west virginia department of environmental protection

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GENERAL PERMIT REGISTRATION APPLICATION
ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Registration No.:	G50-B104
Plant ID No.:	777-00133
Applicant:	Tri-State Paving & Sealcoating, LLC dba Mozack Ready Mix
Facility Name:	Winfield
Location:	Scott Depot, Putnam County
SIC Code:	3273
Application Type:	Construction
Received Date:	March 25, 2015
Engineer Assigned:	Thornton E. Martin Jr.
Fee Amount:	$500.00
Date Received:	March 27, 2015
Complete Date:	May 06, 2015
Applicant Ad Date:	March 30, 2015
Newspaper:	*The Charleston Gazette*
UTM's:	Easting: 426.719 km Northing: 4,255.853 km Zone: 17
Description:	Proposed construction of a dry concrete batch plant in Scott Depot, WV. The plant capacity will be approximately 302 tons per hour (TPH) and 755,000 tons per year (TPY). The plant will operate up to 2500 hours on an annual basis.

PROCESS DESCRIPTION (taken from the application)

Travel, working and storage areas within the plant site will be pave in concrete or asphalt. Sand, aggregate, cement and cement additive will be delivered by truck.

Sand and aggregate will be transferred to storage piles (SF-1 through SF-3) by direct dump from delivery trucks. The pile storage area will have wind walls to minimize emissions (SL-WG). From the sand and aggregate storage piles, material loadout will use a front end loader to transfer sand and aggregate to a three sided conveyor feed bin (E3-1). The loader operator will minimize the drop distance to reduce fugitive emissions (TC-MD-1). The bin will act a s a partial enclosure as well. Sand and aggregate will be transferred via open, moveable conveyor to an open-top aggregate and sand process bin (E3-2). The drop distance onto the conveyor will be minimized and fitted with a partial enclosure

(TC-PE-2). The drop distance into the aggregate and sand process storage will be minimized (TC-MD-3). The bin will act as a partial enclosure as well. Sand and aggregate will bottom discharge from E3-2 into a weigh hopper (WH-1). The drop into WH-1 will be partially enclosed (TC-PE-4). From WH-1, the sand and aggregate will discharge onto an open transfer conveyor routes to the concrete truck loading rack. The drop distance onto the conveyor from the process bin will be minimized and fitted with a partial enclosure (TC-PE-5). Particulate emissions from loading of sand and aggregate into concrete trucks will be collected by a flexible shroud enclosure (TC-PE-BH) and routed to a baghouse (APCD-1). In addition to minimizing drop distances, conveyor transfer points will be fitted with either partial enclosures, a hood, curtains or a shroud as required by the concrete batch plant general permit condition 2.2.5.d.viii. The specific treatment for each point will be determined as the plant design is finalized.

Cement and additive will be pneumatically transferred from delivery trucks to a single, split storage silo (BS-1) direct vented through a baghouse (APCD-2) for particulate control (UL-BH). Cement and cement additives will be bottom discharges from the storage silo (BS-1) through a full enclosure to the wigh hopper/batcher (WH-2). Discharge from the batcher into concrete trucks will be within a flexible shroud enclosure (TC-PE-BH). Particulate emissions from truck loading will be collected by the flexible shroud and routed to a baghouse (APCD-1).

Fugitive emissions from trucks traveling on the paved roads will be controlled by watering during dry weather (HR-WS). Wind erosion on storage piles will be controlled by pile watering during dry weather using the same water truck (HR-WS).

The plant capacity, based on final mixed concrete volume is 150 cubic yards per hour (yd^3/hr) and 375,000 cubic yards per year (yd^3/yr). This is approximately 302 TPH and 755,000 TPY respectively on a weight basis.

Table 1 shows control equipment and throughput limits for permit G50-B104:

Table 1: Tri-State Paving & Sealcoating, LLC's Portable Dry Concrete Batch Plant

Equipment ID No.	Description	Maximum Production Rate		Control Equipment[1]
		Hourly (ton/hr)	Annual (ton/yr)	
SF-1	Sand/Flyash Stockpile	----	268,000	SL-WG
SF-2	Aggregate Stockpile	----	175,000	SL-WG
SF-3	Aggregate Stockpile	----	175,000	SL-WG
E3-1	34 Ton Feed Hopper	----	618,000	TC-PE
C-1	Conveyor	247	618,000	N
E3-2	121 Ton Process Bin	----	618,000	TC-PE
WH-1	Sand/Aggregate Weigh Hopper	250	620,000	TC-PE
C-2	Conveyor	247	618,000	N
BS-1	7,300 ft^3 Split Cement Storage Silo	----	106,000	APCD-2
WH-2	Cement Weigh Hopper/Batcher	42	106,000	APCD-1
FC-1	Flexible Shroud to Concrete Mixer Truck	150 yd^3/hr	375,000 yd^3/yr	APCD-1

[1] SL-WG - Storage Loadout with Wind Wall; TC-PE - Transfer with Partial Enclosure; APCD-1 - Fabric Filter Baghouse; APCD-2 - Filter Vent; N - None

SITE INSPECTION

A Google Earth Map showing the facility, nearest residential use, nearest commercial use, site access and existing onsite structures were provided in the application. The site is situated along the Kanawha River just Northeast of the Donald Leg Memorial Bridge on WV-817N/Winfield Road. The working area of the site is more than 300 feet from the adjacent use which is commercial. The facility will be added to the appropriate source inspection list as a result of this permitting action; therefore, a preliminary site inspection by the writer was deemed unnecessary at this time.

2.1. Siting Criteria

2.1.1. All persons submitting a Class II General Permit Registration Application to construct, modify or relocate a concrete batch plant shall be subject to the following siting criteria:

No person shall construct, locate or relocate any facility, affected facility or stockpile operation within three hundred (300) feet of any occupied dwelling, business, public building, school, church, community, institutional building or public park or within one hundred (100) feet of a cemetery. An owner of an occupied dwelling or business may elect to wave the three hundred (300) foot siting criteria; and

2.1.2. Any person proposing to construct, modify or relocate a concrete batch plant within three hundred (300) feet of any occupied dwelling, business, public building, school, church, community, institutional building or public park may elect to obtain an individual permit pursuant to 45CSR13.

Directions to facility: From Charleston, WV, take I-64W towards Huntington. Take exit 44 toward US-35/St. Albans. Take two (2) left turns from exit onto WV-817N/Winfield Road. The project site is on the right.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Fugitive emissions from haulroads will be controlled by the utilization of water sprays as needed. A Vince Hagan VH-700IP pulse jet baghouse will control particulate matter from WH-2. A Vince Hagan VH-245IP pulse jet filter vent will control particulate matter from WH-1. Mozack Ready Mix used the provided General Permit G50-B Emission Calculation Spreadsheet for concrete batch plants, G50BECALC, to calculate emissions for the portable concrete batch plant.

The maximum controlled emissions for Mozack Ready Mix's portable facility are summarized in the following table:

Table 2: G50-B104 Emissions Summary

Emission Summary - *Tri-State Paving & Sealcoating, LLC dba Mozack Ready Mix* ***G50-B104***	**Controlled PM Emissions**		**Controlled PM_{10} Emissions**	
	lb/hour	**TPY**	**lb/hour**	**TPY**
Fugitive Emissions				
Stockpile Emissions	0.01	0.03	0.00	0.02
Unpaved Haulroad Emissions	0.00	0.00	0.00	0.00
Paved Haulroad Emissions	8.29	8.75	0.82	1.03
Fugitive Emissions Total	*8.30*	*8.78*	*0.82*	*1.05*
Point Source Emissions				
Transfer Point Emissions	9.46	11.87	5.06	6.35
Point Source Emissions Total (PTE)	*9.46*	*11.87*	*5.06*	*6.35*
FACILITY EMISSIONS TOTAL	**17.76**	**20.66**	**5.88**	**7.40**

GENERAL PERMIT ELIGIBILITY

Tri-State Paving & Sealcoating, LLC's proposed construction and operation of a portable dry concrete batch plant is eligible for a Class II General Permit registration G50-B because:

1. It has the SIC of 3273 (Ready-mixed Concrete Manufacturers);
2. It is not a major source as defined in 45CSR14, 45CSR19 or 45CSR30;
3. It is not subject to 45CSR2, 45CSR3, 45CSR14, 45CSR16, 45CSR19, or 45CSR30;
4. It is not a cement manufacturing plant (NAICS 327310; SIC 3241), concrete page manufacturing plant (NAICS 327332; SIC 3272) or clay brick or structural clay tile manufacturing plant (NAICS 327121; SIC 3251);
5. It meets the definition of concrete batch plant set forth in DRAFT class II General Permit G50-B;
6. It does not incorporate:
   a. A mine, quarry or crushing and screening operation;
   b. A highwall truck dump;
   c. A petroleum liquid storage vessel or tank greater than 39,889 gallons capacity; or
   d. A petroleum liquid storage vessel or tank greater than or equal to 19,812 gallons capacity and a working true vapor pressure which exceeds 15.0 kPa (2.17 psia);
7. It will not require an individual air quality permit review process and/or individual permit provisions to address the emission of a regulated pollutant or to incorporate regulatory requirements other than those established by 45CSR7, 45CSR13, and 45CSR17;
8. It is not located in or does not significantly impact the area of Brooke County west of State Route 2, north of an extension of the southern boundary of Steubenville Township in Jefferson County, Ohio and south of the Market Street Bridge;
9. It is not located within the boundaries of or which may significantly impact the Weirton nonattainment area; or

10. It is not located in or which may significantly impact an area which has been determined to be a PM10 maintenance or nonattainment area.

State rules 45CSR7, 45CSR13, 45CSR17, and 45CSR22 apply to the facility. No federal regulations apply.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

A toxicity analysis was not performed because the pollutants being emitted from this facility are PM (particulate matter) and PM_{10} (particulate matter less than 10 microns in diameter), which are non-toxic pollutants.

AIR QUALITY IMPACT ANALYSIS

Air dispersion modeling was not performed due to the size and proposed location of this facility. This facility will be located in Putnam County, WV, which is currently designated as non-attainment for $PM_{2.5}$ (particulate matter less than 2.5 microns in diameter). According to 45CSR19, Section 3.7.b., fugitive emissions from haulroads should be excluded when considering the Potential to Emit (PTE) of a major source. The definition of a major source of $PM_{2.5}$ is, not including fugitive emissions from haulroads, is a PTE at or above 100 TPY. The estimated PTE for PM_{10} is 6.37 TPY. Since $PM_{2.5}$ is a subset of PM_{10}, $PM_{2.5}$ is less than the 100 TPY limit for a major source.

RECOMMENDATION TO DIRECTOR

Tri-State Paving & Sealcoating, LLC's request to construct and operate a portable dry concrete batch plant in Scott Depot, Putnam County, WV meets the requirements of General Permit G50-B and all applicable rules. Therefore, it should be granted General Permit Registration G50-B104.

Thornton E. Martin Jr.
Permit Engineer

May 06, 2015
Date