>Totals</b>				<b>0.71</b>	<b>0.25</b>

**Methodology**

PTE of PM (tons/yr) = (Emission Factor (lb/acre/day)) \* (Maximum Pile Size (acres)) \* (ton/2000 lbs) \* (8760 hours/yr)

PTE of PM10/PM2.5 (tons/yr) = (Potential PM Emissions (tons/yr)) \* 35%

\*Silt content values obtained from AP-42 Table 13.2.4-1 (dated 1/95)

\*\*Maximum anticipated pile size (acres) provided by the source.

RAP - recycled asphalt pavement

**Abbreviations**

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PM2.5 = PM10

PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations**  
**Material Processing, Handling, Crushing, Screening, and Conveying**

**Company Name:** E&B Paving Inc  
**Source Address:** 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
**Permit Number:** F003-30534-03125  
**Reviewer:** Renee Traivaranon

**Batch or Continuous Drop Operations (AP-42 Section 13.2.4)**

To estimate potential fugitive dust emissions from processing and handling of raw materials (batch or continuous drop operations), AP-42 emission factors for Aggregate Handling, Section 13.2.4 (fifth edition, 1/95) are utilized.

$$E_f = k \cdot (0.0032) \cdot [(U/5)^{1.3} / (M/2)^{1.4}]$$

where:  $E_f$  = Emission factor (lb/ton)

k (PM) =	0.74	= particle size multiplier (0.74 assumed for aerodynamic diameter <=100 um)
k (PM10) =	0.35	= particle size multiplier (0.35 assumed for aerodynamic diameter <=10 um)
k (PM2.5) =	0.053	= particle size multiplier (0.053 assumed for aerodynamic diameter <=2.5 um)
U =	10.2	= worst case annual mean wind speed (Source: NOAA, 2006*)
M =	4.0	= material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)
Ef (PM) =	2.27E-03	lb PM/ton of material handled
Ef (PM10) =	1.07E-03	lb PM10/ton of material handled
Ef (PM2.5) =	1.62E-04	lb PM2.5/ton of material handled

Maximum Annual Asphalt Production =	1,095,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	1,040,250	tons/yr

Type of Activity	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10 (tons/yr)	Unlimited/Uncontrolled PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	1.18	0.56	0.08
Front-end loader dumping of materials into feeder bins	1.18	0.56	0.08
Conveyor dropping material into dryer/mixer or batch tower	1.18	0.56	0.08
<b>Total (tons/yr)</b>	<b>3.54</b>	<b>1.67</b>	<b>0.25</b>

**Methodology**

The percent asphalt cement/binder provided by the source.  
 Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] \* [1 - Percent Asphalt Cement/Binder (weight %)]  
 Unlimited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) \* (Emission Factor (lb/ton)) \* (ton/2000 lbs)  
 Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, and other additives  
 \*Worst case annual mean wind speed (Indianapolis, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2006

**Material Screening and Conveying (AP-42 Section 11.19.2)**

To estimate potential fugitive dust emissions from raw material crushing, screening, and conveying, AP-42 emission factors for Crushed Stone Processing Operations, Section 11.19.2 (dated 8/04) are utilized.

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	0.00	0.00
Screening	0.025	0.0087	13.00	4.53
Conveying	0.003	0.0011	1.56	0.57
<b>Unlimited Potential to Emit (tons/yr) =</b>			<b>14.56</b>	<b>5.10</b>

**Methodology**

Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] \* [1 - Percent Asphalt Cement/Binder (weight %)]  
 Unlimited Potential to Emit (tons/yr) = [Maximum Material Handling Throughput (tons/yr)] \* [Emission Factor (lb/ton)] \* [ton/2000 lbs]  
 Raw materials may include stone/gravel, slag, and recycled asphalt pavement (RAP)  
 Emission Factors from AP-42 Chapter 11.19.2 (dated 8/04), Table 11.19.2-2  
 \*Uncontrolled emissions factors for PM/PM10 represent tertiary crushing of stone with moisture content ranging from 0.21 to 1.3 percent by weight (Table 11.19.2-2). The bulk moisture content of aggregate in the storage piles at a hot mix asphalt production plant typically stabilizes between 3 to 5 percent by weight (Source: AP-42 Section 11.1.1.1).  
 \*\*Assumes PM10 = PM2.5

**Abbreviations**

PM = Particulate Matter  
 PM10 = Particulate Matter (<10 um)  
 PM2.5 = Particulate matter (< 2.5 um)  
 PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations  
Unpaved Roads**

**Company Name:** E&B Paving Inc  
**Source Address:** 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
**Permit Number:** F003-30534-03125  
**Reviewer:** Renee Traivaranon

**Unpaved Roads at Industrial Site**

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (12/2003).

Maximum Annual Asphalt Production	= 1,095,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	= 5.0%	
Maximum Material Handling Throughput	= 1,040,250	tons/yr
Maximum Asphalt Cement/Binder Throughput	= 54,750	tons/yr
Maximum No. 2 Fuel Oil Usage	= 5,631,429	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	4.6E+04	1.8E+06	300	0.057	2638.6
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	4.6E+04	7.9E+05	300	0.057	2638.6
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	1.5E+03	7.3E+04	300	0.057	86.4
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	1.5E+03	1.8E+04	300	0.057	86.4
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	5.9E+02	2.6E+04	300	0.057	33.8
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	5.9E+02	7.1E+03	300	0.057	33.8
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	2.5E+05	4.8E+06	300	0.057	14072.6
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	2.5E+05	3.7E+06	300	0.057	14072.6
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	4.6E+04	1.9E+06	300	0.057	2592.3
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	4.6E+04	7.8E+05	300	0.057	2592.3
<b>Total</b>					<b>6.8E+05</b>	<b>1.4E+07</b>			<b>3.9E+04</b>

Average Vehicle Weight Per Trip	= 20.3	tons/trip
Average Miles Per Trip	= 0.057	miles/trip

Unmitigated Emission Factor,  $E_f = k \cdot [(s/12)^a] \cdot [(W/3)^b]$  (Equation 1a from AP-42 13.2.2)

	PM	PM10	PM2.5	
where k =	4.9	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.8	4.8	4.8	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-3 Sand/Gravel Processing Plant Road)
a =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
b =	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor,  $E_{ext} = E \cdot [(365 - P)/365]$

Mitigated Emission Factor, $E_{ext} = E \cdot [(365 - P)/365]$	
where P =	125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)

	PM	PM10	PM2.5	
Unmitigated Emission Factor, $E_f =$	6.10	1.55	0.16	lb/mile
Mitigated Emission Factor, $E_{ext} =$	4.01	1.02	0.10	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	8.04	2.05	0.20	5.29	1.35	0.13	2.64	0.67	0.07
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	8.04	2.05	0.20	5.29	1.35	0.13	2.64	0.67	0.07
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.263	0.067	0.01	0.173	0.044	0.00	0.087	0.022	0.00
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.263	0.067	0.01	0.173	0.044	0.00	0.087	0.022	0.00
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.103	0.026	0.00	0.068	0.017	0.00	0.034	0.009	0.00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.103	0.026	0.00	0.068	0.017	0.00	0.034	0.009	0.00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	42.89	10.93	1.09	28.20	7.19	0.72	14.10	3.59	0.36
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	42.89	10.93	1.09	28.20	7.19	0.72	14.10	3.59	0.36
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	7.90	2.01	0.20	5.20	1.32	0.13	2.60	0.66	0.07
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	7.90	2.01	0.20	5.20	1.32	0.13	2.60	0.66	0.07
<b>Totals</b>		<b>118.41</b>	<b>30.18</b>	<b>3.02</b>	<b>77.86</b>	<b>19.84</b>	<b>1.98</b>	<b>38.93</b>	<b>9.92</b>	<b>0.99</b>

**Methodology**

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] \* [1 - Percent Asphalt Cement/Binder (weight %)]  
 Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] \* [Percent Asphalt Cement/Binder (weight %)]  
 Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]  
 Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]  
 Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] \* [Maximum trips per year (trip/yr)]  
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]  
 Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] \* [Maximum one-way distance (mi/trip)]  
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]  
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]  
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) \* (Unmitigated Emission Factor (lb/mile)) \* (ton/2000 lbs)  
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) \* (Mitigated Emission Factor (lb/mile)) \* (ton/2000 lbs)  
 Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) \* (1 - Dust Control Efficiency)

**Abbreviations**

PM = Particulate Matter  
 PM10 = Particulate Matter (<10 um)  
 PM2.5 = Particulate Matter (<2.5 um)  
 PM2.5 = PM10  
 PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations  
Paved Roads**

**Company Name:** E&B Paving Inc  
**Source Address:** 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
**Permit Number:** F003-30534-03125  
**Reviewer:** Renee Traivaranon

**Paved Roads at Industrial Site**

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

Maximum Annual Asphalt Production	= 1,095,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	= 5.0%	
Maximum Material Handling Throughput	= 1,040,250	tons/yr
Maximum Asphalt Cement/Binder Throughput	= 54,750	tons/yr
Maximum No. 2 Fuel Oil Usage	= 5,631,429	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	4.6E+04	1.8E+06	300	0.057	2638.6
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	4.6E+04	7.9E+05	300	0.057	2638.6
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	1.5E+03	7.3E+04	300	0.057	86.4
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	1.5E+03	1.8E+04	300	0.057	86.4
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	5.9E+02	2.6E+04	300	0.057	33.8
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	5.9E+02	7.1E+03	300	0.057	33.8
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	2.5E+05	4.8E+06	300	0.057	14072.6
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	2.5E+05	3.7E+06	300	0.057	14072.6
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	4.6E+04	1.9E+06	300	0.057	2592.3
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	4.6E+04	7.8E+05	300	0.057	2592.3
<b>Total</b>					<b>6.8E+05</b>	<b>1.4E+07</b>			<b>3.9E+04</b>

Average Vehicle Weight Per Trip	= 20.3	tons/trip
Average Miles Per Trip	= 0.057	miles/trip

Unmitigated Emission Factor,  $E_f = [k * (sL)^{0.91} * (W)^{1.02}]$  (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
sL =	0.6	0.6	0.6	g/m <sup>2</sup> = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor,  $E_{ext} = E_f * [1 - (p/4N)]$

Mitigated Emission Factor, $E_{ext} = E_f * [1 - (p/4N)]$	
where p =	125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N =	365 days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, $E_f$	0.15	0.03	0.01	lb/mile
Mitigated Emission Factor, $E_{ext}$	0.14	0.03	0.01	lb/mile
Dust Control Efficiency	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.20	0.04	0.01	0.18	0.04	0.01	0.09	0.02	0.00
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.20	0.04	0.01	0.18	0.04	0.01	0.09	0.02	0.00
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.006	0.001	3.2E-04	0.006	0.001	2.9E-04	0.003	5.9E-04	1.4E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.006	0.001	3.2E-04	0.006	0.001	2.9E-04	0.003	5.9E-04	1.4E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	2.5E-03	5.0E-04	1.2E-04	2.3E-03	4.6E-04	1.1E-04	1.1E-03	2.3E-04	5.6E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	2.5E-03	5.0E-04	1.2E-04	2.3E-03	4.6E-04	1.1E-04	1.1E-03	2.3E-04	5.6E-05
Aggregate/RAP Loader Full	Front-end loader (3 CY)	1.05	0.21	0.05	0.96	0.19	0.05	0.48	0.10	0.02
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	1.05	0.21	0.05	0.96	0.19	0.05	0.48	0.10	0.02
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.19	0.04	0.01	0.18	0.04	0.01	0.09	0.02	0.00
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.19	0.04	0.01	0.18	0.04	0.01	0.09	0.02	0.00
<b>Totals</b>		<b>2.89</b>	<b>0.58</b>	<b>0.14</b>	<b>2.64</b>	<b>0.53</b>	<b>0.13</b>	<b>1.32</b>	<b>0.26</b>	<b>0.06</b>

**Methodology**

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] \* [1 - Percent Asphalt Cement/Binder (weight %)]  
 Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] \* [Percent Asphalt Cement/Binder (weight %)]  
 Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]  
 Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]  
 Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] \* [Maximum trips per year (trip/yr)]  
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]  
 Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] \* [Maximum one-way distance (mi/trip)]  
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]  
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]  
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) \* (Unmitigated Emission Factor (lb/mile)) \* (ton/2000 lbs)  
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) \* (Mitigated Emission Factor (lb/mile)) \* (ton/2000 lbs)  
 Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) \* (1 - Dust Control Efficiency)

**Abbreviations**

PM = Particulate Matter  
 PM10 = Particulate Matter (<10 um)  
 PM2.5 = Particulate Matter (<2.5 um)  
 PM2.5 = PM10  
 PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations  
Cold Mix Asphalt Production and Stockpiles**

**Company Name:** E&B Paving Inc  
**Source Address:** 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
**Permit Number:** F003-30534-03125  
**Reviewer:** Renee Traivaranon

The following calculations determine the amount of VOC and HAP emissions created from volatilization of solvent used as diluent in the liquid binder for cold mix asphalt production

Maximum Annual Asphalt Production =	1,095,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Asphalt Cement/Binder Throughput =	54,750	tons/yr

**Volatile Organic Compounds**

	Maximum weight % of VOC solvent in binder*	Weight % VOC solvent in binder that evaporates	Maximum VOC Solvent Usage (tons/yr)	PTE of VOC (tons/yr)
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	25.3%	95.0%	0.0	0.0
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	0.0	0.0
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	0.0	0.0
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	8,212.5	3,810.6
Other asphalt with solvent binder	25.9%	2.5%	0.0	0.0
<b>Worst Case PTE of VOC =</b>				<b>3,810.6</b>

**Hazardous Air Pollutants**

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0% Xylenes
<b>PTE of Total HAPs (tons/yr) =</b>	<b>993.95</b>
<b>PTE of Single HAP (tons/yr) =</b>	<b>342.95 Xylenes</b>

**Hazardous Air Pollutant (HAP) Content (% by weight) For Various Petroleum Solvents\***

	CAS#	Hazardous Air Pollutant (HAP) Content (% by weight)* For Various Petroleum Solvents				
		Gasoline	Kerosene	Diesel (#2) Fuel Oil	No. 2 Fuel Oil	No. 6 Fuel Oil
Volatile Organic HAP						
1,3-Butadiene	106-99-0	3.70E-5%				
2,2,4-Trimethylpentane	540-84-1	2.40%				
Acenaphthene	83-32-9		4.70E-5%		1.80E-4%	
Acenaphthylene	208-96-8		4.50E-5%		6.00E-5%	
Anthracene	120-12-7		1.20E-6%	5.80E-5%	2.80E-5%	5.00E-5%
Benzene	71-43-2	1.90%		2.90E-4%		
Benzo(a)anthracene	56-55-3			9.60E-7%	4.50E-7%	5.50E-4%
Benzo(a)pyrene	50-32-8			2.20E-6%	2.10E-7%	4.40E-5%
Benzo(g,h,i)perylene	191-24-2			1.20E-7%	5.70E-8%	
Biphenyl	92-52-4			6.30E-4%	7.20E-5%	
Chrysene	218-01-9			4.50E-7%	1.40E-6%	6.90E-4%
Ethylbenzene	100-41-4	1.70%		0.07%	3.40E-4%	
Fluoranthene	206-44-0		7.10E-6%	5.90E-5%	1.40E-5%	2.40E-4%
Fluorene	86-73-7		4.20E-5%	8.60E-4%	1.90E-4%	
Indeno(1,2,3-cd)pyrene	193-39-5			1.60E-7%		1.00E-4%
Methyl-tert-butylether	1634-04-4	0.33%				
Naphthalene	91-20-3	0.25%	0.31%	0.26%	0.22%	4.20E-5%
n-Hexane	110-54-3	2.40%				
Phenanthrene	85-01-8		8.60E-6%	8.80E-4%	7.90E-4%	2.10E-4%
Pyrene	129-00-0		2.40E-6%	4.60E-5%	2.90E-5%	2.30E-5%
Toluene	108-88-3	8.10%		0.18%	6.20E-4%	
Total Xylenes	1330-20-7	9.00%		0.50%	0.23%	
<b>Total Organic HAPs</b>		<b>26.08%</b>	<b>0.33%</b>	<b>1.29%</b>	<b>0.68%</b>	<b>0.19%</b>
<b>Worst Single HAP</b>		<b>9.00%</b>	<b>0.31%</b>	<b>0.50%</b>	<b>0.23%</b>	<b>0.07%</b>
		<b>Xylenes</b>	<b>Naphthalene</b>	<b>Xylenes</b>	<b>Xylenes</b>	<b>Chrysene</b>

**Methodology**

Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] \* [Percent Asphalt Cement/Binder (weight %)]  
 Maximum VOC Solvent Usage (tons/yr) = [Maximum Asphalt Cement/Binder Throughput (tons/yr)] \* [Maximum Weight % of VOC Solvent in Binder]  
 PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] \* [Maximum VOC Solvent Usage (tons/yr)]  
 PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] \* [Worst Case Limited PTE of VOC (tons/yr)]  
 PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] \* [Worst Case Limited PTE of VOC (tons/yr)]  
 \*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at:  
<http://www.aehs.com/publications/catalog/contents/tp.htm>

**Abbreviations**

VOC = Volatile Organic Compounds  
 PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations  
Gasoline Fuel Transfer and Dispensing Operation**

**Company Name: E&B Paving Inc**  
**Source Address: 320 S. Thomas Road, Ft. Wayne, Indiana 46804**  
**Permit Number: F003-30534-03125**  
**Reviewer: Renee Traivaranon**

To calculate evaporative emissions from the gasoline dispensing fuel transfer and dispensing operation handling emission factors from AP-42 Table 5.2-7 were used. The total potential emission of VOC is as follows:

$$\begin{aligned} \text{Gasoline Throughput} &= \frac{300.0}{109.5} \text{ gallons/day} \\ &= \text{kgal/yr} \end{aligned}$$

**Volatile Organic Compounds**

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0.02
Tank breathing and emptying	1.0	0.05
Vehicle refueling (displaced losses - controlled)	1.1	0.06
Spillage	0.7	0.04
<b>Total</b>		<b>0.17</b>

**Hazardous Air Pollutants**

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0% Xylenes
<b>Limited PTE of Total HAPs (tons/yr) =</b>	<b>0.04</b>
<b>Limited PTE of Single HAP (tons/yr) =</b>	<b>0.02 Xylenes</b>

**Methodology**

The gasoline throughput was provided by the source.

Gasoline Throughput (kgal/yr) = [Gasoline Throughput (lbs/day)] \* [365 days/yr] \* [kgal/1000 gal]

PTE of VOC (tons/yr) = [Gasoline Throughput (kgal/yr)] \* [Emission Factor (lb/kgal)] \* [ton/2000 lb]

PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] \* [PTE of VOC (tons/yr)]

PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] \* [PTE of VOC (tons/yr)]

\*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: <http://www.aehs.com/publications/catalog/contents/tp.htm>

**Abbreviations**

VOC = Volatile Organic Compounds

PTE = Potential to Emit

**Appendix A.2: Limited Emissions Summary  
Entire Source - Batch Mix**

**Company Name:** E&B Paving Inc  
**Source Address:** 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
**Permit Number:** F003-30534-03125  
**Reviewer:** Renee Traivaranon

**Asphalt Plant Limitations - Batch Mix**

Maximum Hourly Asphalt Production =	125	ton/hr									
Annual Asphalt Production Limitation =	490,185	ton/yr									
Blast Furnace Slag Usage Limitation =	0	ton/yr	1.50	% sulfur							
Steel Slag Usage Limitation =	0	ton/yr	1.50	% sulfur							
Natural Gas Limitation =	788	MMCF/yr									
No. 2 Fuel Oil Limitation =	2,731,742	gal/yr, and	0.50	% sulfur							
No. 4 Fuel Oil Limitation =	0	gal/yr, and	0	% sulfur							
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and	0	% sulfur							
Propane Limitation =	0	gal/yr, and	0	gr/100 ft3 sulfur							
Butane Limitation =	0	gal/yr, and	0	gr/100 ft3 sulfur							
Used/Waste Oil Limitation =	0	gal/yr, and	0.00	% sulfur	0.00	% ash	0.00	% chlorine,	0.00	% lead	
PM Dryer/Mixer Limitation =	0.830	lb/ton of asphalt production									
PM10 Dryer/Mixer Limitation =	0.354	lb/ton of asphalt production									
PM2.5 Dryer/Mixer Limitation =	0.377	lb/ton of asphalt production									
CO Dryer/Mixer Limitation =	0.4	lb/ton of asphalt production									
VOC Dryer/Mixer Limitation =	0.008	lb/ton of asphalt production									
Blast Furnace Slag SO2 Dryer/Mixer Limitation =	0.740	lb/ton of slag processed									
Steel Slag SO2 Dryer/Mixer Limitation =	0.0014	lb/ton of slag processed									
Cold Mix Asphalt VOC Usage Limitation =	87.8	tons/yr									
HCl Limitation =	0	lb/kgal									

**Limited/Controlled Emissions**

Process Description	Limited/Controlled Potential Emissions (tons/year)									
	Criteria Pollutants							Greenhouse Gas Pollutants	Hazardous Air Pollutants	
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	CO <sub>2</sub> e	Total HAPs	Worst Case HAP
<b>Ducted Emissions</b>										
Dryer Fuel Combustion (worst case)	2.73	4.51	4.51	96.98	39.40	2.17	33.10	47,633.10	0.81	0.71 (hexane)
Dryer/Mixer and Batch Tower (Process)	203.45	86.67	92.51	21.57	29.41	2.01	98.04	9,107	1.87	0.66 (xylene)
Dryer/Mixer Slag Processing	0	0	0	0.00	0	0	0	0	0	0
Hot Oil Heater Fuel Combustion (worst case)	0.08	0.13	0.13	2.89	0.81	0.03	0.48	919.22	0.01	0.010 (hexane)
<b>Worst Case Emissions*</b>	<b>203.54</b>	<b>86.81</b>	<b>92.64</b>	<b>99.86</b>	<b>40.21</b>	<b>2.20</b>	<b>98.52</b>	<b>48,552.33</b>	<b>1.88</b>	<b>0.71 (hexane)</b>
<b>Fugitive Emissions</b>										
Asphalt Load-Out, Silo Filling, On-Site Yard	0.27	0.27	0.27	0	0	4.20	0.71	0	0.07	0.02 (formaldehyde)
Material Storage Piles	0.71	0.25	0.25	0	0	0	0	0	0	0
Material Processing and Handling	1.58	0.75	0.11	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	6.52	2.28	2.28	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	17.43	4.44	0.44	0	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	87.80	0	0	22.90	7.90 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.04	0	0	0.04	0.02 (xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	negl
<b>Total Fugitive Emissions</b>	<b>26.51</b>	<b>7.99</b>	<b>3.36</b>	<b>0</b>	<b>0</b>	<b>92.04</b>	<b>0.71</b>	<b>0.00</b>	<b>23.02</b>	<b>7.92 (xylenes)</b>
<b>Totals Limited/Controlled Emissions</b>	<b>230.05</b>	<b>94.80</b>	<b>96.00</b>	<b>99.86</b>	<b>40.21</b>	<b>94.24</b>	<b>99.22</b>	<b>48,552.33</b>	<b>24.90</b>	<b>8.58 (xylenes)</b>

negl = negligible

Worst Case Fuel Combustion is based on the fuel with the highest emissions for each specific pollutant.

\*Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion

Fuel component percentages provided by the source.

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**Appendix A.2: Limited Emissions Summary**  
**Dryer/Mixer Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

Company Name: **E&B Paving Inc**  
 Source Address: **320 S. Thomas Road, Ft. Wayne, Indiana 46804**  
 Permit Number: **F003-30534-03125**  
 Reviewer: **Renee Traivaranon**

The following calculations determine the limited emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer and all other fuel combustion sources at the source.

**Production and Fuel Limitations**

Maximum Hourly Asphalt Production =	125	ton/hr
Annual Asphalt Production Limitation =	490,185	ton/yr
Natural Gas Limitation =	788	MMCF/yr
No. 2 Fuel Oil Limitation =	2,731,742	gal/yr, and
No. 4 Fuel Oil Limitation =	0	0.50 % sulfur
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	0.00 % sulfur
Propane Limitation =	0	0.00 % sulfur
Butane Limitation =	0	0.00 gr/100 ft3 sulfur
Used/Waste Oil Limitation =	0	0.00 % sulfur, 0.00 % ash, 0.000 % chlorine, 0.000 % lead

**Limited Emissions**

Criteria Pollutant	Emission Factor (units)							Limited Potential to Emit (tons/yr)							Worst Case Fuel (tons/yr)
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)	
PM	1.9	2.0	7.0	3.22	0.5	0.6	0.0	0.75	2.73	0.00	0.00	0.000	0.000	0.00	2.73
PM10	7.6	3.3	8.3	4.72	0.5	0.6	0	2.99	4.51	0.00	0.00	0.000	0.000	0.00	4.51
SO2	0.6	71.0	0.0	0.0	0.00	0.00	0.0	0.24	96.98	0.00	0.00	0.000	0.000	0.00	96.98
NOx	100	20.0	20.0	55.0	13.0	15.0	19.0	39.40	27.32	0.00	0.00	0.00	0.00	0.00	39.40
VOC	5.5	0.20	0.20	0.28	1.0	1.10	1.0	2.17	0.27	0.00	0.00	0.00	0.00	0.00	2.17
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	33.10	6.83	0.00	0.00	0.00	0.00	0.00	33.10
<b>Hazardous Air Pollutant</b>															
HCl							0.0							0.00	0.00
Antimony			5.25E-03	5.25E-03			negl			0.00E+00	0.00E+00			negl	0.0E+00
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	7.9E-05	7.65E-04	0.00E+00	0.00E+00			0.00E+00	7.6E-04
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	4.7E-06	5.74E-04	0.00E+00	0.00E+00			0.00E+00	5.7E-04
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	4.3E-04	5.74E-04	0.00E+00	0.00E+00			0.00E+00	5.7E-04
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	5.5E-04	5.74E-04	0.00E+00	0.00E+00			0.00E+00	5.7E-04
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	3.3E-05		0.00E+00	0.00E+00			0.00E+00	3.3E-05
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0	2.0E-04	1.72E-03	0.00E+00	0.00E+00			0.0E+00	0.00
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	1.5E-04	1.15E-03	0.00E+00	0.00E+00			0.00E+00	0.00
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				1.0E-04	5.74E-04	0.00E+00	0.00E+00			0.00E+00	5.7E-04
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	8.3E-04	5.74E-04	0.00E+00	0.00E+00			0.00E+00	0.001
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	9.5E-06	2.87E-03	0.00E+00	0.00E+00			negl	2.9E-03
1,1,1-Trichloroethane			2.36E-04	2.36E-04						0.00E+00	0.00E+00				0.0E+00
1,3-Butadiene															0.0E+00
Acetaldehyde															0.0E+00
Acrolein															0.0E+00
Benzene	2.1E-03		2.14E-04	2.14E-04				8.3E-04		0.00E+00	0.00E+00				8.3E-04
Bis(2-ethylhexyl)phthalate							2.2E-03							0.00E+00	0.0E+00
Dichlorobenzene	1.2E-03						8.0E-07	4.7E-04						0.00E+00	4.7E-04
Ethylbenzene			6.36E-05	6.36E-05						0.00E+00	0.00E+00				0.0E+00
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				3.0E-02	8.33E-02	0.00E+00	0.00E+00				0.083
Hexane	1.8E+00							0.71							0.709
Phenol						2.4E-03								0.00E+00	0.0E+00
Toluene	3.4E-03		6.20E-03	6.20E-03				1.3E-03		0.00E+00	0.00E+00				1.3E-03
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		0.00E+00	0.00E+00			0.00E+00	0.0E+00
Polycyclic Organic Matter		3.30E-03							4.51E-03						4.5E-03
Xylene			1.09E-04	1.09E-04						0.00E+00	0.00E+00				0.0E+00
<b>Total HAPs</b>							<b>0.74</b>	<b>0.10</b>	<b>0.00</b>	<b>0.00</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.00</b>	<b>0.81</b>

**Methodology**

Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) \* (Emission Factor (lb/MMCF)) \* (ton/2000 lbs)  
 All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) \* (Emission Factor (lb/kgal)) \* (kgal/1000 gal) \* (ton/2000 lbs)  
 Sources of AP-42 Emission Factors for fuel combustion:

- Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
- No. 2, No. 4, and No. 6 Fuel Oil: AP-42 Chapter 1.3 (dated 9/88), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
- Propane and Butane: AP-42 Chapter 1.5 (dated 7/88), Tables 1.5-1 (assuming PM = PM10)
- Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5

\*Since there are no specific AP-42 HAP emission factors for combustion of No. 4 fuel oil, it was assumed that HAP emissions from combustion of No. 4 fuel oil were equal to combustion of residual or No. 6 fuel oil.

**Abbreviations**

- PM = Particulate Matter
- PM10 = Particulate Matter (<10 um)
- SO2 = Sulfur Dioxide
- NOx = Nitrous Oxides
- VOC = Volatile Organic Compounds
- CO = Carbon Monoxide
- HAP = Hazardous Air Pollutant
- HCl = Hydrogen Chloride
- PAH = Polyaromatic Hydrocarbon



**Appendix A.2: Limited Emissions Summary  
Dryer/Mixer and Batch Tower**

**Company Name: E&B Paving Inc**  
**Source Address: 320 S. Thomas Road, Ft. Wayne, Indiana 46804**  
**Permit Number: F003-30534-03125**  
**Reviewer: Renee Traivaranon**

The following calculations determine the limited emissions from the aggregate drying/mixing and the batch tower.

Maximum Hourly Asphalt Production =	125	ton/hr
Annual Asphalt Production Limitation =	490,185	ton/yr
PM Dryer/Mixer Limitation =	0.830	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.354	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.377	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.400	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.008	lb/ton of asphalt production

Criteria Pollutant	Emission Factor or Limitation (lb/ton)			Limited/Controlled Potential to Emit (tons/yr)			Worst Case PTE
	Batch-Mix Plant (dryer, hot screens, and mixer)			Batch-Mix Plant (dryer, hot screens, and mixer)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM	0.830	0.830	0.830	203.5	203.5	0.0	<b>203.5</b>
PM10	0.354	0.354	0.354	86.7	86.7	0.0	<b>86.7</b>
PM2.5	0.377	0.377	0.377	92.5	92.5	0.0	<b>92.5</b>
SO <sub>2</sub> *	0.0046	0.088	0.088	1.1	21.6	0.0	<b>21.6</b>
NO <sub>x</sub> *	0.025	0.12	0.12	6.1	29.4	0.0	<b>29.4</b>
VOC	0.008	0.008	0.008	2.0	2.0	0.0	<b>2.0</b>
CO**	0.400	0.400	0.400	98.0	98.0	0.0	<b>98.0</b>
<b>Hazardous Air Pollutant</b>							
Arsenic	4.60E-07	4.60E-07	4.60E-07	1.13E-04	1.13E-04	0.00E+00	<b>1.13E-04</b>
Beryllium	1.50E-07	1.50E-07	1.50E-07	3.68E-05	3.68E-05	0.00E+00	<b>3.68E-05</b>
Cadmium	6.10E-07	6.10E-07	6.10E-07	1.50E-04	1.50E-04	0.00E+00	<b>1.50E-04</b>
Chromium	5.70E-07	5.70E-07	5.70E-07	1.40E-04	1.40E-04	0.00E+00	<b>1.40E-04</b>
Lead	8.90E-07	8.90E-07	1.00E-05	2.18E-04	2.18E-04	0.00E+00	<b>2.18E-04</b>
Manganese	6.90E-06	6.90E-06	6.90E-06	1.69E-03	1.69E-03	0.00E+00	<b>1.69E-03</b>
Mercury	4.10E-07	4.10E-07	4.10E-07	1.00E-04	1.00E-04	0.00E+00	<b>1.00E-04</b>
Nickel	3.00E-06	3.00E-06	3.00E-06	7.35E-04	7.35E-04	0.00E+00	<b>7.35E-04</b>
Selenium	4.90E-07	4.90E-07	4.90E-07	1.20E-04	1.20E-04	0.00E+00	<b>1.20E-04</b>
Acetaldehyde	3.20E-04	3.20E-04	3.20E-04	0.08	0.08	0.00	<b>0.08</b>
Benzene	2.80E-04	2.80E-04	2.80E-04	0.07	0.07	0.00	<b>0.07</b>
Ethylbenzene	2.20E-03	2.20E-03	2.20E-03	0.54	0.54	0.00	<b>0.54</b>
Formaldehyde	7.40E-04	7.40E-04	7.40E-04	0.18	0.18	0.00	<b>0.18</b>
Quinone	2.70E-04	2.70E-04	2.70E-04	0.07	0.07	0.00	<b>0.07</b>
Toluene	1.00E-03	1.00E-03	1.00E-03	0.25	0.25	0.00	<b>0.25</b>
Total PAH Haps	1.10E-04	1.10E-04	2.30E-04	0.03	0.03	0.00	<b>0.03</b>
Xylene	2.70E-03	2.70E-03	2.70E-03	0.66	0.66	0.00	<b>0.66</b>
<b>Total HAPs</b>							<b>1.87</b>
<b>Worst Single HAP</b>							<b>0.66 (xylene)</b>

**Methodology**

Limited/Controlled Potential to Emit (tons/yr) = (Annual Asphalt Production Limitation (tons/yr)) \* (Emission Factor (lb/ton)) \* (ton/2000 lbs)

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-1, 11.1-2, 11.1-5, 11.1-6, 11.1-19, and 11.1-11

Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.

\* SO<sub>2</sub> and NO<sub>x</sub> AP-42 emission factors are for natural gas, No. 2 fuel oil, and waste oil only.

\*\* CO AP-42 emission factor determined by combining data from batch mix dryer fired with natural gas, No. 6 fuel oil, and No. 2 fuel oil to develop single CO emission factor.

**Abbreviations**

VOC - Volatile Organic Compounds

HAP = Hazardous Air Pollutant

HCl = Hydrogen Chloride

PAH = Polycyclic Aromatic Hydrocarbon

SO<sub>2</sub> = Sulfur Dioxide

**Appendix A.2: Limited Emissions Summary  
Greenhouse Gas (CO<sub>2</sub>e) Emissions from the  
Batch-Mix Plant (Dryer/Mixer) Process Emissions**

**Company Name:** E&B Paving Inc  
**Source Address:** 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
**Permit Number:** F003-30534-03125  
**Reviewer:** Renee Traivaranon

The following calculations determine the limited emissions from the aggregate drying/mixing

Maximum Hourly Asphalt Production = 125 ton/hr  
 Annual Asphalt Production Limitation = 490,185 ton/yr

Criteria Pollutant	Emission Factor (lb/ton) Batch-Mix Plant (dryer/mixer)			Greenhouse Gas Global Warming Potentials (GWP)	Limited Potential to Emit (tons/yr) Batch-Mix Plant (dryer/mixer)			CO <sub>2</sub> e for Worst Case Fuel (tons/yr)
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO <sub>2</sub>	37	37	37	1	9,068.42	9,068.42	0.00	9,106.51
CH <sub>4</sub>	0.0074	0.0074	0.0074	21	1.81	1.81	0.00	
N <sub>2</sub> O				310	0	0	0	
<b>Total</b>					<b>9,070.24</b>	<b>9,070.24</b>	<b>0.00</b>	
<b>CO<sub>2</sub>e Equivalent Emissions (tons/yr)</b>					9,106.51	9,106.51	0.00	

**Methodology**

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-7 and 11.1-8

There are no emission factors for N<sub>2</sub>O available in either the 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no N<sub>2</sub>O emission anticipated from this process.

Limited/Controlled Potential to Emit (tons/yr) = (Annual Asphalt Production Limitation (tons/yr)) \* (Emission Factor (lb/ton)) \* (ton/2000 lbs)

Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.

Limited CO<sub>2</sub>e Emissions (tons/yr) = CO<sub>2</sub> Potential Emission of "worst case" fuel (ton/yr) x CO<sub>2</sub> GWP (1) + CH<sub>4</sub> Potential Emission of "worst case" fuel (ton/yr) x CH<sub>4</sub> GWP (21) + N<sub>2</sub>O Potential Emission of "worst case" fuel (ton/yr) x N<sub>2</sub>O GWP (310).

**Abbreviations**

CO<sub>2</sub> = Carbon Dioxide

CH<sub>4</sub> = Methane

N<sub>2</sub>O = Nitrogen Dioxide

PTE = Potential to Emit

**Appendix A.2: Limited Emissions Summary  
Dryer/Mixer Slag Processing**

**Company Name:** E&B Paving Inc  
**Source Address:** 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
**Permit Number:** F003-30534-03125  
**Reviewer:** Renee Traivaranon

The following calculations determine the limited emissions from the processing of slag in the aggregate drying/mixing

Limited Blast Furnace Slag Usage = 

0
---

 ton/yr                      

1.50
------

 % sulfur  
 Limited Annual Steel Slag Usage = 

0
---

 ton/yr                      

1.50
------

 % sulfur

Type of Slag	SO2 Emission Factor (lb/ton)*	Limited Potential to Emit SO2 (tons/yr)
Blast Furnace Slag	0.7400	0.0
Steel Slag	0.0014	0.00

**Methodology**

\* Testing results for blast furnace slag, obtained January 9, 2009 from similar operations at Rieth-Riley Construction Co., Inc. facility located in Valparaiso, IN (permit #127-27075-05241), produced an Emission Factor of 0.54 lb/ton from blast furnace slag containing 1.10% sulfur content. The source has requested a safety factor of 0.20 lb/ton be added to the tested value for use at this location to allow for a sulfur content up to 1.5%.

\*\* Testing results for steel slag, obtained June 2009 from E & B Paving, Inc. facility located in Huntington, IN. The testing results showed a steel slag emission factor of 0.0007 lb/ton from slag containing 0.33% sulfur content.

Limited Potential to Emit SO2 from Slag (tons/yr) = [(Limited Slag Usage (ton/yr)) \* [Emission Factor (lb/ton)] \* [ton/2000 lbs]

**Abbreviations**

SO2 = Sulfur Dioxide

**Appendix A.2: Limited Emissions Summary  
Hot Oil Heater**

**Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

**Company Name:** E&B Paving Inc  
**Source Location:** 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
**Permit Number:** F003-30534-03125  
**Reviewer:** Renee Traivaranon

Maximum Hot Oil Heater Fuel Input Rate = 1.30 MMBtu/hr  
 Natural Gas Usage = 11 MMCF/yr  
 No. 2 Fuel Oil Usage = 81,343 gal/yr, and 0.50 % sulfur

**Unlimited/Uncontrolled Emissions**

Criteria Pollutant	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case Fuel (tons/yr)
	Hot Oil Heater		Hot Oil Heater		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	
PM	1.9	2.0	0.011	0.081	0.08
PM10/PM2.5	7.6	3.3	0.043	0.134	0.13
SO2	0.6	71.0	0.003	2.888	2.89
NOx	100	20.0	0.569	0.813	0.81
VOC	5.5	0.20	0.031	0.008	0.03
CO	84	5.0	0.478	0.203	0.48
<b>Hazardous Air Pollutant</b>					
Arsenic	2.0E-04	5.6E-04	1.1E-06	2.28E-05	2.3E-05
Beryllium	1.2E-05	4.2E-04	6.8E-08	1.71E-05	1.7E-05
Cadmium	1.1E-03	4.2E-04	6.3E-06	1.71E-05	1.7E-05
Chromium	1.4E-03	4.2E-04	8.0E-06	1.71E-05	1.7E-05
Cobalt	8.4E-05		4.8E-07		4.8E-07
Lead	5.0E-04	1.3E-03	2.8E-06	5.12E-05	5.1E-05
Manganese	3.8E-04	8.4E-04	2.2E-06	3.42E-05	3.4E-05
Mercury	2.6E-04	4.2E-04	1.5E-06	1.71E-05	1.7E-05
Nickel	2.1E-03	4.2E-04	1.2E-05	1.71E-05	1.7E-05
Selenium	2.4E-05	2.1E-03	1.4E-07	8.54E-05	8.5E-05
Benzene	2.1E-03		1.2E-05		1.2E-05
Dichlorobenzene	1.2E-03		6.8E-06		6.8E-06
Ethylbenzene					0
Formaldehyde	7.5E-02	6.10E-02	4.3E-04	2.48E-03	0.002
Hexane	1.8E+00		0.01		0.010
Phenol					0
Toluene	3.4E-03		1.9E-05		1.9E-05
Total PAH Haps	negl		negl		0
Polycyclic Organic Matter		3.30E-03		1.34E-04	1.3E-04
<b>Total HAPs =</b>			<b>1.1E-02</b>	<b>2.9E-03</b>	<b>0.013</b>

**Methodology**

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 MMCF/1,000 MMBtu]

Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 gal/0.140 MMBtu]

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] \* [Emission Factor (lb/MMCF)] \* [ton/2000 lbs]

All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] \* [Emission Factor (lb/kgal)] \* [kgal/1000 gal] \* [ton/2000 lbs]

Sources of AP-42 Emission Factors for fuel combustion:

Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4

No. 2 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11

**Abbreviations**

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

SO2 = Sulfur Dioxide

NOx = Nitrous Oxides

VOC - Volatile Organic Compounds

CO = Carbon Monoxide

HAP = Hazardous Air Pollutant

HCl = Hydrogen Chloride

PAH = Polyaromatic Hydrocarbon

**Appendix A.2: Limited Emissions Summary**  
**Greenhouse Gas (CO2e) Emissions from**  
**Hot Oil Heater Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

**Company Name:** E&B Paving Inc  
**Source Address:** 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
**Permit Number:** F003-30534-03125  
**Reviewer:** Renee Traivaranon

Maximum Hot Oil Heater Fuel Input Rate = 1.30 MMBtu/hr  
 Natural Gas Usage = 11.39 MMCF/yr  
 No. 2 Fuel Oil Usage = 81,342.86 gal/yr, 0.50 % sulfur

**Unlimited/Uncontrolled Emissions**

Criteria Pollutant	Emission Factor (units)		Greenhouse Gas Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr)	
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)		Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)
CO2	120,161.84	22,501.41	1	684.20	915.16
CH4	2.49	0.91	21	0.014	3.71E-02
N2O	2.20	0.26	310	0.013	1.06E-02
			Total	684.23	915.21

<b>Worse Case CO2e Emissions (tons/yr)</b>
<b>919.22</b>

CO2e Equivalent Emissions (tons/yr)	688.38	919.22
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**Methodology**

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)

Natural Gas : Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N2O from AP-42 Chapter 1.4 (dated 7/98), Table 1.4-2

No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8

Emission Factor (EF) Conversions

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) \* Conversion Factor (2.20462 lbs/kg) \* Heating Value of Natural Gas (MMBtu/scf) \* Conversion Factor (1,000,000 scf/MMCF)]

Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) \* Conversion Factor (2.20462 lbs/kg) \* Heating Value of the Fuel Oil (MMBtu/gal) \* Conversion Factor (1000 gal/kgal)]

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 MMCF/1,000 MMBtu]

Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 gal/0.140 MMBtu]

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] \* [Emission Factor (lb/MMCF)] \* [ton/2000 lbs]

All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] \* [Emission Factor (lb/kgal)] \* [kgal/1000 gal] \*

Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 of "worst case" fuel (ton/yr) x CO2 GWP (1) + Unlimited Potential to Emit CH4 of "worst case" fuel (ton/yr) x CH4 GWP (21) + Unlimited Potential to Emit N2O of "worst case" fuel (ton/yr) x N2O GWP (310).

**Abbreviations**

CH4 = Methane

CO2 = Carbon Dioxide

N2O = Nitrogen Dioxide

PTE = Potential to Emit

**Appendix A.2: Limited Emissions Summary**  
**Asphalt Load-Out, Silo Filling, and Yard Emissions**

**Company Name: E&B Paving Inc**  
**Source Address: 320 S. Thomas Road, Ft. Wayne, Indiana 46804**  
**Permit Number: F003-30534-03125**  
**Reviewer: Renee Traivaranon**

The following calculations determine the limited fugitive emissions from hot asphalt mix load-out, silo filling, and on-site yard for a drum mix hot mix asphalt plant

Asphalt Temperature, T =	325	F
Asphalt Volatility Factor, V =	-0.5	
Annual Asphalt Production Limitation =	490,185	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)			Limited Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM*	5.2E-04	5.9E-04	NA	0.13	0.14	NA	0.27
Organic PM	3.4E-04	2.5E-04	NA	0.08	0.062	NA	0.15
TOC	0.004	0.012	0.001	1.02	2.99	0.270	4.3
CO	0.001	0.001	3.5E-04	0.33	0.289	0.086	0.71

NA = Not Applicable (no AP-42 Emission Factor)

<b>PM/HAPs</b>	<b>0.006</b>	<b>0.007</b>	<b>0</b>	<b>0.013</b>
<b>VOC/HAPs</b>	<b>0.015</b>	<b>0.038</b>	<b>0.004</b>	<b>0.057</b>
<b>non-VOC/HAPs</b>	<b>7.8E-05</b>	<b>8.1E-06</b>	<b>2.1E-05</b>	<b>1.1E-04</b>
<b>non-VOC/non-HAPs</b>	<b>0.07</b>	<b>0.04</b>	<b>0.02</b>	<b>0.14</b>

<b>Total VOCs</b>	<b>0.96</b>	<b>2.99</b>	<b>0.3</b>	<b>4.2</b>
<b>Total HAPs</b>	<b>0.02</b>	<b>0.05</b>	<b>0.004</b>	<b>0.07</b>
	<b>Worst Single HAP</b>			<b>0.022</b>
				<b>(formaldehyde)</b>

**Methodology**

The asphalt temperature and volatility factor were provided by the source.

Limited Potential to Emit (tons/yr) = (Annual Asphalt Production Limitation (tons/yr)) \* (Emission Factor (lb/ton)) \* (ton/2000 lbs)

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-14, 11.1-15, and 11.1-16

Plant Load-Out Emission Factor Equations (AP-42 Table 11.1-14)::

Total PM/PM10 Ef =  $0.000181 + 0.00141(-V)e^{(0.0251)(T+460)-20.43}$

Organic PM Ef =  $0.00141(-V)e^{(0.0251)(T+460)-20.43}$

TOC Ef =  $0.0172(-V)e^{(0.0251)(T+460)-20.43}$

CO Ef =  $0.00558(-V)e^{(0.0251)(T+460)-20.43}$

Silo Filling Emission Factor Equations (AP-42 Table 11.1-14):

PM/PM10 Ef =  $0.000332 + 0.00105(-V)e^{(0.0251)(T+460)-20.43}$

Organic PM Ef =  $0.00105(-V)e^{(0.0251)(T+460)-20.43}$

TOC Ef =  $0.0504(-V)e^{(0.0251)(T+460)-20.43}$

CO Ef =  $0.00488(-V)e^{(0.0251)(T+460)-20.43}$

On Site Yard CO emissions estimated by multiplying the TOC emissions by 0.32

\*No emission factors available for PM10 or PM2.5, therefore IDEM assumes PM10 and PM2.5 are equivalent to Total PM.

**Abbreviations**

TOC = Total Organic Compounds

CO = Carbon Monoxide

PM = Particulate

Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

**Appendix A.2: Limited Emissions Summary  
Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)**

Company Name: E&B Paving Inc  
Source Address: 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
Permit Number: F003-30534-03125  
Reviewer: Renee Traivaranon

**Organic Particulate-Based Compounds (Table 11.1-15)**

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
PAH HAPs										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	2.2E-04	2.9E-04	NA	5.1E-04
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	2.3E-05	8.7E-06	NA	3.2E-05
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	5.8E-05	8.1E-05	NA	1.4E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	1.6E-05	3.5E-05	NA	5.1E-05
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	6.4E-06	0	NA	6.4E-06
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	1.8E-06	0	NA	1.8E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	1.6E-06	0	NA	1.6E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	1.9E-06	0	NA	1.9E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	6.5E-06	5.9E-06	NA	1.2E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	8.6E-05	1.3E-04	NA	2.2E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	3.1E-07	0	NA	3.1E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	4.2E-05	9.3E-05	NA	1.4E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	6.4E-04	6.3E-04	NA	1.3E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	3.9E-07	0	NA	3.9E-07
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	2.0E-03	3.3E-03	NA	0.005
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	1.0E-03	1.1E-03	NA	2.2E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	1.8E-05	1.9E-05	NA	3.7E-05
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	6.8E-04	1.1E-03	NA	1.8E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	1.3E-04	2.7E-04	NA	4.0E-04
<b>Total PAH HAPs</b>							<b>0.005</b>	<b>0.007</b>	<b>NA</b>	<b>0.012</b>
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	9.9E-04	0	0	9.9E-04

NA = Not Applicable (no AP-42 Emission Factor)

**Methodology**

Limited Potential to Emit (tons/yr) = [Speciation Profile (%)] \* [Organic PM (tons/yr)]  
Speciation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

**Abbreviations**

PM = Particulate Matter  
HAP = Hazardous Air Pollutant  
POM = Polycyclic Organic Matter

**Appendix A.2: Limited Emissions Summary**  
**Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)**

Company Name: E&B Paving Inc  
 Source Address: 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
 Permit Number: F003-30534-03125  
 Reviewer: Renee Traivaranon

**Organic Volatile-Based Compounds (Table 11.1-16)**

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
<b>VOC</b>		VOC	---	TOC	94%	100%	<b>0.96</b>	<b>2.99</b>	<b>0.25</b>	<b>4.20</b>
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	6.6E-02	7.8E-03	1.8E-02	0.092
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	4.7E-04	1.6E-03	1.2E-04	0.002
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	7.2E-03	3.3E-02	1.9E-03	0.042
<b>Total non-VOC/non-HAPS</b>					<b>7.30%</b>	<b>1.40%</b>	<b>0.074</b>	<b>0.042</b>	<b>0.020</b>	<b>0.14</b>
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	5.3E-04	9.6E-04	1.4E-04	1.6E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	9.8E-05	1.5E-04	2.6E-05	2.7E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	5.0E-04	1.2E-03	1.3E-04	1.8E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	1.3E-04	4.8E-04	3.5E-05	6.5E-04
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	2.1E-06	1.2E-04	5.7E-07	1.2E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	1.5E-04	6.9E-04	4.0E-05	8.8E-04
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	1.1E-03	0	3.0E-04	1.4E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	2.9E-03	1.1E-03	7.5E-04	0.005
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	9.0E-04	2.1E-02	2.4E-04	0.022
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	1.5E-03	3.0E-03	4.0E-04	0.005
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	1.8E-05	9.3E-06	4.9E-06	3.2E-05
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	8.1E-06	0	8.1E-06
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	7.4E-05	1.6E-04	2.0E-05	2.6E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	7.8E-05	0	2.1E-05	9.9E-05
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	2.1E-03	1.9E-03	5.7E-04	0.005
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	0	1.3E-05	0	3.5E-06	1.7E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	4.2E-03	6.0E-03	1.1E-03	0.011
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	8.2E-04	1.7E-03	2.2E-04	2.7E-03
<b>Total volatile organic HAPs</b>					<b>1.50%</b>	<b>1.30%</b>	<b>0.015</b>	<b>0.039</b>	<b>0.004</b>	<b>0.058</b>

**Methodology**

Limited Potential to Emit (tons/yr) = [Speciation Profile (%)] \* [TOC (tons/yr)]  
 Speciation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

**Abbreviations**

TOC = Total Organic Compounds  
 HAP = Hazardous Air Pollutant  
 VOC = Volatile Organic Compound  
 MTBE = Methyl tert butyl ether

**Appendix A.2: Limited Emissions Summary  
Material Storage Piles**

**Company Name:** E&B Paving Inc  
**Source Address:** 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
**Permit Number:** F003-30534-03125  
**Reviewer:** Renee Traivaranon

Note: Since the emissions from the storage piles are minimal, the limited emissions are equal to the unlimited emissions.

The following calculations determine the amount of emissions created by wind erosion of storage stockpiles, based on 8,760 hours of use and USEPA's AP-42 (Pre 1983 Edition), Section 11.2.3.

$$E_f = 1.7 * (s/1.5) * (365-p) / 235 * (f/15)$$

where  $E_f$  = emission factor (lb/acre/day)  
 $s$  = silt content (wt %)  
 $p$  = 125 days of rain greater than or equal to 0.01 inches  
 $f$  = 15 % of wind greater than or equal to 12 mph

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.49	0.269	0.094
Limestone	1.6	1.85	1.16	0.392	0.137
RAP	0.5	0.58	0.47	0.050	0.017
Gravel	1.6	1.85	0.00	0.000	0.000
Slag	3.8	4.40	0.00	0.000	0.000
<b>Totals</b>				<b>0.71</b>	<b>0.25</b>

**Methodology**

PTE of PM (tons/yr) = (Emission Factor (lb/acre/day)) \* (Maximum Pile Size (acres)) \* (ton/2000 lbs) \* (8760 hours/yr)

PTE of PM10/PM2.5 (tons/yr) = (Potential PM Emissions (tons/yr)) \* 35%

\*Silt content values obtained from AP-42 Table 13.2.4-1 (dated 1/95)

\*\*Maximum anticipated pile size (acres) provided by the source.

RAP = recycled asphalt pavement

**Abbreviations**

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PM2.5 = PM10

PTE = Potential to Emit

**Appendix A.2: Limited Emissions Summary**  
**Material Processing, Handling, Crushing, Screening, and Conveying**

**Company Name:** E&B Paving Inc  
**Source Address:** 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
**Permit Number:** F003-30534-03125  
**Reviewer:** Renee Traivaranon

**Batch or Continuous Drop Operations (AP-42 Section 13.2.4)**

To estimate potential fugitive dust emissions from processing and handling of raw materials (batch or continuous drop operations), AP-42 emission factors for Aggregate Handling, Section 13.2.4 (fifth edition, 1/95) are utilized.

$$E_f = k \cdot (0.0032)^k \cdot (U/5)^{1.3} / (M/2)^{1.4}$$

where:  $E_f$  = Emission factor (lb/ton)

$k$ (PM) =	0.74	= particle size multiplier (0.74 assumed for aerodynamic diameter <=100 um)
$k$ (PM10) =	0.35	= particle size multiplier (0.35 assumed for aerodynamic diameter <=10 um)
$k$ (PM2.5) =	0.053	= particle size multiplier (0.053 assumed for aerodynamic diameter <=2.5 um)
$U$ =	10.2	= worst case annual mean wind speed (Source: NOAA, 2006*)
$M$ =	4.0	= material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)
$E_f$ (PM) =	2.27E-03	lb PM/ton of material handled
$E_f$ (PM10) =	1.07E-03	lb PM10/ton of material handled
$E_f$ (PM2.5) =	1.62E-04	lb PM2.5/ton of material handled

Annual Asphalt Production Limitation =	490,185	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	465,676	tons/yr

Type of Activity	Limited PTE of PM (tons/yr)	Limited PTE of PM10 (tons/yr)	Limited PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	0.53	0.25	0.04
Front-end loader dumping of materials into feeder bins	0.53	0.25	0.04
Conveyor dropping material into dryer/mixer or batch tower	0.53	0.25	0.04
<b>Total (tons/yr)</b>	<b>1.58</b>	<b>0.75</b>	<b>0.11</b>

**Methodology**

The percent asphalt cement/binder provided by the source.  
 Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] \* [1 - Percent Asphalt Cement/Binder (weight %)]  
 Limited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) \* (Emission Factor (lb/ton)) \* (ton/2000 lbs)  
 Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, and other additives  
 \*Worst case annual mean wind speed (Indianapolis, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2006

**Material Screening and Conveying (AP-42 Section 19.2.2)**

To estimate potential fugitive dust emissions from raw material crushing, screening, and conveying, AP-42 emission factors for Crushed Stone Processing Operations, Section 19.2.2 (dated 8/04) are utilized.

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Limited PTE of PM (tons/yr)	Limited PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	0.00	0.00
Screening	0.025	0.0087	5.82	2.03
Conveying	0.003	0.0011	0.70	0.26
<b>Limited Potential to Emit (tons/yr) =</b>			<b>6.52</b>	<b>2.28</b>

**Methodology**

Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] \* [1 - Percent Asphalt Cement/Binder (weight %)]  
 Limited Potential to Emit (tons/yr) = [Maximum Material Handling Throughput (tons/yr)] \* [Emission Factor (lb/ton)] \* [ton/2000 lbs]  
 Raw materials may include stone/gravel, slag, and recycled asphalt pavement (RAP)  
 Emission Factors from AP-42 Chapter 11.19.2 (dated 8/04), Table 11.19.2-2  
 \*Uncontrolled emissions factors for PM/PM10 represent tertiary crushing of stone with moisture content ranging from 0.21 to 1.3 percent by weight (Table 11.19.2-2). The bulk moisture content of aggregate in the storage piles at a hot mix asphalt production plant typically stabilizes between 3 to 5 percent by weight (Source: AP-42 Section 11.1.1.1).  
 \*\*Assumes PM10 = PM2.5

**Abbreviations**

PM = Particulate Matter  
 PM10 = Particulate Matter (<10 um)  
 PM2.5 = Particulate Matter (<2.5 um)  
 PTE = Potential to Emit

**Appendix A.2: Limited Emissions Summary  
Unpaved Roads**

**Company Name: E&B Paving Inc**  
**Source Address: 320 S. Thomas Road, Ft. Wayne, Indiana 46804**  
**Permit Number: F003-30534-03125**  
**Reviewer: Renee Traivanaron**

**Unpaved Roads at Industrial Site**

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (12/2003).

Annual Asphalt Production Limitation	490,185	tons/yr
Percent Asphalt Cement/Binder (weight %)	5.0%	
Maximum Material Handling Throughput	465,676	tons/yr
Maximum Asphalt Cement/Binder Throughput	24,509	tons/yr
No. 2 Fuel Oil Limitation	2,731,742	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	2.1E+04	8.2E+05	300	0.057	1181.2
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	2.1E+04	3.5E+05	300	0.057	1181.2
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	6.8E+02	3.3E+04	300	0.057	38.7
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	6.8E+02	8.2E+03	300	0.057	38.7
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	2.9E+02	1.3E+04	300	0.057	16.4
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	2.9E+02	3.5E+03	300	0.057	16.4
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	1.1E+05	2.1E+06	300	0.057	6299.7
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	1.1E+05	1.7E+06	300	0.057	6299.7
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	2.0E+04	8.4E+05	300	0.057	1160.5
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	2.0E+04	3.5E+05	300	0.057	1160.5
<b>Total</b>					<b>3.1E+05</b>	<b>6.2E+06</b>			<b>1.7E+04</b>

Average Vehicle Weight Per Trip =  $\frac{20.3}{0.057}$  tons/trip  
 Average Miles Per Trip =  $\frac{20.3}{0.057}$  miles/trip

Unmitigated Emission Factor,  $E_f = k \cdot [(s/12)^a] \cdot [(W/3)^b]$  (Equation 1a from AP-42 13.2.2)

	PM	PM10	PM2.5	
where k =	4.9	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.8	4.8	4.8	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-3 Sand/Gravel Processing Plant Road)
a =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
b =	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor,  $E_{ext} = E \cdot [(365 - P)/365]$

Mitigated Emission Factor,  $E_{ext} = E \cdot [(365 - P)/365]$   
 where P = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)

	PM	PM10	PM2.5	
Unmitigated Emission Factor, $E_f$	6.10	1.55	0.16	lb/mile
Mitigated Emission Factor, $E_{ext}$	4.01	1.02	0.10	lb/mile
Dust Control Efficiency	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	3.60	0.92	0.09	2.37	0.60	0.06	1.18	0.30	0.03
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	3.60	0.92	0.09	2.37	0.60	0.06	1.18	0.30	0.03
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.118	0.030	0.00	0.078	0.020	2.0E-03	0.039	0.010	9.9E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.118	0.030	0.00	0.078	0.020	2.0E-03	0.039	0.010	9.9E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.050	0.013	1.3E-03	0.033	0.008	8.4E-04	0.016	0.004	4.2E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.050	0.013	1.3E-03	0.033	0.008	8.4E-04	0.016	0.004	4.2E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	19.20	4.89	0.49	12.63	3.22	0.32	6.31	1.61	0.16
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	19.20	4.89	0.49	12.63	3.22	0.32	6.31	1.61	0.16
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	3.54	0.90	0.09	2.33	0.59	0.06	1.16	0.30	0.03
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	3.54	0.90	0.09	2.33	0.59	0.06	1.16	0.30	0.03
<b>Totals</b>		<b>53.01</b>	<b>13.51</b>	<b>1.35</b>	<b>34.86</b>	<b>8.88</b>	<b>0.89</b>	<b>17.43</b>	<b>4.44</b>	<b>0.44</b>

**Methodology**

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] \* [1 - Percent Asphalt Cement/Binder (weight %)]  
 Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] \* [Percent Asphalt Cement/Binder (weight %)]  
 Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]  
 Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]  
 Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] \* [Maximum trips per year (trip/yr)]  
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]  
 Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] \* [Maximum one-way distance (mi/trip)]  
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]  
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]  
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) \* (Unmitigated Emission Factor (lb/mile)) \* (ton/2000 lbs)  
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) \* (Mitigated Emission Factor (lb/mile)) \* (ton/2000 lbs)  
 Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) \* (1 - Dust Control Efficiency)

**Abbreviations**

PM = Particulate Matter  
 PM10 = Particulate Matter (<10 um)  
 PM2.5 = Particulate Matter (<2.5 um)  
 PM2.5 = PM10  
 PTE = Potential to Emit

**Appendix A.2: Limited Emissions Summary**  
**Paved Roads**

**Company Name:** E&B Paving Inc  
**Source Address:** 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
**Permit Number:** F003-30534-03125  
**Reviewer:** Renee Traivaranon

**Paved Roads at Industrial Site**

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

Annual Asphalt Production Limitation	=	490,185	tons/yr
Percent Asphalt Cement/Binder (weight %)	=	5.0%	
Maximum Material Handling Throughput	=	465,676	tons/yr
Maximum Asphalt Cement/Binder Throughput	=	24,509	tons/yr
No. 2 Fuel Oil Limitation	=	2,731,742	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	2.1E+04	8.2E+05	300	0.057	1181.2
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	2.1E+04	3.5E+05	300	0.057	1181.2
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	6.8E+02	3.3E+04	300	0.057	38.7
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	6.8E+02	8.2E+03	300	0.057	38.7
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	2.9E+02	1.3E+04	300	0.057	16.4
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	2.9E+02	3.5E+03	300	0.057	16.4
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	1.1E+05	2.1E+06	300	0.057	6299.7
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	1.1E+05	1.7E+06	300	0.057	6299.7
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	2.0E+04	8.4E+05	300	0.057	1160.5
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	2.0E+04	3.5E+05	300	0.057	1160.5
<b>Total</b>						<b>3.1E+05</b>	<b>6.2E+06</b>		<b>1.7E+04</b>

Average Vehicle Weight Per Trip = 20.3 tons/trip  
Average Miles Per Trip = 0.057 miles/trip

Unmitigated Emission Factor, Ef = [k \* (sL)<sup>0.91</sup> \* (W)<sup>1.02</sup>] (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
sL =	0.6	0.6	0.6	g/m <sup>2</sup> = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E \* [1 - (p/4N)]

Mitigated Emission Factor, Eext = Ef \* [1 - (p/4N)]  
where p = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)  
N = 365 days per year

Unmitigated Emission Factor, Ef =	0.15	0.03	0.01	lb/mile
Mitigated Emission Factor, Eext =	0.14	0.03	0.01	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.09	0.02	0.00	0.08	0.02	0.00	0.04	0.01	0.00
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.09	0.02	0.00	0.08	0.02	0.00	0.04	0.01	0.00
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.003	0.001	1.4E-04	0.003	0.001	1.3E-04	0.001	2.6E-04	6.5E-05
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.003	0.001	1.4E-04	0.003	0.001	1.3E-04	0.001	2.6E-04	6.5E-05
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	1.2E-03	2.4E-04	6.0E-05	1.1E-03	2.2E-04	5.5E-05	5.6E-04	1.1E-04	2.7E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	1.2E-03	2.4E-04	6.0E-05	1.1E-03	2.2E-04	5.5E-05	5.6E-04	1.1E-04	2.7E-05
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.47	0.09	0.02	0.43	0.09	0.02	0.21	0.04	0.01
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.47	0.09	0.02	0.43	0.09	0.02	0.21	0.04	0.01
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.09	0.02	0.00	0.08	0.02	0.00	0.04	0.01	0.00
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.09	0.02	0.00	0.08	0.02	0.00	0.04	0.01	0.00
<b>Totals</b>		<b>1.29</b>	<b>0.26</b>	<b>0.06</b>	<b>1.18</b>	<b>0.24</b>	<b>0.06</b>	<b>0.59</b>	<b>0.12</b>	<b>0.03</b>

**Methodology**

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] \* [1 - Percent Asphalt Cement/Binder (weight %)]  
Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] \* [Percent Asphalt Cement/Binder (weight %)]  
Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]  
Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]  
Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] \* [Maximum trips per year (trip/yr)]  
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]  
Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] \* [Maximum one-way distance (mi/trip)]  
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]  
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]  
Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) \* (Unmitigated Emission Factor (lb/mile)) \* (ton/2000 lbs)  
Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) \* (Mitigated Emission Factor (lb/mile)) \* (ton/2000 lbs)  
Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) \* (1 - Dust Control Efficiency)

**Abbreviations**

PM = Particulate Matter  
PM10 = Particulate Matter (<10 um)  
PM2.5 = Particulate Matter (<2.5 um)  
PM2.5 = PM10  
PTE = Potential to Emit

**Appendix A.2: Limited Emissions Summary  
Cold Mix Asphalt Production and Stockpiles**

**Company Name: E&B Paving Inc**  
**Source Address: 320 S. Thomas Road, Ft. Wayne, Indiana 46804**  
**Permit Number: F003-30534-03125**  
**Reviewer: Renee Traivaranon**

The following calculations determine the amount of VOC and HAP emissions created from volatilization of solvent used as diluent in the liquid binder for cold mix asphalt production

Cold Mix Asphalt VOC Usage Limitation =  tons/yr

**Volatile Organic Compounds**

	Maximum weight % of VOC solvent in binder	Weight % VOC solvent in binder that evaporates	VOC Solvent Usage Limitation (tons/yr)	Limited PTE of VOC (tons/yr)
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	25.3%	95.0%	92.4	0.0
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	125.4	0.0
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	351.2	0.0
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	189.2	87.8
Other asphalt with solvent binder	25.9%	2.5%	3512.0	0.0
<b>Worst Case Limited PTE of VOC =</b>				<b>87.8</b>

**Hazardous Air Pollutants**

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0% Xylenes
<b>Limited PTE of Total HAPs (tons/yr) =</b>	<b>22.90</b>
<b>Limited PTE of Single HAP (tons/yr) =</b>	<b>7.90 Xylenes</b>

**Hazardous Air Pollutant (HAP) Content (% by weight) For Various Petroleum Solvents\***

	CAS#	Hazardous Air Pollutant (HAP) Content (% by weight)* For Various Petroleum Solvents				
		Gasoline	Kerosene	Diesel (#2) Fuel Oil	No. 2 Fuel Oil	No. 6 Fuel Oil
Volatile Organic HAP						
1,3-Butadiene	106-99-0	3.70E-5%				
2,2,4-Trimethylpentane	540-84-1	2.40%				
Acenaphthene	83-32-9		4.70E-5%		1.80E-4%	
Acenaphthylene	208-96-8		4.50E-5%		6.00E-5%	
Anthracene	120-12-7		1.20E-6%	5.80E-5%	2.80E-5%	5.00E-5%
Benzene	71-43-2	1.90%		2.90E-4%		
Benzo(a)anthracene	56-55-3			9.60E-7%	4.50E-7%	5.50E-4%
Benzo(a)pyrene	50-32-8			2.20E-6%	2.10E-7%	4.40E-5%
Benzo(g,h,i)perylene	191-24-2			1.20E-7%	5.70E-8%	
Biphenyl	92-52-4			6.30E-4%	7.20E-5%	
Chrysene	218-01-9			4.50E-7%	1.40E-6%	6.90E-4%
Ethylbenzene	100-41-4	1.70%		0.07%	3.40E-4%	
Fluoranthene	206-44-0		7.10E-6%	5.90E-5%	1.40E-5%	2.40E-4%
Fluorene	86-73-7		4.20E-5%	8.60E-4%	1.90E-4%	
Indeno(1,2,3-cd)pyrene	193-39-5			1.60E-7%		1.00E-4%
Methyl-tert-butylether	1634-04-4	0.33%				
Naphthalene	91-20-3	0.25%	0.31%	0.26%	0.22%	4.20E-5%
n-Hexane	110-54-3	2.40%				
Phenanthrene	85-01-8		8.60E-6%	8.80E-4%	7.90E-4%	2.10E-4%
Pyrene	129-00-0		2.40E-6%	4.60E-5%	2.90E-5%	2.30E-5%
Toluene	108-88-3	8.10%		0.18%	6.20E-4%	
Total Xylenes	1330-20-7	9.00%		0.50%	0.23%	
<b>Total Organic HAPs</b>		<b>26.08%</b>	<b>0.33%</b>	<b>1.29%</b>	<b>0.68%</b>	<b>0.19%</b>
<b>Worst Single HAP</b>		<b>9.00%</b>	<b>0.31%</b>	<b>0.50%</b>	<b>0.23%</b>	<b>0.07%</b>
		<b>Xylenes</b>	<b>Naphthalene</b>	<b>Xylenes</b>	<b>Xylenes</b>	<b>Chrysene</b>

**Methodology**

Limited PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] \* [VOC Solvent Usage Limitation (tons/yr)]  
 Limited PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] \* [Worst Case Limited PTE of VOC (tons/yr)]  
 Limited PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] \* [Worst Case Limited PTE of VOC (tons/yr)]  
 \*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: <http://www.aehs.com/publications/catalog/contents/tp.htm>

**Abbreviations**

VOC = Volatile Organic Compounds  
 PTE = Potential to Emit

**Appendix A.2: Limited Emissions Summary  
Gasoline Fuel Transfer and Dispensing Operation**

**Company Name:** E&B Paving Inc  
**Source Address:** 320 S. Thomas Road, Ft. Wayne, Indiana 46804  
**Permit Number:** F003-30534-03125  
**Reviewer:** Renee Traivaranon

Note: Since the emissions from the gasoline fuel transfer and dispensing operation are minimal, the limited emissions are equal to the unlimited emissions.

To calculate evaporative emissions from the gasoline dispensing fuel transfer and dispensing operation handling emission factors from AP-42 Table 5.2-7 were used. The total potential emission of VOC is as follows:

$$\begin{aligned} \text{Gasoline Throughput} &= 300 \text{ gallons/day} \\ &= 109.5 \text{ kgal/yr} \end{aligned}$$

**Volatile Organic Compounds**

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0.02
Tank breathing and emptying	1.0	0.05
Vehicle refueling (displaced losses - controlled)	1.1	0.06
Spillage	0.7	0.04
<b>Total</b>		<b>0.17</b>

**Hazardous Air Pollutants**

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0%	Xylenes
<b>Limited PTE of Total HAPs (tons/yr) =</b>	<b>0.04</b>	
<b>Limited PTE of Single HAP (tons/yr) =</b>	<b>0.02</b>	<b>Xylenes</b>

**Methodology**

The gasoline throughput was provided by the source.

Gasoline Throughput (kgal/yr) = [Gasoline Throughput (lbs/day)] \* [365 days/yr] \* [kgal/1000 gal]

PTE of VOC (tons/yr) = [Gasoline Throughput (kgal/yr)] \* [Emission Factor (lb/kgal)] \* [ton/2000 lb]

PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] \* [PTE of VOC (tons/yr)]

PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] \* [PTE of VOC (tons/yr)]

\*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2.

Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at:

<http://www.aehs.com/publications/catalog/contents/tph.htm>

**Abbreviations**

VOC = Volatile Organic Compounds

PTE = Potential to Emit



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

*Mitchell E. Daniels Jr.*  
**Governor**

*Thomas W. Easterly*  
**Commissioner**

100 North Senate Avenue  
Indianapolis, Indiana 46204  
(317) 232-8603  
Toll Free (800) 451-6027  
[www.idem.IN.gov](http://www.idem.IN.gov)

October 21, 2011

Mr. Steve Henderson  
E & B Paving, Inc.  
286 W 300 N  
Anderson, IN 46012

Re: Public Notice  
E & B Paving, Inc.  
Permit Level: FESOP Renewal  
Permit Number: 003-30534-03125

Dear Mr. Henderson:

Enclosed is a copy of your draft FESOP, Technical Support Document, emission calculations, and the Public Notice which will be printed in your local newspaper.

The Office of Air Quality (OAQ) has submitted the draft permit package to the Allen County Public Library, 900 Library Plaza in Fort Wayne, Indiana. As a reminder, you are obligated by 326 IAC 2-1.1-6(c) to place a copy of the complete permit application at this library no later than ten (10) days after submittal of the application or additional information to our department. We highly recommend that even if you have already placed these materials at the library, that you confirm with the library that these materials are available for review and request that the library keep the materials available for review during the entire permitting process.

You will not be responsible for collecting any comments, nor are you responsible for having the notice published in the newspaper. The OAQ has requested that the Fort Wayne Journal Gazette in Fort Wayne, Indiana publish this notice no later than October 24, 2011.

Please review the enclosed documents carefully. This is your opportunity to comment on the draft permit and notify the OAQ of any corrections that are needed before the final decision. Questions or comments about the enclosed documents should be directed to Renee Traivaranon, Indiana Department of Environmental Management, Office of Air Quality, 100 N. Senate Avenue, Indianapolis, Indiana, 46204 or call (800) 451-6027, and ask for extension 4-5615 or dial (317) 234-5615.

Sincerely,

*Greg Hotopp*  
Greg Hotopp  
Permits Branch  
Office of Air Quality

Enclosures  
PN Applicant Cover letter. dot 3/27/08



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## Notice of Public Comment

**October 21, 2011**  
**E & B Paving, Inc.**  
**003-30534-03125**

Dear Concerned Citizen(s):

You have been identified as someone who could potentially be affected by this proposed air permit. The Indiana Department of Environmental Management, in our ongoing efforts to better communicate with concerned citizens, invites your comment on the draft permit.

Enclosed is a Notice of Public Comment, which has been placed in the Legal Advertising section of your local newspaper. The application and supporting documentation for this proposed permit have been placed at the library indicated in the Notice. These documents more fully describe the project, the applicable air pollution control requirements and how the applicant will comply with these requirements.

If you would like to comment on this draft permit, please contact the person named in the enclosed Public Notice. Thank you for your interest in the Indiana's Air Permitting Program.

**Please Note:** *If you feel you have received this Notice in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV. If you have recently moved and this Notice has been forwarded to you, please notify us of your new address and if you wish to remain on the mailing list. Mail that is returned to IDEM by the Post Office with a forwarding address in a different county will be removed from our list unless otherwise requested.*

Enclosure  
PN AAA Cover.dot 3/27/08



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## **ATTENTION: PUBLIC NOTICES, LEGAL ADVERTISING**

October 21, 2011

Fort Wayne Journal Gazette  
Terrie Brown Smith  
600 W Main Street  
PO Box 100  
Fort Wayne, IN 46801

Enclosed, please find one Indiana Department of Environmental Management Notice of Public Comment for E & B Paving, Inc., Allen County, Indiana.

Since our agency must comply with requirements which call for a Notice of Public Comment, we request that you print this notice one time, no later than October 24, 2011.

Please send a notarized form, clippings showing the date of publication, and the billing to the Indiana Department of Environmental Management, Accounting, Room N1345, 100 North Senate Avenue, Indianapolis, Indiana, 46204.

We are required by the Auditor's Office to request that you place the Federal ID Number on all claims. If you have any conflicts, questions, or problems with the publishing of this notice or if you do not receive complete public notice information for this notice, please call Greg Hotopp at 800-451-6027 and ask for extension 4-3493 or dial 317-234-3493.

Sincerely,

*Greg Hotopp*

Greg Hotopp  
Permit Branch  
Office of Air Quality

cc: Pat Cuzzort: OAQ Billing, Licensing and Training Section  
Permit Level: Federally Enforceable State Operating Permit  
Permit Number: 003-30534-03125

Enclosure  
PN Newspaper.dot 3/27/08



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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[www.idem.IN.gov](http://www.idem.IN.gov)

October 21, 2011

To: Allen County Public Library

From: Matthew Stuckey, Branch Chief  
Permits Branch  
Office of Air Quality

Subject: **Important Information to Display Regarding a Public Notice for an Air Permit**

**Applicant Name: E & B Paving, Inc.**  
**Permit Number: 003-30534-03125**

Enclosed is a copy of important information to make available to the public. This proposed project is regarding a source that may have the potential to significantly impact air quality. Librarians are encouraged to educate the public to make them aware of the availability of this information. The following information is enclosed for public reference at your library:

- Notice of a 30-day Period for Public Comment
- Request to publish the Notice of 30-day Period for Public Comment
- Draft Permit and Technical Support Document

You will not be responsible for collecting any comments from the citizens. Please refer all questions and request for the copies of any pertinent information to the person named below.

Members of your community could be very concerned in how these projects might affect them and their families. **Please make this information readily available until you receive a copy of the final package.**

If you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185. Questions pertaining to the permit itself should be directed to the contact listed on the notice.

Enclosures  
PN Library.dot 03/27/08

# Mail Code 61-53

IDEM Staff	GHOTOPP 10/21/2011 E & B Paving, Inc 003-30534-03125 Draft		Type of Mail:  <b>CERTIFICATE OF MAILING ONLY</b>	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204		

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		Steve Henderson E & B Paving, Inc 286 W 300 N Anderson IN 46012 (Source CAATS)										
2		Daniel & Sandy Trimmer 15021 Yellow River Road Columbia City IN 46725 (Affected Party)										
3		Duane & Deborah Clark Clark Farms 6973 E. 500 S. Columbia City IN 46725 (Affected Party)										
4		Mr. Victor Locke WPTA-TV P.O.Box 2121 Fort Wayne IN 46801 (Affected Party)										
5		Allen County Public Library 900 Library Plaza, P.O. Box 2270 Fort Wayne IN 46802 (Library)										
6		Fort Wayne City Council and Mayors Office One Main Street Fort Wayne IN 46802 (Local Official)										
7		Mr. John E. Hampton Plumbers & Steamfitters, Local 166 2930 W Ludwig Rd Fort Wayne IN 46818-1328 (Affected Party)										
8		Allen Co. Board of Commissioners One Main St. Fort Wayne IN 46802 (Local Official)										
9		Fort Wayne-Allen County Health Department 200 E Berry St Suite 360 Fort Wayne IN 46802 (Health Department)										
10		Mark Zeltwanger 26545 CR 52 Nappanee IN 46550 (Affected Party)										
11												
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15												

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<b>10</b>			