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**west virginia department of environmental protection**

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**ENGINEERING EVALUATION / FACT SHEET**

BACKGROUND INFORMATION

Application No.: G40-C091  
Plant ID No.: 069-00145  
Applicant: Preston Contractors, Inc.  
Facility Name: Short Creek  
Location: 258 North Fork Road, Wheeling, Ohio County, West Virginia  
SIC Code: 1422 (Crushed and Broken Limestone)  
NAICS Code: 212312  
Application Type: Construction  
Received Date: September 13, 2017  
Engineer Assigned: Thornton E. Martin Jr.  
Fee Amount: \$1,500  
Date Received: September 14, 2017  
Complete Date: October 10, 2017  
Applicant Ad Date: September 11, 2017  
Newspaper: *Intelligencer*  
UTM: Easting: 530.49157 km    Northing: 4444.47017 km    Zone: 17  
Description: Applicant proposes to construct and operate a portable crushing/screening plant for a work site at the Short Creek Landfill in Wheeling, Ohio County, West Virginia.

PROCESS DESCRIPTION

The purpose of this Application is to set up a portable rock crushing unit to crush rock excavated at an active landfill site - Short Creek Landfill - Republic Services - in Ohio County, West Virginia. This processed rock will be placed onsite for various uses such as structural fill and cover material.

The process will begin with a hydraulic loader moving previously stockpiled rock to the Terex J-1160 Track Jaw Crusher with belt scale (TP1). The vibrating grizzly feeder hopper transfers the rock to the jaw crusher at (TP2). The material will go from the jaw crusher to the main product

conveyor, (BC-1) at (TP3). A factory installed water spray bar will provide for dust suppression for the main product conveyor. From the conveyor, the processed rock will go to a hopper on a screen (TP4). The hopper will feed a conveyor, (BC-2) at (TP5) and then to a double deck screen (TP6). The Terex 883+ Spaleck screen will send different sized material onto one of two conveyor belts, (BC-3 and BC-4) at transfer points (TP-7 and TP-8) or fall to the ground at (TP9). These two (2) conveyor belts will make separate stockpiles for trucks (TP10 and TP11). A water truck will provide dust suppression for the stockpiles.

The facility shall be constructed and operated in accordance with the following equipment and control device information taken from registration application G40-C091:

Table 1: Equipment Summary

Equipment ID No.	Date of Manufacture	Description	Maximum Capacity		Control Equipment <sup>1</sup>
			TPH	TPY	
OS-1	2017	3,000 Ton Open Stockpile of Raw Material	----	105,000	SW-WS
CR-1	2012	Terex J-1160 Jaw Crusher - receives raw material from stockpile OS-1, crushes then transfers processed rock onto belt conveyor BC-1	350	105,000	CS-FW
BC-1	2012	Belt Conveyor - receives raw material from the vibrating grizzly feeder and transfers to the Jaw Crusher CR-1	350	105,000	N
BC-2	2008	Belt Conveyor - receives processed rock from the screen feeder and transfers to the double deck screen	110	33,000	N
SC-1	2008	Double Deck Terex 883+ Spaleck Screen - receives processed rock from belt conveyor BC-1 and transfers sized material to either belt conveyor BC-3 or to belt conveyor BC-4	110	33,000	CS-FE
BC-3	2008	Belt Conveyor - receives sized rock from the screen and transfers to open stockpile OS-2	110	33,000	N
OS-2	2017	3,000 Ton Open Stockpile receives sized rock from belt conveyor BC-3	----	33,000	SW-WS
BC-4	2008	Belt Conveyor - receives sized rock from the screen and transfers to open stockpile OS-3	110	33,000	N
OS-3	2017	2,000 Ton Open Stockpile receives sized rock from belt conveyor BC-4	----	33,000	SW-WS
E-1	2012	Scania DC09-080A Diesel Engine, Tier 4i Certified	270 bhp/2,100 rpm		N
E-2	2008	Caterpillar C4.4 Diesel Engine, Tier 3 Certified	110 bhp/2,200 rpm		N

<sup>1</sup> CS-FW - Full Enclosure w/water spray; CS-FE - Full Enclosure; SW-WS - Water Sprays; N - None

## DESCRIPTION OF FUGITIVE EMISSIONS

The potential sources of fugitive particulate emissions are:

- a) Feeding Vibratory Grizzly Feeder Hopper
- b) Vibrating Grizzly Feeder Hopper
- c) Jaw Crushing
- d) Main Product Conveyor
- e) Crusher Conveyor to Screen Hopper
- f) Screen Hopper to Conveyor
- g) Conveyor to Screen
- h) Screen to Conveyor
- i) Screen to Side Conveyor

The primary fugitive dust control equipment will be a 3,000 gallon water truck. The water truck will be primarily used to control fugitive particulate emission on the haul roads and stockpiles. By wetting the material in the surge pile and stockpile, fugitive particulate emissions will also be controlled at the receiving hopper and conveyor by moisture carryover. The water truck has a maximum application rate of approximately 10,000 gph and application frequency will be dependent on environmental conditions. The frequency will vary from zero during rainy conditions to approximately four (4) to five (5) applications per day during extremely dry conditions. In addition to the water truck, a factory installed spray bar on the main product conveyor will be used. This spray system has a maximum application rate of 1,000 gph. Again, the frequency rate will vary depending on the environmental conditions. The spray bar will be used continuously during operation.

## SITE INSPECTION

Preston Contractors, Inc. are proposing to setup and operate their portable crushing and screening units within existing boundaries of the Short Creek Landfill, therefore, a site inspection was not deemed necessary at this time in conjunction with this permitting action.

Directions: From Wheeling, WV take Bethany Pike and turn left onto Potomac Road then left onto Short Creek Road for 2.1 miles then right onto North Fork Rd. for 0.4 miles. Site is on the right.

## ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Fugitive emission calculations for continuous and batch drop operations, transfer points, crushing and screening, storage piles, and paved and unpaved haul roads are based on AP-42 "Compilation of Air Pollution Emission Factors." Control efficiencies were applied based on the Reference Document for General Permit G40-C. The estimated emission calculations were performed by the applicant's consultant using the General Permit G40-C Excel emission calculation spreadsheet.

The engine emissions included in the application are based on the Manufacturers Data Sheet or EPA's Certificate of Conformity.

The proposed construction and operation of the plant (less engines) will result in the estimated potential to discharge controlled emissions of 0.61 TPY of PM (particulate matter) and 0.28 TPY of PM<sub>10</sub> (particulate matter less than 10 microns). Estimated emissions for the two engines operating for up to 300 total hours are 0.34 TPY of CO (Carbon Monoxide), 0.09 TPY of NOx (Nitrogen Oxides), 0.07 TPY of VOC (Volatile Organic Compounds) and 0.05 TPY of PM<sub>10</sub> combined. Refer to the following tables for a complete summary of the proposed facility's emissions:

Table 2: Emissions Summary (*less Engines*)

Emissions Summary - Preston Contractors, Inc. <i>Short Creek Lanfill</i>	Controlled PM Emissions		Controlled PM <sub>10</sub> Emissions	
	lb/hour	TPY	lb/hour	TPY
<b>Fugitive Emissions</b>				
Stockpile Emissions	0.05	0.23	0.02	0.11
Unpaved Haulroad Emissions	0.00	0.00	0.00	0.00
Paved Haulroad Emissions	0.00	0.00	0.00	0.00
<b>Fugitive Emissions Total</b>	<i>0.05</i>	<i>0.23</i>	<i>0.02</i>	<i>0.11</i>
<b>Point Source Emissions</b>				
Equipment Emissions	0.62	0.09	0.23	0.03
Transfer Point Emissions	1.97	0.30	0.93	0.14
<b>Point Source Emissions Total</b>	<i>2.59</i>	<i>0.39</i>	<i>1.16</i>	<i>0.17</i>
<b>FACILITY EMISSIONS TOTAL</b>	<b>2.64</b>	<b>0.62</b>	<b>1.18</b>	<b>0.28</b>

Table 3: Engine Emissions

Source	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (tons/yr)
E-1 & E-2	Carbon Monoxide	2.28	0.34
	Nitrogen Oxides	0.63	0.09
	Volatile Organic Compounds	0.45	0.07
	Sulfur Dioxide	N/A	N/A
	PM <sub>10</sub>	0.34	0.05
	Formaldehyde	N/A	N/A

## REGULATORY APPLICABILITY

PSD has no applicability to the proposed facility. The proposed construction and operation of a portable crusher/screening plant is subject to the following state and federal rules:

*45CSR7 To Prevent and Control Particulate Matter Air Pollution From Manufacturing Processes and Associated Operations*

The facility is subject to the requirements of 45CSR7 because it meets the definition of "Manufacturing Process" found in subsection 45CSR7.2.20. The facility should be in

compliance with Subsection 3.1 (no greater than 20% opacity), Subsection 3.7 (no visible emissions from any storage structure pursuant to subsection 5.1 which is required to have a full enclosure and be equipped with a control device), Subsection 4.1 (PM emissions shall not exceed those allowed under Table 45-7A), Subsection 5.1 (manufacturing process and storage structures must be equipped with a system to minimize emissions), Subsection 5.2 (minimize PM emissions from haulroads and plant premises) when the particulate matter control methods and devices proposed within application G40-C091 are in operation.

According to Table 45-7A, for a type 'a' source with a maximum process weight rate of 700,000 lb/hour, the maximum allowable emission rate is 50 lb/hour of particulate matter. The maximum emission rate is 2.93 lb/hour of particulate matter according to calculated emissions in fact sheet G40-C091.

*45CSR13 Permits for Construction, Modification, Construction and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation*

The proposed construction is subject to the requirements of 45CSR13 because it has the potential to discharge air pollutants subject to a new source performance standard (NSPS) promulgated under section 111 of the Clean Air Act [including section 111(d)], which requires new and modified sources to satisfy emissions standards, work practice standards and other requirements. [45CSR13-2.20.e.]. The applicant has applied for a G40-C registration to construct, submitted the proper \$1,500 application fee and published a Class I legal advertisement in the *Intelligencer* on September 11, 2017.

*45CSR16 Standards of Performance for New Stationary Sources*  
*40 CFR 60 Subpart OOO: Standards of Performance for Nonmetallic Mineral Processing Plants*

The proposed construction is subject to 40 CFR 60 Subpart OOO because it will occur after April 22, 2008 and the plant processes more than 150 tons of rock per hour. The proposed construction will include one (1) screen, one (1) jaw crusher and four (4) belt conveyors, which are defined as affected facilities in 40 CFR 60 Subpart OOO. Therefore, the proposed construction is subject to 45CSR16, which incorporates by reference 40 CFR 60 Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants. The facility should be in compliance with 60.672 (b) no greater than 7% opacity from any transfer point on belt conveyors or from any other affected facility (as defined in 60.670 and 60.671) and no greater than 12% opacity from any crusher when the particulate matter control methods and devices proposed within application G40-C091 are in operation.

*45CSR30 Requirements for Operating Permits*

In accordance with 45CSR30 Major Source Determination, the portable crushing facility will be a non-major source which is subject to NSPS Subpart OOO and NSPS Subpart IIII. The facility's potential to emit will be 0.22 TPY of a regulated air pollutant (PM<sub>10</sub>), not including fugitive emissions, which is less than the 45CSR30 threshold of 100 TPY. Therefore, the facility will be subject to 45CSR30 and classified as a Title V deferred non-major source.

*45CFR60 Subpart III—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*

Preston Contractors, Inc. is subject to this subpart because the engines were manufactured after April 1, 2006. The engine emissions for E-1 and E-2 are EPA Tier 4i and Tier 3 Certified.

*40CFR63 Subpart ZZZZ—National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*

Preston Contractors, Inc. is subject to 40CFR63 Subpart ZZZZ, because E-1 and E-2 are considered a new area source of HAP's since they will be constructed on or after June 12, 2006, however, the only requirements that apply are those required under 40CFR60 Subpart III.

The proposed construction of Preston Contractors, Inc.'s portable crushing/screening facility is not subject to the following state and federal rules:

*45CSR14 Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration*

The facility will have the potential to emit 0.44 TPY of a regulated air pollutant (PM), not including fugitive emissions, which is less than the 45CSR14 threshold of 250 TPY. This facility is not listed in Table 2, and so fugitive emissions are not included when determining source applicability. Therefore, the proposed construction is not subject to the requirements set forth within 45CSR14.

## TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

Various VOC/non-criteria regulated pollutants are emitted from the incomplete combustion of diesel fuel. These emissions, however, are generally small and do not adversely impact the quality of the surrounding ambient air.

## AIR QUALITY IMPACT ANALYSIS

Air dispersion modeling was not performed due to the size and location of this facility and the limit of the proposed construction. This facility will be located in Ohio County, WV, which is currently designated as attainment for PM<sub>2.5</sub> (particulate matter less than 2.5 microns in diameter) with an approved Maintenance Plan (1997).

## GENERAL PERMIT ELIGIBILITY

The proposed construction of this facility meets the applicability criteria (Section 2.3), siting

criteria (Section 3.1) and limitations and standards (Section 5.1) as specified in General Permit G40-C.


### MONITORING OF OPERATIONS

G40-C registrants will be required to perform the following monitoring and recordkeeping:

1. Monitor and record daily and monthly records of the amount of nonmetallic minerals processed.
2. Monitor and record calendar monthly and calendar annual quantity of fuel consumed and hours of operation for all engines and combustion sources.
3. Monitor and record calendar annual quantity of organic liquid throughput in all registered storage tanks.
4. Conduct visual observations of all points listed in the registration that are subject to opacity limits.
5. Conduct annual preventative maintenance/inspection, and all routine maintenance service and repairs as required, to facilitate proper control device performance, for the control devices listed in the registration.
6. Perform applicable required monitoring, recordkeeping, reporting and testing that is required under 40CFR60 Subparts OOO, IIII, and JJJJ.
7. These records shall be maintained on-site for a minimum of five (5) years from the date of record creation and shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

### RECOMMENDATION TO DIRECTOR

The information contained in this construction application indicates that compliance with all applicable regulations should be achieved when all proposed particulate matter control methods are in operation. Due to the location, nature of the process, and control methods proposed, adverse impacts on the surrounding area should be negligible. No public comments were received. Therefore, the granting of a G40-C registration to Preston Contractors, Inc. for the construction and operation of a portable crusher and screening facility located at the Short Creek Landfill, in Ohio County, WV is hereby recommended.

  
Thornton E. Martin Jr.,  
Permit Engineer

October 11, 2017

Date