Louisville Metro Air Pollution Control District
701 West Ormsby Avenue, Suite 303
Louisville, Kentucky 40203-3137

October 22, 2021

Federally-Enforceable District-Origin Operating Permit (FEDOOP) Statement of Basis

Source:	**Louisville Paving Company, Inc. – Avoca Asphalt Plant** **13400 Old Henry Road** **Louisville, KY 40223**	**Owner:**	**Louisville Paving Company, Inc.** **15415 Shelbyville Road** **Louisville, KY 40245**

Application Documents:	See Table I-9		
Draft Permit:	10/22/2021		
Permitting Engineer:	Aaron DeWitt	Permit Number:	O-0290-21-F
Plant ID: 0290	SIC: 2951	NAICS:	324121

Introduction:

This permit will be issued pursuant to District Regulation 2.17- Federally Enforceable District Origin Operating Permits. Its purpose is to limit the plant wide potential emission rates from this source to below major source threshold levels and to provide methods of determining continued compliance with all applicable requirements.

This is a standard permit renewal. Additionally, greenhouse gas emission limits are being removed as they are not applicable.

Jefferson County is classified as an attainment area for lead (Pb), nitrogen dioxide (NO_2), carbon monoxide (CO), particulate matter less than 10 microns (PM_{10}), particulate matter less than 2.5 microns ($PM_{2.5}$,), and sulfur dioxide (SO_2). Jefferson County is classified as a nonattainment area for ozone (O_3).

Permit Application Type:

☐ Initial issuance

Permit Revision
- ☐ Administrative
- ☐ Minor
- ☐ Significant

☒ Permit renewal

Compliance Summary:

☐ Compliance certification signed
☐ Source is out of compliance
☐ Compliance schedule included
☒ Source is operating in compliance

I Source Information

1. Product Description:

Louisville Paving Company, Inc. is a hot mix asphalt production facility, consisting of stockpiles of virgin and recycled aggregates, liquid storage tanks, and a drum mix batch HMA plant.

2. Process Description:

Raw materials are delivered to and stored onsite awaiting production. The raw materials are then pre-processed to assure proper sizing and content for the end product. After pre-processing the aggregate and liquid from the storage tanks are mixed together in the drum mixer to produce hot mix asphalt. The HMA is then temporarily stored when waiting for transit trucks and it is transported to offsite delivery locations.

3. Site Determination:

There are no other facilities that are contiguous or adjacent to this facility.

4. Emission Unit Summary:

Emission Unit	Equipment Description
U1	Virgin and recycled aggregate stockpiles
U2	Storage tanks for liquid asphaltic cement
U3	Recycled asphalt processing equipment
U4	Hot mix asphalt processing and production equipment

5. Fugitive Sources:

The fugitive sources identified by the source are uncontrolled portions of the HMA processing unit.

6. Permit Revisions:

Permit No.	Public Notice Date	Issue Date	Change Type	Description/Scope
0195-01-F	07/01/2001	10/16/2001	Initial	Initial Permit Issuance
0195-01-F (R1)	N/A	10/16/2001	Admin.	Name change with no change in ownership

Permit No.	Public Notice Date	Issue Date	Change Type	Description/Scope
O-0290-16-F	06/07/2016; 07/22/2016	08/24/2016	Renewal	Permit renewal; Incorporation of name change, construction permits and Dust Control Plan parameters
			Admin	Corrected PM and PM10 emission factors for aggregate storage pile. Added footnote #16 to Emission Unit Plantwide to explain that organics TACs did not need limits for STAR compliance. Second public notice is to correct TAC limits for the HMA Emission Unit U4
O-0290-21-F	10/22/2021		Renewal	Permit renewal, updated format, removed greenhouse gas limits from general condition 10

7. Construction Permit History:

Permit No.	Effective Date	Description
661-07-C	12/31/2008	RAP (Recycled Asphalt Product) operation including: one aggregate stockpile, two processed stockpiles, two receiving hoppers, one crusher with hopper, two aggregate sorting screens, and six (6) conveyors. Equipped with water suppression system to control dust emissions

Permit No.	Effective Date	Description
56-10-C	07/09/2010	HMA (Hot Mix Asphalt) operation including: one aggregate stockpile, one counterflow drum mixer with burner, one transfer hot oil heater with tank, a cyclone precipitator with miner filler silo and baghouse, seven receiving hoppers, five conveyors, four drag-slat conveyors, one aggregate sorting screen, four product storage silos, one loadout station

8. Application and Related Documents

Document Number	Date	Description
11277	10/13/2016	Regulation 5.21 BAC changes application MIBK
21042	07/01/2017	STAR analysis
3710	10/12/2017	Regulation 5.21 BAC changes application Toluene Diisocyanate
15870	05/30/2018	Regulation 5.21 BAC changes application MIBK
21446	02/26/2019	Avoca PM 50-ton limit question
21449	02/26/2019	District response to PM limit question. 50-ton limit from construction permit 56-10-C
22542	05/06/2019	Inspection finding. Pressure drop reading on a daily basis
123850	11/01/2019	Portable asphalt plant call request
180196	12/11/2020	District inspection found unpermitted fuel dispensing pumps, permit action required. Avoca response to inspection findings
180197	12/11/2020	Inspection found new fuel pumps. Application requested
192359	02/19/2021	Email renewal application due 5/30/2021
205493	03/30/2021	Email renewal application due 5/30/2021
205601	03/30/2021	Email RO change
205750	03/31/2021	Email applications required for renewal
215267	04/27/2021	Email Avoca application emission calculation question
222391	05/24/2021	FEDOOP Operating Renewal Application
228601	06/15/2021	HMA Baghouse (C-2) exhaust stack test results
234681	07/06/2021	Email Wet Suppression question

Document Number	Date	Description
255450	09/03/2021	Company comments on pre-draft permit
264930	10/06/2021	District response to company comments on pre-draft permit

9. Emission Summary

Pollutant (ton/yr)	CO	NOx	SO_2	PM_{10}	VOC	Total HAP	Single HAP
Potential Emissions	290.22	120.45	24.09	14,851.78	105.76	20.55	6.79
Major source trigger (based on PTE)	Yes	Yes	No	Yes	Yes	No	No

10. Applicable Requirements

☒	40 CFR 60	☒	SIP	☐	40 CFR 63
☐	40 CFR 61	☒	District Origin	☐	Other

11. Referenced Federal Regulations:

40 CFR 60, subpart I – Standards of Performance for Hot Mix Asphalt Facilities

12. Non-Applicable Regulations:

None

II Regulatory Analysis

1. Stratospheric Ozone Protection Requirements:

Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. Louisville Paving Company, Inc – Avoca Asphalt Plant does not manufacture, sell, or distribute any of the listed chemicals. The source's use of listed chemicals is that in fire extinguishers, chillers, air conditioners and other HVAC equipment.

2. Basis of Regulation Applicability

a. Applicable Regulations

Regulation	Title	Basis
1.14	Control of Fugitive Particulate Emissions	Regulation 1.14 establishes standards for fugitive dust sources.
2.17	Federally Enforceable District Origin Operating Permit	Regulation 2.17 establishes Federally Enforceable District Origin Operating Permits
5.00	Standards for Toxic Air Contaminants and Hazardous Air Pollutants	Establishes limits to emit toxic air contaminants in a quantity or duration as to be harmful to the health and welfare of humans, animals, and plants.
5.01	General Provisions	
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	
5.21	Environmental Acceptability for Toxic Air Contaminants	
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	
5.23	Categories of Toxic Air Contaminants	
7.02	Adoption of Federal New Source Performance Standards	Adopts EPA NSPS regulations and incorporates by reference.
7.08	Standards of Performance for New Process Operations	Regulation 7.08 establishes the requirements for PM emissions from new processes that commence construction after September 1, 1976.
7.12	Standards of Performance for New Storage Vessels for Volatile Organic Compounds	Applies to each storage vessel for VOC that commenced construction after April 19, 1972, and has a storage capacity greater than 250 gallons and true vapor pressure ≥ 10.4 kPa (1.5 psia)
40 CFR 60 Subpart I	Standards of Performance for Hot Mix Asphalt Facilities	This regulation establishes the requirements for any hot mix asphalt facility that commenced construction on or after June 11, 1973.

b. Plantwide

i. Louisville Paving Company, Inc. – Avoca Asphalt Plant is potentially major for CO, NO_X, PM_{10}, & VOC. Regulation 2.17 – F*ederally Enforceable District Origin Operating Permits*

establishes requirements to limit the plant wide potential emission rates to below major source threshold levels and to provide methods of determining continued compliance with all applicable requirements. The source requested limits of the PM_{10}, CO, NO_X, VOC less than 50 tons per year to be classified as a synthetic minor (FEDOOP) source.

ii. Louisville Paving Company requested to limit the total production of hot mix asphalt (HMA) to less than five hunder thousand tons (500,000 tons) during any twelve (12) month consecutive period.

iii. Louisville Paving Company requested to limit the combustion of any combination of fuels to ensure that the total production of hot mix asphalt would not be more than 500,000 tons during any twelve (12) month consecutive period.

iv. Regulations 5.00 5.20, 5.21, and 5.23 (STAR Program) establish requirements for environmental acceptability of toxic air contaminants (TACs) and the requirement to comply with all applicable emission standards.

v. Louisville Paving Company, Inc. – Avoca Asphalt Plant submitted a TAC Environmental Acceptability Demonstration to the District on 9/30/2008. Compliance with the STAR EA Goals was demonstrated in the source's revised EA Demonstrations submitted in April 2009. The District reviewed the EA Demonstrations submitted by the source. The following table demonstrates that the plantwide risk values presented in the source's EA Demonstration comply with the STAR EA goals required in Regulation 5.21.

Plantwide Sum	**Plantwide**	
Industrial Total RC	**25.32**	< 75
Non-Ind. Total R_C	**4.66**	<7.5
Industrial Total R_{NC} (max)	**2.52**	< 3.0
Non-Ind. Total R_{NC} (max)	**0.46**	< 1.0

TAC[1,2]	**CAS #**	**Industrial**		**Non-Industrial**		**EA Demo**
		R_C	**R_{NC}**	**R_C**	**R_{NC}**	
Arsenic	7440-38-2	0.83	0.01	0.15	0.00	Meet
Benzene	71-42-2	0.13	0.00	0.02	0.00	Meet
Cadmium	7440-43-9	1.10	0.03	0.20	0.01	Meet
Chromium VI	7440-47-3	5.42	0.06	1.00	0.01	Meet
Formaldehyde	50-00-0	5.44	0.05	1.00	0.01	Meet
Nickel	7440-02-0	5.43	1.47	1.00	0.27	Meet
Cobalt	7440-48-4	5.43	0.24	1.00	0.04	Meet
Lead	7439-92-1	0.99	0.00	0.18	0.00	Meet
Naphthalene	91-20-3	0.46	0.00	0.08	0.00	Meet
Ethylbenzene	100-41-4	0.09	0.00	0.02	0.00	Meet

[1] The organic TAC Formaldehyde is controlled via HMA production limit.
[2] The metallic TAC (Cobalt, Chromium VI and Nickel) are controlled via fabric filter associated with the HMA unit.

vi. Regulation 2.17, section 5.2, requires monitoring and record keeping to assure ongoing compliance with the terms and conditions of the permit. The owner or operator shall maintain all the required records for a minimum of 5 years and make the records readily available to the district upon request.

vii. Regulation 2.17, section 7.2, requires stationary sources for which a FEDOOP is issued to submit an Annual Compliance Certification by April 15, of the following calendar year. In addition, as required by Regulation 2.17, section 5.2, the source shall submit regular reports to show compliance with the permit. Compliance reports and compliance certifications shall be signed by a responsible official and shall include a certification statement per Regulation 2.17. The compliance reports are due within 60 days of the end of the reporting period:

Reporting Period	**Report Due Date**
January 1 - June 30	August 29
July 1 - December 31	March 1 of the following year.

c. Emission Unit U1 – Aggregate Stockpiles

EP	Description	Applicable Regulations	Control ID
E-1 (IA)	Virgin aggregate stockpiles, 39,000 ft^3	7.08	C-3
R-1 (IA)	Virgin RAP stockpiles, 52,000 ft^3		C-3
R-10 (IA)	Processed RAP stockpile #1, 52,000 ft^3		C-3
R-14 (IA)	Processed RAP stockpile #2, 52,000 ft^3		C-3

Control ID	Description	Control Efficiency
C-3	Water suppression system	50%

i. **Standards**

(1) Opacity

(a) Regulation 7.08, section 3.1.1 establishes an opacity standard of less than 20%, for processes that commenced construction after September 1, 1976.

(2) PM/PM_{10}

(a) The emission standard for PM at each emission point with a process throughput greater than 30 tn/hr is determined in accordance with Regulation 7.08, section 3.1.2 as follows:

PM lb/hr limit = 17.31 (process weight tn/hr)$^{0.16}$

(b) The District has determined that the stockpiles under standard conditions and stated production limits should not exceed hourly Regulation 7.08 PM lb/hr limits uncontrolled.

(c) See the Plantwide Section.

d. Emission Unit U2 – Storage Tanks

EP	Description	Applicable Regulations	Control ID
T-1 (IA)	Asphalt tank #1, 25,000-gallon	7.12	N/A
T-2 (IA)	Asphalt tank #2, 22,000-gallon		N/A
T-3 (IA)	Asphalt tank #3, 22,000-gallon		N/A
T-6 (IA)	Hot oil tank (50 gallons) with 2 MMBtu/hr heater/burner	STAR	N/A

i. **Standards**

(1) SO_2

(a) The 2 MMBtu/hr heater/burner is not subject to 7.06 because it is not an indirect heat exchanger.

(2) TAC

(a) TACs emissions from heater/burner (T-6) are *de minimis* uncontrolled.

(3) Unit Operation

(a) See Plantwide Section.

(4) VOC[3]

(a) Regulation 7.12, section 3.3 requires submerged fill if the materials have an as stored vapor pressure of 1.5 psia or greater.

(b) See the Plantwide Section.

e. Emission Unit U3 – RAP Operation

[3] The tanks are not subject to 40 CFR 60, Subpart Kb because the vapor pressure is less than the required 1.5 kPa.

EP	Description	Applicable Regulations	Control ID
E-9	RAP bin #1, make Reliable Asphalt, model 3 BRS	7.08	C-3
E-10	RAP bin #2, make Reliable Asphalt, model 3 BRS		C-3
R-3	RAP bin #3, make Reliable Asphalt, model 3 BRS		C-3
R-12	RAP conveyor #1, make Reliable Asphalt, model 3 BRS		C-3
R-7	RAP conveyor #2, make Reliable Asphalt, model 3 BRS		C-3
R-5	RAP conveyor #3, make Reliable Asphalt, model 3 BRS		C-3
R-8	RAP conveyor #4, make Reliable Asphalt, model 3 BRS		C-3
R-9	RAP conveyor #5, make Reliable Asphalt, model 3 BRS		C-3
R-13	RAP conveyor #6, make Reliable Asphalt, model 3 BRS		C-3
R-15	RAP conveyor #7, make Reliable Asphalt, model 3 BRS		C-3
R-16	RAP conveyor #8, make Reliable Asphalt, model 3 BRS		C-3
R-17	RAP conveyor #9, make Reliable Asphalt, model 3 BRS		C-3
E-12	RAP screen #1, make Deister, 5’ by 12’		C-3
R-6	RAP screen #2, make Deister, 5’ by 12’		C-3
R-4	RAP crusher, make Eagle Crusher, model 62D290		C-3

Control ID	Description	Control Efficiency
C-3	Water suppression system	50%

i. **Standards**

(1) PM/PM_{10}/Opacity

(a) The District has determined that the Recycled Asphalt Product (RAP) crusher is not subject to 40 CFR Part 60, OOO. “Nonmetallic mineral” means any of the minerals or any mixture of which the majority is any of the minerals listed in section 60.671(a) to (r) of Subject OOO. Generally, both concrete and asphaltic concrete are composed mostly of minerals covered in section 60.671.

Given the RAP crusher will reduce the material to one-half inch in size or larger, the District has determined that the RAP crusher does not meet the definition of crushing or grinding as defined in Subpart OOO.

(b) The emission standard for PM at each emission point with a process throughput greater than 30 tn/hr is determined in accordance with Regulation 7.08, section 3.1.2 as follows:

PM lb/hr limit = 17.31 (process weight tn/hr)$^{0.16}$

(c) The potential uncontrolled hourly PM emissions for RAP process equipment (E-9, E-10, R-3, R-12, R-7, R-5, R-8, R-9, R-13, E-12, R-6, R-4) should meet the lb/hr limits (combined) uncontrolled of Regulation 7.08.

(d) See the Plantwide Section.

f. Emission Unit U4 – HMA Operation

EP	Description	Applicable Regulations	Control ID
E-3(a)	Aggregate bin #1, make Cedar Rapids, model E500	7.08	C-3
E-3(b)	Aggregate bin #2, make Cedar Rapids, model E500		C-3
E-3(c)	Aggregate bin #3, make Cedar Rapids, model E500		C-3
E-3(d)	Aggregate bin #4, make Cedar Rapids, model E500		C-3
E-3(e)	Aggregate bin #5, make Cedar Rapids, model E500		C-3
E-3(f)	Aggregate bin #6, make Cedar Rapids, model E500		C-3
E-3(g)	Aggregate bin #7, make Cedar Rapids, model E500		C-3
E-3(h)	Aggregate bin #8, make Cedar Rapids, model E500		C-3
E-4	Aggregate conveyor #1, make Cedar Rapids, model E500	7.08	C-3
E-7	Aggregate conveyor #2, make Cedar Rapids, model E500		C-3
E-8	Aggregate conveyor #3, make Cedar Rapids, model E500		C-3
E-15	Drag slat conveyor, make Cedar Rapids, model Magnum 300		N/A
E-16	Transverse conveyor #1, make Cedar Rapids, model Magnum 300		N/A

EP	Description	Applicable Regulations	Control ID
E-17	Transverse conveyor #2, make Cedar Rapids, model Magnum 300		N/A
E-18	Transverse conveyor #3, make Cedar Rapids, model Magnum 300		N/A
E-5	Aggregate screen, make Deister, 5' by 12'		C-3
E-14	Counterflow drum mixer/burner, make Cedar Rapids, model Magnum E500	STAR, 7.02, 7.09, 7.11, 40 CFR 60 Subpart I	C-1, C-2
E-19 (IA)	HMA silo #1, make Cedar Rapids, model 300 Magnum	7.08	N/A
E-20 (IA)	HMA silo #2, make Cedar Rapids, model 300 Magnum		N/A
E-21 (IA)	HMA silo #3, make CMI, model HMS 320		N/A
E-22 (IA)	HMA silo #4, make CMI, model HMS 320		N/A
E-23 (IA)	Load-out station		N/A

Control ID	Description	Control Efficiency
C-1	Process cyclone precipitator with mineral filler silo	90%
C-2	Baghouse	98%
C-3	Water suppression system	50%

i. **Standards**

(1) CO

(a) Regulation 7.09, section 5.1 sets the carbon monoxide emission standard for processes using gas streams built on or after April 1972, for emission point E-14.

(b) The CO emissions from the process are created by the combustion of fuel oil or natural gas to generate heat required for removing moisture from aggregate and heating the aggregate for the production of hot mix asphalt. The nominal flame temperature of greater than 2,000 °F exceeds the 1,300 °F temperature requirement of Regulation 7.09, Section 5.1. [Permit 56-10-C]

(c) See the Plantwide section.

(2) NO_X

(a) Regulation 7.08, section 4.1 establishes a nitrogen oxide standard of less than 300 ppm, for processes that commenced construction after September 1, 1976, for emission point E-14.

(b) Manufacturer's data states worst case NO_X emissions using #2 fuel oil at less than 170 ppm, corrected to 3% O_2 dry, therefore the Regulation 7.08 NO_X standard cannot be exceeded.

(c) See the Plantwide section.

(3) Opacity

(a) Regulation 7.08, section 3.1.1 establishes an opacity standard of less than 20%, for processes that commenced construction after September 1, 1976.

(b) Regulation 7.11, section 3.1.2 sets the opacity standard for performance for asphalt paving operations operating on and after April 1980.

(c) Federal Regulation 40 CFR Part 60, Subpart I establishes the opacity standard for HMA facilities and applies to the Drum mixer (E-14).

(4) PM/PM_{10}

(a) The emission standard for PM at each emission point with a process throughput greater than 30 tn/hr is determined in accordance with Regulation 7.08, section 3.1.2 as follows:

$$\text{PM lb/hr limit} = 17.31\ (\text{process weight tn/hr})^{0.16}$$

(b) The listed equipment (E-3(a thru h), E-4, E-7, E-8, E-13, E-11, E-15, E-16. E-17, E-18, E-5, and E-19 through E-23) should meet, individually, the stated Regulation 7.08 PM lb/hr standard.

(c) Regulation 7.11, section 3.1.1 sets the particulate matter standard for performance for asphalt paving operations operating on and after April 1980 and applies to the Drum mixer (E-14).

(d) Federal Regulation 40 CFR Part 60, Subpart I establishes the particulate matter standard for HMA facilities and applies to the Drum mixer (E-14).

(e) See the Plantwide section.

(5) SO_2

(a) Regulation 7.09, section 4 establishes a sulfur dioxide standard of less than forty (40) tons per year for emission point E-14.

(b) The synthetic limit of 500,000 tpy of hot mix asphalt produced reduces the emissions of criteria pollutant SO_2 to less than forty (40) tons during any twelve (12) consecutive month period for Regulation 7.09 SO_2 emission standard compliance. [Permit 56-10-C]

(c) Source provided laboratory results for #4 fuel oil, were received on Sept. 2, 2008, showing sulfur content of 0.4169% to demonstrate compliance with the SO_2 standard in construction permit 56-10-C.

(6) TAC

(a) Regulation 5.21, section 4.2 and section 4.3 sets the environmental acceptability standards for permitted stationary sources.

(i) To demonstrate compliance with these sections, this unit has TAC emission standards since its EA Demonstration was based on controlled PTE. If the controlled PTE for the TAC is less than *de minimis* level, use *De Minimis* as limit. If the controlled PTE for the TAC is greater than de minimis level, modeling results were used to calculate risk value to compare to the EA Goals and controlled PTE is used as limit.

(7) Unit Operation

(a) See the Plantwide section.

(8) VOC

(a) Regulation 7.11, section 4 sets the cutback asphalts use restrictions for asphalt paving operations operating on and after April 1980.

(b) See the Plantwide section.

ii. **Monitoring and Recordkeeping**

(1) Opacity

(a) Federal Regulation 40 CFR Part 60, Subpart I establishes the monitoring and recordkeeping requirements for HMA facilities.

(2) PM/PM_{10}

(a) Federal Regulation 40 CFR Part 60, Subpart I establishes the monitoring and recordkeeping requirements for HMA facilities.

(b) To demonstrate compliance with the Federal regulation, a Method 5 stack test was performed on August 20 and 21, 2010 (DM#: 11432). The Method 5 test showed that the baghouse was operating within the limit of 0.040 grains/dscf and had an average emission rate of 0.0046 grains PM/dscf (1.28 lb PM/hr). During the test the average baghouse flowrate was 50986 cf/min (3059160 cf/hr). The limiting capacity of the Drum mixer (E-14) is 500 tph, therefore, the emission rate of 1.28 lb/hr / 500 ton/hr, can be expressed as 0.00256 lb/ton of HMA produced.

iii. **Reporting**

(1) Opacity

(a) Federal Regulation 40 CFR Part 60, Subpart I establishes the reporting requirements for HMA facilities.

(2) PM/PM_{10}

(a) Federal Regulation 40 CFR Part 60, Subpart I establishes the reporting requirements for HMA facilities.

iv. **Testing**

(1) PM/PM_{10}

(a) The owner or operator shall perform an EPA Reference Method 5 PM performance test on the inlet and outlet of the control device (C-2) or emission point to determine the emission rate and control efficiency. The test shall be performed at 90% or higher of maximum capacity, or allowable/permitted capacity, or at a level of capacity which results in the greatest emissions and is representative of the operations.

III Other Requirements

1. Temporary Sources:

The source did not request to operate any temporary facilities.

2. Short Term Activities:

The source did not report any short term activities.

3. Emissions Trading:

The source is not subject to emission trading.

4. Alternative Operating Scenarios:

The source did not request any alternative operating scenarios.

5. Compliance History:

There have been no compliance actions since the last FEDOOP was issued.

6. Calculation Methodology or Other Approved Method:

Table 3 U1 Calculation Methodology

Unit ID	Emission Point Description	Pollutants	Emission Factors Unit	Uncontrolled Emission Factors	Controlled Emission Factors	Emission Factor Source
U1*	E1 Limestone and Sand Piles	PM	lb/ton	1.227	0.613[4]	AP-42 13.2.1 AP-42 13.2.2 AP-42 13.2.4 EPA-450/3-88-008
	R-1 Virgin RAP stockpiles					
	R-10 Processed RAP stockpile #1					
	R-14 Processed RAP stockpile #2					
	E1 Limestone and Sand Piles	PM_{10}	lb/ton	0.238	0.119[4]	AP-42 13.2.1 AP-42 13.2.2 AP-42 13.2.4 EPA-450/3-88-008
	R-1 Virgin RAP stockpiles					
	R-10 Processed RAP stockpile #1					
	R-14 Processed RAP stockpile #2					

*This emission factor includes loading, unloading, transport, and wind action on a sitting storage pile.

[4] Controlled emission factor for Aggregate Storage, Aggregate transfer, and Sand transfer derived from District estimated 50% control efficiency for water suppression.

Table 4 U3 Calculation Methodology

Unit ID	Emission Point Description	Pollutants	Emission Factors Unit	Uncontrolled Emission Factors	Controlled Emission Factors	Emission Factor Source
U3	R-4 RAP crusher	PM	Lb/ton	0.0054	0.0012	AP-42 11.19.2-2
	E-12, R-6 RAP Screen #1 and #2		Lb/ton	0.0025	0.0022	AP-42 11.19.2-2
	E-9, E-10, R-3, R-12, R-7, R-5, R-8, R-9, R-13, R-15, R-16, R-17 Aggregate transfer		Lb/ton	0.0069	0.0035[5]	AP-42 11.12-2
	E-9, E-10, R-3, R-12, R-7, R-5, R-8, R-9, R-13, R-15, R-16, R-17 Sand transfer		Lb/ton	0.0021	0.0011	AP-42 11.12-2
	R-4 RAP crusher	PM_{10}	Lb/ton	0.0024	0.00054	AP-42 11.19.2-2
	E-12, R-6 RAP Screen #1 and #2		Lb/ton	0.0087	0.00074	AP-42 11.19.2-2
	E-9, E-10, R-3, R-12, R-7, R-5, R-8, R-9, R-13, R-15, R-16, R-17 Aggregate transfer		Lb/ton	0.0033	0.0017	AP-42 11.12-2
	E-9, E-10, R-3, R-12, R-7, R-5, R-8, R-9, R-13, R-15, R-16, R-17 Sand transfer		Lb/ton	0.00099	0.000495	AP-42 11.12-2

Table 5 U4 Calculation Methodology

Unit ID	Emission Point Description	Pollutants	Emission Factors Unit	Uncontrolled Emission Factors	Controlled Emission Factors	Emission Factor Source
U4	E-14 Drum Mixer/Dryer	CO	lb/ton	0.13	N/A	AP-42 11.1-3
	E-19, E-20, E-21, E-22 Silo filling*		lb/ton	0.00118	N/A	AP-42 11.1-14
	E-23 load-out station		lb/ton	0.00134	N/A	AP-42 11.1-14
	E-14 Drum mixer burning No. 2 fuel oil	HAP	lb/ton	0.0087	N/A	AP-42 11.1-10

[5] Controlled emission factor for Aggregate transfer and Sand transfer derived from District estimated 50% control efficiency for water suppression.

Unit ID	Emission Point Description	Pollutants	Emission Factors Unit	Uncontrolled Emission Factors	Controlled Emission Factors	Emission Factor Source
	E-14 Drum mixer burning natural gas		lb/ton	0.0053	N/A	AP-42 11.1-10
	E-12 Drum mixer burning No. 2 fuel oil	NO_X	lb/ton	0.055	N/A	AP-42 11.1-7
	E-12 Drum mixer burning natural gas		lb/ton	0.026	N/A	AP-42 11.1-7
	E-3(a thru h), E-4, E-7, E-8, E-15, E-16, E-17, E-18 Aggregate transfer	PM	Lb/ton	0.0069	0.0035[6]	AP-42 11.12-2
	E-3(a thru h), E-4, E-7, E-8, E-15, E-16, E-17, E-18 Sand transfer		Lb/ton	0.0021	0.0011	AP-42 11.12-2
	E-5 Aggregate screen		Lb/ton	0.0025	0.0022	AP-42 11.19.2-2
	E-14 Drum Mixer/Dryer		Lb/ton	28	0.033	AP-42 11.1-3
	E-19, E-20, E-21, E-22 Silo filling		Lb/ton	0.000585	0.000585	AP-42 11.1-14
	E-23 load-out station		Lb/ton	0.000521	0.000521	AP-42 11.1-14
	E-3(a thru h), E-4, E-7, E-8, E-15, E-16, E-17, E-18 Aggregate transfer	PM_{10}	Lb/ton	0.0033	0.0017	AP-42 11.12-2
	E-3(a thru h), E-4, E-7, E-8, E-15, E-16, E-17, E-18 Sand transfer		Lb/ton	0.00099	0.000495	AP-42 11.12-2
	E-5 Aggregate screen		Lb/ton	0.0087	0.00074	AP-42 11.19.2-2
	E-14 Drum Mixer/Dryer		Lb/ton	6.5	0.023	AP-42 11.1-3
	E-19, E-20, E-21, E-22 Silo filling		Lb/ton	0.000585	0.000585	AP-42 11.1-14
	E-23 load-out station		Lb/ton	0.000521	0.000521	AP-42 11.1-14

[6] Controlled emission factor for Aggregate transfer and Sand transfer derived from District estimated 50% control efficiency for water suppression.

Unit ID	Emission Point Description	Pollutants	Emission Factors Unit	Uncontrolled Emission Factors	Controlled Emission Factors	Emission Factor Source
	E-14 Drum mixer burning No. 2 fuel oil	SO_2	lb/ton	0.011	N/A	AP-42 11.1-7
	E-14 Drum mixer burning natural gas		lb/ton	0.003	N/A	AP-42 11.1-7
	E-14 Drum Mixer/Dryer	Arsenic	Lb/ton	1.30E-06	5.60E-07	AP-42 11.1-12
		Benzene	Lb/ton	3.90E-04	3.90E-04	
		Cadmium	Lb/ton	4.20E-06	4.10E-07	
		Chromium III	Lb/ton	5.05E-04	5.05E-06	
		Copper	Lb/ton	1.70E-04	3.10E-06	
		Lead	Lb/ton	5.40E-04	6.20E-07	
		Manganese	Lb/ton	6.50E-04	7.70E-06	
		Naphthalene	Lb/ton	9.00E-05	9.00E-05	
		Ethylbenzene	Lb/ton	2.40E-04	2.40E-04	
		Phosphorous	Lb/ton	1.20E-03	2.80E-05	
	E-14 Drum Mixer/Dryer	VOC	Lb/ton	0.032	N/A	AP-42 11.1-7
	E-19, E-20, E-21, E-22 Silo filling*		Lb/ton	0.01214	N/A	AP-42 11.1-7
	E-23 load-out station		Lb/ton	0.004144	N/A	AP-42 11.1-14

*"Silo Filling" includes emissions from drag-slat conveyors and storage silos

Emission calculations for CO, HAP, NO_X, PM_{10}, SO_2, TACs, and VOC:

$E = (X)(EF\ lb/ton)(1\ ton/2000\ lb)$

Where: E = Emissions (tons) during a 12-consecutive month period

X = the amount of HMA produced (tons), during a 12-consecutive month period

Emission calculations for PM_{10} for aggregate handling:

$E_{PM10} = (X)(EF\ lb/ton)(1\ ton/2000\ lb)$

Where: E_{PM10} = controlled or uncontrolled PM_{10} emissions (tons) a month

X = the amount of aggregate throughput (tons) processed during a month

The owner or operator shall account for the insignificant activity emissions from aggregate processing and HMA production when totaling the monthly plantwide emissions. Since the

emissions are minor the owner or operator may use the potential emissions as the monthly emissions. District approved PTE is as follows:

Table 6 Insignificant Activity PTE

Unit ID	Emission Point Description	Pollutants	Emission Factors Unit	Emission Calculation
U4	E-12 Drag slat conveyor	CO	lb/month	215.35
	E-13 & E-14 Silo filling*		lb/month	215.35
	E-23 Load-out station		ton/month	0.24
U1	E-1, R-1, R-10, R-14 Aggregate storage piles	PM	Ton/month	0.09
U4	E-23 load-out station		ton/month	0.38
U1	E-1, R-1, R-10, R-14 Aggregate storage piles	PM_{10}	Ton/month	0.04
	E-23 Plant load-out		ton/month	0.38
U2	T-1, T-2, T-3 Asphalt storage tanks	VOC	lb/month/tank	10
U4	E-23 load-out station		ton/month	0.76

7. Insignificant Activities

Equipment	Qty	PTE (ton/yr)	Regulation Basis
Aggregate Stockpile, see U1 E-1	1	PM_{10} 0.53 PM 1.13	Regulation 1.02, section 1.38
Aggregate Stockpile, see U1 R-1	1	PM_{10} 0.53 PM 1.13	Regulation 1.02, section 1.38
Aggregate Stockpile, see U1 R-10 & R-14	2	PM_{10} 0.53 PM 1.13	Regulation 1.02, section 1.38
Asphalt Storage Tank, see U2 T1	1	VOC 0.06	Regulation 1.02, section 1.38
Asphalt Storage Tank, see U2 T-2 & T-3	2	VOC 0.06	Regulation 1.02, section 1.38
Asphalt Storage Tank, see U2 T-4	1	VOC 0.06	Regulation 1.02, section 1.38
Asphalt Storage Tank, see U2 T-5	1	VOC 0.06	Regulation 1.02, section 1.38
Hot Oil Transfer Heater*, see U2 T-6	1	PM_{10} 0.13 PM 0.13 VOC 0.036 NO_X 1.28 CO 0.077 SO_2 4.54	Regulation 1.02, section 1.38

Equipment	Qty	PTE (ton/yr)	Regulation Basis
No. 2 diesel fuel tank, see U2 T-7	1	VOC 0.0004	Regulation 1.02, section 1.38
HMA Silo, see U4 E-19 thru E-22	4	VOC 1.52	Regulation 1.02, section 1.38
Load-out Station, see U4 E-23	1	PM_{10} 1.14 PM 1.14 VOC 2.27 CO 0.73	Regulation 1.02, section 1.38

*Emissions included as part of the Drum Mix emissions

1. Insignificant activities identified in District Regulation 1.02, Appendix A, may be subject to size or production rate disclosure requirements pursuant to Regulation 2.16, section 3.5.4.1.4.
2. Insignificant activities identified in District Regulation 1.02, Appendix A shall comply with generally applicable requirements as required by Regulation 2.16, section 4.1.9.4.
3. The Insignificant Activities Table is correct as of the date the permit was proposed for review by U.S. EPA, Region 4.
4. Emissions from Insignificant Activities shall be reported in conjunction with the reporting of annual emissions of the facility as required by the District.
5. The owner or operator shall submit an updated list of insignificant activities that occurred during the preceding year pursuant to Regulation 2.16, section 4.3.5.3.6.
6. The owner or operator may elect to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions, or use Potential to Emit (PTE) to be reported on the annual emission inventory.
7. The District has determined pursuant to Regulation 2.16, section 4.1.9.4 that no monitoring, record keeping, or reporting requirements apply to the insignificant activities listed, except for the equipment that has an applicable regulation and permitted under an insignificant activity (IA) Basis of Regulation Applicability for IA units