

RTP ENVIRONMENTAL ASSOCIATES INC.®

AIR · WATER · SOUD WASTE CONSULTANTS

304 - A West Millbrook Road Raleigh, NC 27609 (saini@rtpenv.com)

(919) 845-1422x 42 Fax: (919) 845-1424

VIA OVERNIGHT FEDEX DELIVERY

September 16, 2019

Winston-Salem Regional Office North Carolina Department of Environmental Quality 450 West Hanes Mill Road, Suite 300 Winston-Salem, NC 27105 NC Department of Environmental Quality Received

SEP 17 2019

Winston-Salem Regional Office

Subject: Application for an Air Quality Construction Permit Application for Hot Mix Asphalt Plant and Concrete Batch Plant Carolina Sunrock LLC, Burlington, Caswell County, North Carolina

Dear Madam/Sir:

On behalf of Carolina Sunrock LLC is submitting the enclosed application for a new hot mix asphalt plant and a concrete batch plant. The proposed facility is to be located in Caswell County, North Carolina. The enclosed application and its appendices present details of the proposed project and applicable requirements including application forms and toxics modeling report. An application fee check \$400 is also enclosed.

We hope that this information is adequate for issuance of a construction permit for the proposed facility. If you need anything else or have any questions concerning the project please contact Scott Martino at (984) 202-4761, or <u>smartino@thesunrockgroup.com</u> or me at (919) 845 1422, 42 or saini@rtpenv.com.

Sincerely,

Bain

Gurinder (Gary) Saini

Enclosure

AIR QUALITY CONSTRUCTION PERMIT APPLICATION CAROLINA SUNROCK LLC BURLINGTON, NORTH CAROLINA

ASUNROCK[®]

NC Department of Environmental Quality Processed

SEP 17 2019

Winston-Salem Regional Office

Submitted to:

Winston-Salem Regional Office North Carolina Department of Environmental Quality 450 West Hanes Mill Road, Suite 300 Winston-Salem, NC 27105

Prepared by:

RTP Environmental Associates Inc. 304A West Millbrook Road Raleigh, North Carolina 27609

Submitted by:

Carolina Sunrock LLC 200 Horizon Drive, Suite 100 Raleigh, North Carolina 27615

September 2019

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Burlington Project

1.0 INTRODUCTION

Carolina Sunrock LLC ("Sunrock") owns and operates several hot mix asphalt and concrete batch plants across North Carolina. Sunrock is proposing to build a new hot mix asphalt and tuck mix concrete batch plant at 12971 North Carolina 62, Burlington, North Carolina 27217. The site is located in Caswell County.

The proposed facility will involve construction of a hot mix asphalt plant, RAP crushing system, and truck mix batch concrete plant as described later in this application. Sunrock is applying for a construction and operating permit in accordance with 15A North Carolina Administrative Code ("NCAC"), Chapter 2Q .0304 and 2Q .0305. The new facility will be a synthetic minor facility for particulate matter less than 10 micron diameter (PM10) and an area sources of hazardous air pollutants by use of practically enforceable permit limitations. A construction and operation permit per 15A NCAC 02Q .300 is required for the proposed facility. Per 15A NCAC 2Q .0305(a)(1) and (b), three (3) copies of the application are included in this submittal. The application is duly signed by the responsible official as required in 15A NCAC 02Q .0305(a)(1)(E). A check for four hundred dollars (\$400) for the permit application fee for a new synthetic minor facility per 15A NCAC 02Q .0305(a)(1)(A) is attached. As required by 15A NCAC 02Q .0304(b)(1), a zoning consistency determination is included in this application in Appendix D.

1.1 Application Organization

The remaining sections of the application are organized as follows:

- Section 2.0 presents the project description and air pollutant emissions estimates.
- <u>Section 3.0</u> provides the regulatory requirements.
- Appendix A Application Forms contains the completed application forms.
- Appendix B Emissions Calculations contains detailed calculations.
- Appendix C TAPS Modeling Report contains the TAPS modeling report.
- <u>Appendix D Zoning Consistency Determination -</u> contains our request for a zoning consistency determination submitted to the Caswell County Planning Department.

2.0 PROJECT DESCRIPTION

The proposed project includes installation of a hot mix asphalt plant and truck mix concrete batch plant. A detailed description of the proposed equipment is provided below.

2.1 Hot Mix Asphalt Plant

The proposed hot mix asphalt plant will have a maximum capacity of 250 tons per hour

consisting of following equipment:

- Propane/Natural Gas/No. 2 Fuel Oil/Recycled No. 2 Fuel Oil-fired drum type hot asphalt plant (80 MMBtu per hour maximum heat input capacity) using a bagfilter.
- Two (2) hot mix asphalt storage silos (150 tons maximum capacity, each)
- Two (2) hot mix asphalt storage silos (100 tons maximum capacity, each)
- One (1) hot mix asphalt storage silos (200 tons maximum capacity, each)
- Asphalt loadout operation
- Truck loadout operation.

The project will also include a reclaimed asphalt pavement (RAP) crushing system consisting of:

- One crusher (65 tons per hour)
- Four conveyors
- One screen

2.2 Truck Mix Concrete Batch Plant

The proposed truck mix concrete batch plant will have a maximum capacity of 120 cubic

yard per hour consisting of following equipment:

- Cement silo (185 tons maximum capacity)
- Fly ash silo (135 tons maximum capacity)
- Truck loadout point
- Cement/flyash weight batcher (25 tons maximum capacity)
- Aggregate weigh batcher (50 tons maximum capacity)

All of the emissions points in the truck mix concrete batch plant except for the aggregate weight batcher will be controlled by a bagfilter.

2.3 Insignificant Acitivities

Sunrock is also proposing the following insignificant activities which are exempt from

permitting:

- Liquid Asphalt Tank (30,000 gallon capacity);
- Liquid Asphalt Tank (20,000 gallon capacity);
- Gasoline Fuel Tank (20,000 gallon capacity);
- #4 Fuel Oil or Used Oil Tank (20,000 gallon capacity);
- Diesel Fuel Tank (20,000 gallon capacity);
- Natural gas/No. 2 fuel oil-fired Asphalt Cement Heater; and
- Natural gas/No. 2 fuel oil-fired Liquid Asphalt Tank Heater

2.4 **Project Emissions**

Table 2-1 presents a summary of potential to emit (PTE) after controls of air pollutants, including hazardous air pollutants (HAPs), from the proposed project. Detailed emissions calculations are attached in Appendix B of this application.

	Potential to Emit (tons/year)							
	Hot Mix Asphalt	Concrete Batch	Liquid Asphalt Tank	Total				
	Plant	Plant	Heater					
РМ	32.1	22.3	0.1	54.5				
PM10	20.5	10.7	0.0	31.3				
PM2.5	20.5	10.7	0.0	31.3				
SO2	67.4		2.4	69.9				
NOx	42.4		0.7	43.1				
CO	99.0		0.4	99.4				
VOC	35.8		0.0	35.8				
Single HA	Single HAP (Formaldehyde)							
Combined				8.6				

Table 2-1.	PTE	after	Controls	for	the	Project
		area.	001101010			1 10 00 0

3.0 REGULATORY REQUIREMENTS REVIEW

This section of the application documents Sunrock's review of North Carolina Department of Environmental Quality (NCDEQ) and federal air quality regulations applicable or potentially applicable to the proposed project. Applicability conclusions are summarized by regulatory program. For each applicable regulation, specific requirements are documented.

3.1 <u>State Regulations</u>

This analysis is based on the latest version of Title 15A of North Carolina Administrative Code ("NCAC") available from the State's website.¹

3.1.1 15A NCAC 02Q .0300 Construction and Operation Permit

In accordance with 15A NCAC 02Q .0301, a construction and operation permit is required for the proposed installation of a new facility. As explained later in this section, the proposed facility will be a minor source under the Title V requirements in 15A NCAC 02Q .0500. This application and its attachments fulfill the application requirements under 15A NCAC 02Q.0304 for obtaining a construction and operation permit.

3.1.2 15A NCAC 02Q .0700 Toxic Air Pollutant Procedures

Under the North Carolina air toxics regulations, facility-wide modeling and permitting is required if total facility-wide emissions of air toxics emitted from non-exempt, new or modified emission units exceed the toxic pollutant de minimis emission rates (a.k.a., "TPERS") established under the 15A NCAC 02Q .0700 regulations.

For the proposed facility, modeling is triggered for the following pollutants since total facility wide emissions exceed the respective TPERs: arsenic, benzene, formaldehyde, mercury, cadmium and nickel. Sunrock is submitting an air dispersion modeling analysis (See Appendix C) and requests TAP limits be added to the permit according to Table 4-

¹ See <u>https://deg.nc.gov/about/divisions/air-quality/air-quality-rules/rules</u> (accessed on 9/6/2019).

Carolina Sunrock LLC Asphalt and Concrete Batch Plant, Burlington, North Carolina

3 below. The emissions presented in Table 3-1 have been scaled up to the acceptable ambient levels (AALs) to afford the facility operational flexibility.

Emission Point	Source Description	Arsenic (lb/yr)	Benzene (lb/yr)	Cadmium (lb/yr	Formal- dehyde (lb/hr)	Mercury (lb/day)	Nickel (lb/day)
CD1	Hot Mix Asphalt	14.37	7,752.60	62.02	40.50	0.58	5.90
CD2	Concrete Batch Plant	6.77		0.30	· · · · · · · · · · · · · · · · · · ·		0.07
ESH2	Asphalt Heater	0.49	0.19	2.17	0.01	0.00	0.00
ESH1	Liquid Asphalt Heater	0.45	0.18	1.99	0.01	0.00	0.00
F1	Asphalt Silo	0.00	42.05	0.00	0.04	0.00	0.00
F2	Cement Silo	0.35	0.00	0.00	0.00	0.00	0.00

Table 3-1. TAP Permit Limits for the Project

3.1.3 15A NCAC 02D .0530 Prevention of Significant Deterioration in Attainment Areas

Under 15A NCAC 02D .0530, NCDEQ incorporates the requirements of 40 CFR § 51.166 for implementation of the prevention of significant deterioration (PSD) program. Under 40 CFR § 51.166(b)(1)(i)(a), a major stationary source is any source in one of the 28 listed sources categories with the potential to emit (PTE)of 100 tons per year or more, or any source not in one of the listed source categories with PTE of 250 tons per year or more. The operations under the proposed project do not belong to one of the 28 listed source categories under the rule. Therefore, the 250 tons per year threshold is applicable. As shown in Table 2-1 and Appendix B, the PTE after controls of each of the regulated NSR pollutants from the project does not exceed 250 tons per year. Therefore, the proposed facility is not a major stationary source under the PSD program.

3.1.4 15A NCAC 02Q.0500 Title V Permit Procedures

Per 15 NCAC 02Q .0503 and 40 CFR § 70.2, a facility is a 'major source' for purposes of Title V operating permit program if PTE:

- (a) For any air pollutant subject to regulation, is equal to 100 tons per year or more;
- (b) For a single HAP is equal to or greater than 10 tons per year; or
- (c) For a combination of HAPs is equal to or greater than 25 tons per year.

Carolina Sunrock LLC Asphalt and Concrete Batch Plant, Burlington, North Carolina

Burlington Project

As shown in Table 2-1, and Appendix B, the PTE after controls of both air pollutants subject to regulation and HAPs of the equipment proposed under the project are below the major source thresholds shown above. Therefore, the requirement to obtain a Title V permit does not apply to the proposed facility. We request that NCDEQ make the proposed control devices practically enforceable as part of the construction and operation permit for the facility.

Pursuant to 15A NCAC 02Q .0315 "Synthetic Minor Facilities," to avoid the applicability of 15A NCAC 02Q .0501 "Purpose of Section and Requirement for a Permit," Sunrock requests facility-wide sulfur dioxide (SO₂) and carbon monoxide (CO) limitations to be less than 100 tons per consecutive 12-month period.

3.1.5 15A NCAC 02D .0506 Particulates from Hot Mix Asphalt Plants

Particulate matter emissions from a hot mix asphalt plant stack or chimney shall not exceed allowable emission rates calculated per the equation below.

The allowable emission rates are, as defined in 15A NCAC 2D .0506, a function of the process weight rate and shall be determined by the following equation (calculated to three significant figures), where P is the process throughput rate in tons per hour (tons/hr) and E is the allowable emission rate in pounds per hour (lbs/hr).

 $E = 4.9445 * (P) {}^{0.4376}$ for P < 300 tons/hr, or E = 60 lbs/hr for P >=300 tons/hr

The maximum process weight rate for the proposed plant will be 250 tons/hour, the maximum allowable emission rate is 55.4 lb/hr. The proposed hot mix asphalt plant will be in compliance with the applicable limit by use of a bagfilter.

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3.1.6 15A NCAC 02D .0510 Particulates from Sand, Gravel, or Crushed Stone

Operations

This regulation will apply to the proposed recycled asphalt pavement (RAP) crushing

system. As required by 15A NCAC 2D .0510 "Particulates from Sand, Gravel, or

Crushed Stone Operations," the following requirements apply:

- (a) The Permittee of a sand, gravel, RAP, or crushed stone operation shall not cause, allow, or permit any material to be produced, handled, transported, or stockpiled without taking measures to reduce to a minimum any particulate matter from becoming airborne to prevent exceeding the ambient air quality standards beyond the property line for particulate matter, both PM10 and total suspended particulates.
- (b) Fugitive dust emissions from sand, gravel, RAP, or crushed stone operations shall be controlled by 15A NCAC 2D .0540 "Particulates from Fugitive Dust Emission Sources."
- (c) The Permittee of any sand, gravel, RAP, or crushed stone operation shall control process-generated emissions:
 - i. From crushers with wet suppression (excluding RAP crushers); and
 - ii. From conveyors, screens, and transfer points

such that the applicable opacity standards in 15A NCAC 2D .0521 Control of Visible Emissions," or 15A NCAC 2D .0524 "New Source Performance standards" are not exceeded.

3.1.7 15A NCAC 02D .0515 Particulates from Miscellaneous Industrial Processes

The requirements of this regulation apply to the following truck mix concrete batch plant equipment: cement/flyash weigh batcher, cement/flyash silos, aggregate weigh batcher, and truck loadout point.

As required by 15A NCAC 02D .0515 "Particulates from Miscellaneous Industrial Processes," particulate matter emissions from the equipment subject to the regulation shall not exceed allowable emission rates. The allowable emission rates are, as defined in 15A NCAC 02D .0515, a function of the process weight rate and shall be determined by the following equation(s), where P is the process throughput rate in tons per hour (tons/hr) and E is the allowable emission rate in pounds per hour (lbs/hr).

 $E = 4.10 * (P) ^{0.67}$ for P <= 30 tons/hr, or E = 55 * (P) ^{0.11} - 40 for P >30 tons/hr Asphalt and Concrete Batch Plant, Burlington, North Carolina

The proposed concrete batch plant equipment will be in compliance with the applicable limit by use of a bagfilter.

3.1.8 15A NCAC 02D .0521 Control of Visible Emissions

Visible emissions from the emission sources, manufactured after July 1, 1971, shall not be more than 20 percent opacity when averaged over a six-minute period, except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. However, sources which must comply with 15A NCAC 02D .0524 "New Source Performance Standards" or .1110 "National Emission Standards for Hazardous Air Pollutants" must comply with applicable visible emissions requirements contained therein. The equipment proposed for Truck Mix Concrete Batch Plant will be subject to the opacity standards under this regulation.

3.1.9 15A NCAC 02D .0540 Particulates from Fugitive Dust Emission Sources

The equipment proposed under the project shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR, Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in 2D .0540(f).

"Fugitive dust emissions" means particulate matter that does not pass through a process stack or vent and that is generated within plant property boundaries from activities such as: unloading and loading areas, process areas stockpiles, stock pile working, plant parking lots, and plant roads (including access roads and haul roads).

3.1.10 15A NCAC 02D .0516 Sulfur Dioxide Emissions from Combustion Sources As required by 15A NCAC 2D .0516 "Sulfur Dioxide Emissions from Combustion Sources," sulfur dioxide emissions from the combustion sources shall not exceed 2.3

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Carolina Sunrock LLC

Asphalt and Concrete Batch Plant, Burlington, North Carolina

pounds per MMBtu heat input. Based on the specifications for fuel, the combustion sources proposed in this application will comply with this regulation.

3.1.11 15A NCAC 02D .0535 Excess Emissions Reporting and Malfunctions

Per 15A NCAC 02D .0535, if a source of excess emissions lasts for more than four hours and results from a malfunction, a breakdown of process or control equipment or any other abnormal conditions, the facility shall:

- (a) Notify the Director or his designee of any such occurrence by 9:00 a.m. Eastern time of the Division's next business day of becoming aware of the occurrence and describe:
 - (i) the name and location of the facility,
 - (ii) the nature and cause of the malfunction or breakdown,
 - (iii) the time when the malfunction or breakdown is first observed,
 - (iv) the expected duration, and
 - (v) an estimated rate of emissions.
- (b) Notify the Director or his designee immediately when the corrective measures have been accomplished.

3.1.12 15A NCAC 02D .1806 Control and Prohibition of Odorous Emissions

The facility shall not operate without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility's boundary.

3.2 Federal Regulations

This section summarizes the applicability of the federal regulations for the proposed project.

3.2.1 New Source Performance Standards

New Source Performance Standards ("NSPS") apply to new, modified, or reconstructed affected facilities as defined in specific standards. These requirements are codified under 40 CFR Part 60 and incorporated by reference under 15A NCAC 02D .0524. The

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following subsections summarize the applicability of the federal NSPS to the proposed Project.

3.2.2 40 CFR 60, Subpart A, General Provisions

Subpart A contains the general provisions of the NSPS regulations. Specifically, the provisions of Subpart A apply to the owner or operator of any stationary source that contains an affected facility, construction or modification of which is commenced after the date of publication of the proposed standard; and is subject to any standard, limitation, prohibition, or other federally enforceable requirement established pursuant to Part 60. General requirements may include notifications, monitoring, recordkeeping and/or performance testing of specific sources. Sunrock will comply with the applicable general provisions requirements based on the applicability of NSPS 40 CFR 60 Subpart I for the Hot Mix Asphalt Plant and 40 CFR 60 Subpart OOO as discussed below.

3.2.3 40 CFR 60, Subpart I, Standards of Performance for Hot Mix Asphalt Facilities

This NSPS Subpart applies to hot mix asphalt facilities that commenced construction or modification after June 11, 1973. The proposed Hot Mix Asphalt Plant will be an affected facility under this standard. Per 40 CFR § 60.92, the Permittee shall not discharge into the atmosphere any gases which:

- (a) Contain PM in excess of 90 mg/dscm (0.04 gr/dscf)
- (b) Exhibit 20 percent opacity, or greater.

Per 40 CFR § 60.93, the facility shall conduct a performance test as required in §60.8, using the following test methods:

- (a) Method 5 for determining compliance with PM standard
- (b) Method 9 and §60.11 procedures for determining opacity

Sunrock will comply with the applicable requirements under this standard and the general provisions for the proposed Hot Mix Asphalt Plant.

3.2.4 40 CFR 60, Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants

This NSPS Subpart applies to crushers and grinding mills at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement for which construction, modification, or reconstruction is started after August 31, 1983. Per 40 CFR § 60.670(a)(1), the provisions of this subpart are applicable to crushers and grinding mills at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in RAP up to the first storage silo or bin. Therefore, the RAP Crushing System at the facility is subject to this standard including the RAP crusher, conveyor, and screen.

In accordance with Table 3 and 40 CFR § 60.672(b), for affected facilities that commence construction after April 22, 2008, the fugitive emission limit for the RAP Crushing System (crusher only) is 12 percent opacity. For the RAP conveyor and screen, the fugitive emissions limit is 7 percent opacity. The Permittee must demonstrate compliance with the opacity limits by conducting an initial performance test per 40 CFR § 60.11 and 40 CFR § 60.675 and perform periodic inspections of water sprays per 40 CFR § 60.674(b) and 40 CFR §60.676(b). The facility must also perform a repeat performance test within 5 years from the previous performance test from affected facilities without water sprays (facilities controlled by water carryover from upstream water sprays that are inspected are exempt from the repeat testing requirement).

3.2.5 National Emissions Standards for Hazardous Air Pollutants

National Emissions Standards for Hazardous Air Pollutants ("NESHAP") apply to new, existing, or reconstructed affected sources both at major sources and area sources as defined in specific standards. These requirements are codified under 40 CFR Part 63 and incorporated by reference under 15A NCAC 02D .1111. The proposed equipment does not belong to any of the source categories regulated under these standards.

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APPENDIX A

APPLICATION FORMS

FORM A

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NC Department of Environmental Quality Received

	GENERAL FACILITY	INFORMATION	SEP 17 20	19
REV/ISED 09/22/16	NCDEQ/Division of Air Quality - Applicatio		ate	A
NOT	TE-APPLICATION WILL NOT BE PROCE	SSED WITHOUT THE FOLL	owingnston-Sale	im .
Local Zoning Consistency Determina (new or modification only)	ation Appropriate Number of Copie	es of Application	Application Fee (please ch	êćk one option below)
Responsible Official/Authorized Cont	tact Signature 🔲 P.E. Seal (if required)		Not Required DePayme	nt 🖸 Check Enclosed
	GENERAL INFO	RMATION		
Legal Corporate/Owner Name: Carolina S	Sunrock LLC			
Site Name: Burlington North		···· ·································		· · · · · · · · · · · · · · · · · · ·
Site Address (911 Address) Line 1: 12971 Nor	orth Carolina 62		····	
Site Address Line 2:		•	· ·	· ·
City: Burlington		State: North Carolina		
Zip Code: 27217		County: Caswell		-
	CONTACT INFOR	IMATION	Ne de la constance de la const Constance de la constance de la	
Responsible Official/Authorized Contact:		Involce Contact:	Carolina Sunro	ck LLC
Name/Title: Gregg Bowler / CFO		Name/Title: Accounts Payable		
Mailing Address Line 1: 200 Horizon Drive, Suite 100	0	Mailing Address Line 1: 200 Horizo	n Drive, Suite 100	
Mailing Address Line 2:		Mailing Address Line 2:		
City: Raleigh State: NC	Zip Code: 27615	City: Raleigh State	: NC Zip Code:	27615
Primary Phone No.: (919) 747-6400	Fax No.: (919) 747-6305	Primary Phone No.: (919) 747-0	6400 Fax No.:	(919) 747-6357
Secondary Phone No.:	I	Secondary Phone No.:		
Email Address: gbowler@thesunrockgroup.com		Email Address: ap@thesunrockgrou	up.com	
Facility/Inspection Contact:		Permit/Technical Contact:		
Name/Title: Scott Martino / Compliance Manager		Name/Title: Scott Martino / Com	npliance Manager	
Mailing Address Line 1: 200 Horizon Drive, Suite 100		Mailing Address Line 1: 200 Horizor	n Drive, Suite 100	
Mailing Address Line 2:		Mailing Address Line 2:		
City: Raleigh State: NC	Zip Code: 27615	City: Raleigh Stat	te: NC Zip Code:	27615
	Fax No.: (919) 747-6305	Primary Phone No.: (984) 202-4	4761 Fax No.:	(919) 747-6305
St ry Phone No.:		Secondary Phone No.:		
Email Address: smartino@thesunrockgroup.com		Email Address: <u>smartino@thesunro</u>	ckgroup.com	
	APPLICATION IS BEIN	G MADE FOR		
New Non-permitted Facility/Greenfield	Modification of Facility (permitted)		Renewal Non-Title V	· · ·
Name Change D Ownership Change	Administrative Amendment	Renewal with Modification		
	FACILITY CLASSIFICATION AFTER AP			
		bitory Small 🛛 Synthe		Title V
	FACILITY (Plant Site) IN	 A statistic state of the state		an a
Describe nature of (plant site) operation(s): This is a pro-	oposal for a Drum Mix Hot Asphalt Plant and Truck M	ix Concrete Plant.		
		Facility ID No.		
Primary SIC/NAICS Code: 324121		Current/Previous Air Permit No. NA	Expiration Da	te:
Facility Coordinates:		Longitude: 79 19' 36.68"		
Does this application contain	/ES	ease contact the DAQ Regional Off .*** (See Instructions)	fice prior to submitting this	5
	PERSON OR FIRM THAT PREP	ARED APPLICATION		
Person Name: David Keen		Firm Name: RTP Environmental Asso		
Mailing Address Line 1: 304A West Millbrook Road		Mailing Address Line 2:		
		Zip Code: 27609	County: Wake	· · · · · · · · · · · · · · · · · · ·
		Email Address: keen@rtpenv.com	Oddiny. Wake	
	SIGNATURE OF RESPONSIBLE OFFICI			
Name (typed): Gregg M. Bowler		Title: CFO		en e an ar an
X Signature(Blue Ink):		Date: Q/		
/ m	N/k	1/10//	19	
	Attach Additional Sheets As	Necessary /	•	Page 1 of 2

FORM A (continued, page 2 of 2)

GENERAL FACILITY INFORMATION

REVISED 09/22	2/16	NCDEQ/Division of Air Quality -	Application for Air Perm	it to Construct/Operate		A			
·····	SEC	TION AA1 - APPLICATION	FOR NON-TITLE V	PERMIT RENEWAL					
		(Company Name)	hereby formally requests	renewal of Air Permit No.		_			
	n no modifications to the originally permitted			it since the last permit was issued.	_				
	ubject to 40 CFR Part 68 "Prevnetion of Accid			L YES	D NO				
	already submitted a Risk Manage Plan (RMF			NO Date Submitted:		-			
	a current emissions inventory?	YES Via AERO	□ NO □ Mailed	Date Mailed:					
•	bmit the inventory via AERO or by mail?					- 57 255 1255 1248 17			
	vith the provisions of Title 15A 2Q .0513, the				(Company Name)	NUM DUNING WEINAN			
	requests renewal of Air Permit No.	responsible official of	(Air Permit N	o.) and further certifies that:					
(1)	The current air quality permit identifies and	describes all emissions units at the	above subject facility, exc	ept where such units are exempted a	under the				
	North Carolina Title V regulations at 15A No	CAC 2Q .0500;							
(2)	The current air quality permit cits all applica requirements;		4						
(3)	The facility is currently in compliance, and s								
	compliance with the conditions of the permi				;				
(4)	For applicable requirements that become e The facility shall fulfill applicable enhanced								
(5) The responsible	official (signature on page 1) certifies under	the penalty of law that all informatio	n and statements provided	i above, based on information and b	elief				
	asonable inquiry, are true, accurate, and com		· · ·	•					
					ALAN AND AND AND AND AND AND AND AND AND A	a elemente de la companya de la comp			
and a second		SECTION AA3- APPL	ICATION FOR NAM	ECHANGE		1.4.14 (41.048.1)			
New Facility Na	me:			· · · · · · · · · · · · · · · · · · ·	······································				
Former Facility	Name:	······································							
	y name change is requested as described ab								
modifications to	the originally premitted facility that would req	uie an air quality permit since the la	st permit was issued and i	f ther has been an ownership change	9				
associated with	this name change.								
K MARAN		SECTION AA4-APPLICATI	ON FOR AN OWNE	RSHIP CHANGE					
	By this application we hereby request transfer of Air Quality Permit No.								
The transfer of permit responsibility, coverage and liability shall be effective(immediately or insert date.) The legal ownership of the									
facility describe	d on page 1 of this form has been or will be tr	ansferred on	······································	-					
facility describe		ansferred on	······································	-					
facility describe permitted facility	d on page 1 of this form has been or will be tr y that would require an air quality permit since	ransferred on e the last permit was issued.	······································	-					
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FORMS A2, A3 EMISSION SOURCE LISTING FOR THIS APPLICATION - A2

	112r APPLICABILIT	(INFORMATIC	DN - A3
REVISED 09/22/16	NCDEQ/Division of Air Quality - Applicati	on for Air Permit to C	construct/Operate A2
	EMISSION SOURCE LISTING: New, Modified	I, Previously Unp	ermitted, Replaced, Deleted
EMISSION SOURCE		CONTROL DEVICE	· · · · · · · · · · · · · · · · · · ·
ID NO.	DESCRIPTION	ID NO.	DESCRIPTION
1	Equipment To Be ADDED By This Application	(New, Previously	/ Unpermitted, or Replacement)
	Drum Mix Asphalt Plant (250 TPH) consisting of:		
	Propane/Natural Gas/No. 2 Fuel Oil/Recycled No. 2 Fuel		
HMA-1	Oil/Recycled No. 4 Fuel Oil-fired drum type hot asphalt plant (80 MMBtu/hr maximum heat input capacity)	HMA CD1	Bagfilter
HMA-Silo1	Hot mix asphalt storage silo (150 tons maximum capacity)	NA	NA
HMA-Silo2	Hot mix asphalt storage silo (150 tons maximum capacity)	NA	NA
HMA-Silo3	Hot mix asphalt storage silo (100 tons maximum capacity)	NA	NA
HMA-Silo4	Hot mix asphalt storage silo (100 tons maximum capacity)	NA	NA
HMA-Silo5	Hot mix asphalt storage silo (200 tons maximum capacity)	NA	NA
HMA-LO1	Asphalt Loadout	NA	NA
HMA-LO2	Truck Loadout Operation	NA	NA
	RAP Crushing System consisting of:		
RAP-CRSH	One Crusher (65 tph)	NA	NA
RAP-CNV	Four Conveyors	NA	NA
RAP-SCN	One Screen		
	Truck Mix Concrete Batch Plant (120 Cub Yard/H) Consisting		· · · · · · · · · · · · · · · · · · ·
RM-1	Cement Silo (185 tons)	RMC CD2	Bagfilter
RM-2	Fly Ash Silo (135 tons)	RMC CD2	Bagfilter
RM-3	Truck Loadout Point	RMC CD2	Bagfilter
RM-4	Cement/Flyash Weigh Batcher (25 tons)	RMC CD2	Bagfilter
RM-5	Aggregate Weigh Batcher (50 tons)	RMC CD2	Bagfilter
<u></u>	Existing Permitted Equipment To E	e MODIFIED B	y This Application
	Equipment To Be DELE	TED By This App	olication
······································			
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112	(r) APPLICABILITY	INFORMATION	A 3
Is your facility subject to 40 CFR Part 68 "Prevention of Accid	iental Releases" - Section 112	r) of the Federal Clean Air Act?	Yes 🗹 No
If No, please specify in detail how your facility avoided application	ability:		
Does not use any regulated toxics and flammable substance	S		
If your facility is Subject to 112(r), please complete the following	ing:		
A. Have you already submitted a Risk Management Plan	(RMP) to EPA Pursuant to 40	CFR Part 68.10 or Part 68.150?	
Yes No Specify required RMF	P submittal date:	If submitted, RMP submittal date:	
B. Are you using administrative controls to subject your fa	cility to a lesser 112(r) program	standard?	
Yes No If yes, please specify:			
C. List the processes subject to 112(r) at your facility:			
	PROCESS LEVEL		MAXIMUM INTENDED
PROCESS DESCRIPTION	(1, 2, or 3)	HAZARDOUS CHEMICAL	INVENTORY (LBS)

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NUMBER OF STREET, STREE

Attach Additional Sheets As Necessary

FORM D1 FACILITY-WIDE EMISSIONS SUMMARY

	ivision of Air Qua				Operate		D1
CRITERIA						and an	
-		EXPECT EMI (AFTER (TED ACTUAL SSIONS CONTROLS / TATIONS)	POTENTIA (BEFORE	L EMISSIONS CONTROLS / ATIONS)	POTENTIA (AFTER	L EMISSIONS CONTROLS / ATIONS)
AIR POLLUTANT EMITTED			ons/yr		ons/yr		ons/yr
PARTICULATE MATTER (PM)	<u>`</u>				"	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
PARTICULATE MATTER < 10 MICRONS (PM10)		1					
PARTICULATE MATTER < 2.5 MICRONS (PM _{2.5})		SFF A	PPEN		R OF	· · · · · · · · · · · · · · · · · · ·	
SULFUR DIOXIDE (SO ₂)	-	/ <u>L_L_</u> /_1	-BBBaaB1				·····
NITROGEN OXIDES (NOx)	-		DDLL	A T1/	201		
CARBON MONOXIDE (CO)			PPLI	ÇA H	JN		
VOLATILE ORGANIC COMPOUNDS (VOC)							
LEAD							
GREENHOUSE GASES (GHG) (SHORT TONS)				1			
OTHER							
HAZARDOU	S AIR POLLUTA	NT EMISSIO	NS INFORMAT	ION - FACILI	IY-WIDE		
		EMIS (AFTER C	ED ACTUAL SSIONS CONTROLS / ATIONS)	(BEFORE	L EMISSIONS CONTROLS / ATIONS)	(AFTER C	L EMISSIONS CONTROLS / ATIONS)
HAZARDOUS AIR POLLUTANT EMITTED	CAS NO.	to	ns/yr	to	ns/yr	to	ns/yr
· · · · · · · · · · · · · · · · · · ·							
						3	
						•	
TOXIC All	R POLLUTANT I	EMISSIONS	NFORMATION	- FACILITY-W	/IDE	line and the second	
INDICATE REQUESTED ACTUAL EMISSIONS AFTE NCAC 2Q .0711 MAY REQUIRE AIR DISPERSION M					PERMIT EMISSI	ON RATE (TPI	ER) IN 15A
					Modeling F	Required ?	1
TOXIC AIR POLLUTANT EMITTED	CAS NO.	lb/hr	lb/day	lb/year	Yes	No	
		1	<u>`</u>				
	1	<u> </u>					1
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`OMMENTS:	I	L		L	I		I

FORM D4

EXEMPT AND INSIGNIFICANT ACTIVITIES SUMMARY

REVISED 09/22/16 NCDEQ/Division of Air Quality -		
ACTIVITIES EX INSIGNIFICANT ACTIVITIES	EMPTED PER 2Q PER 2Q 0503 FC	
DESCRIPTION OF EMISSION SOURCE	SIZE OR PRODUCTION RATE	BASIS FOR EXEMPTION OR INSIGNIFICANT ACTIVITY
1. 30,000 gal liquid asphalt tank	30,000 gal	15A NCAC 2Q .0102(g)(4)
2. 20,000 gal liquid asphalt tank	20,000 gal	15A NCAC 2Q .0102(g)(4)
3. 20,000 gal gasoline fuel	20,000 gal	15A NCAC 2Q .0102(g)(4)
4. Natural Gas/No. 2 Fuel Oil-fired Asphalt Cement Heater (Heatec HCS-70 Heater)	1.2 MMBtu/hr	15A NCAC 2Q .0102(h)(1)(A)
5. al Gas/No. 2 Fuel Oil-fired Liquid Asphalt Tank Heater (Heatec Dir , Heater)	1.1 MMBtu/hr	15A NCAC 2Q .0102(h)(1)(A)
6. 20,000 gal #4 oil or used oil	20,000 gal	15A NCAC 2Q .0102(g)(4)
7. 20,000 gal #4 oil or used oil	20,000 gal	15A NCAC 2Q .0102(g)(4)
8.		
9.		
10.		

FORM D5

TECHNICAL ANALYSIS TO SUPPORT PERMIT APPLICATION

RE	VISED 09/22/16 NCDEQ/Division of Air Quality - Application for Air Pe	rmit to Construct/Operate	D5					
(PROVIDE DETAILED TECHNICAL CALCULATIONS TO SUPPORT ALL EMISSION, CONTROL, AND REGULATORY DEMONSTRATIONS MADE IN THIS APPLICATION. INCLUDE A COMPREHENSIVE PROCESS FLOW DIAGRAM AS NECESSARY TO SUPPORT AND CLARIFY CALCULATIONS AND ASSUMPTIONS. ADDRESS THE							
	FOLLOWING SPECIFIC ISSUES OF	I SEPARATE PAGES:						
A	SPECIFIC EMISSIONS SOURCE (EMISSION INFORMATION) (FORM B and B1 through B9) - SHOW CALCULATIONS USED, INCLUDING EMISSION FACTORS, MATERIAL BALANCES, AND/OR OTHER METHODS FROM WHICH THE POLLUTANT EMISSION RATES IN THIS APPLICATION WERE DERIVED. INCLUDE CALCULATION OF POTENTIAL BEFORE AND, WHERE APPLICABLE, AFTER CONTROLS. CLEARLY STATE ANY ASSUMPTIONS MADE AND PROVIDE ANY REFERENCES AS NEEDED TO SUPPORT MATERIAL BALANCE CALCULATIONS.							
В	SPECIFIC EMISSION SOURCE (REGULATORY INFORMATION)(FORM E2 - TITLE V ONLY) - PROVIDE AN ANALYSIS OF ANY REGULATIONS APPLICABLE TO INDIVIDUAL SOURCES AND THE FACILITY AS A WHOLE. INCLUDE A DISCUSSION OUTING METHODS (e.g. FOR TESTING AND/OR MONITORING REQUIREMENTS) FOR COMPLYING WITH APPLICABLE REGULATIONS, PARTICULARLY THOSE REGULATIONS LIMITING EMISSIONS BASED ON PROCESS RATES OR OTHER OPERATIONAL PARAMETERS. PROVIDE JUSTIFICATION FOR AVOIDANCE OF ANY FEDERAL REGULATIONS (PREVENTION OF SIGNIFICANT DETERIORATION (PSD), NEW SOURCE PERFORMANCE STANDARDS (NSPS), NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPS), TITLE V), INCLUDING EXEMPTIONS FROM THE FEDERAL REGULATIONS WHICH WOULD OTHERWISE BE APPLICABLE TO THIS FACILITY. SUBMIT ANY REQUIRED INFORMATION TO DOCUMENT COMPLIANCE WITH ANY REGULATIONS. INCLUDE EMISSION RATES CALCULATED IN ITEM "A" ABOVE, DATES OF MANUFACTURE, CONTROL EQUIPMENT, ETC. TO SUPPORT THESE CALCULATIONS.							
c	CONTROL DEVICE ANALYSIS (FORM C and C1 through C9) - PROVIDE A TECHNICAL EVALUATION WITH SUPPORTING REFERENCES FOR ANY CONTROL EFFICIENCIES LISTED ON SECTION C FORMS, OR USED TO REDUCE EMISSION RATES IN CALCULATIONS UNDER ITEM "A" ABOVE. INCLUDE PERTINENT OPERATING PARAMETERS (e.g. OPERATING CONDITIONS, MANUFACTURING RECOMMENDATIONS, AND PARAMETERS AS APPLIED FOR IN THIS APPLICATION) CRITICAL TO ENSURING PROPER PERFORMANCE OF THE CONTROL DEVICES). INCLUDE AND LIMITATIONS OR MALFUNCTION POTENTIAL FOR THE PARTICULAR CONTROL DEVICES AS EMPLOYED AT THIS FACILITY. DETAIL PROCEDURES FOR ASSURING PROPER OPERATION OF THE CONTROL DEVICE INCLUDING MONITORING SYSTEMS AND MAINTENANCE TO BE PERFORMED.							
	PROCESS AND OPERATIONAL COMPLIANCE ANALYSIS - (FORM E3 - TITLE V ONLY) PROCESS, OPERATIONAL, OR OTHER DATA TO DEMONSTRATE COMPLIANCE. REF IN ITEM "B" WHERE APPROPRIATE. LIST ANY CONDITIONS OR PARAMETERS THAT COMPLIANCE WITH THE APPLICABLE REGULATIONS.	R TO COMPLIANCE REQUIREMENTS IN THE REGULATORY	N USING Y ANALYSIS					
E	PROFESSIONAL ENGINEERING SEAL - PURSUANT TO 15A NCAC 2Q .0112 "A A PROFESSIONAL ENGINEER REGISTERED IN NORTH CAROLINA SHALL BE REQUIN NEW SOURCES AND MODIFICATIONS OF EXISTING SOURCES. (SEE INSTRUCTION		SEAL," N FOR					
	I Ted S White attest that this application to	Carolina Sunrock LLC - BURLINGTON						
	I, <u>Ted S. White,</u> has been reviewed by me and is accurate, complete and consistent with the information supplied in the engineering plans, calculations, and all other supporting documentation to the best of my knowledge. I further attest that to the best of my knowledge the proposed design has been prepared in accordance with the applicable regulations. Although certain portions of this submittal package may have been developed by other professionals, inclusion of these materials under my seal signifies that I have reviewed this material and have judged it to be consistent with the proposed design. Note: In accordance with NC General Statutes 143-215.6A and 143-215.6B, any person who knowingly makes any false statement, representation, or certification in any application shall be guilty of a Class 2 misdemeanor which may include a fine not to exceed \$10,000 as well as civil penalties up to \$25,000 per violation.							
	(PLEASE USE BLUE INK TO COMPLETE THE FOLLOWING)	PLACE NORTH CAROLINA SEAL HER	E					
	NAME: Ted S. White	and the second se	·····					
	DATE: 9-13-2019	and the second	Q 50					
	COMPANY: <u>RTP Environmental Assoc., Inc.</u>		45					
	ADDRESS: <u>304-A W.M ill brook fd.</u> Raleigh, NC 7609		S.W					
	TELEPHONE: $-(919) B12 - 0461$							
	PAGES CERTIFIED; FORM CL for HMA-CDL		J.C.					
	TOTAL TOP UTIN CEL							
(
	(IDENTIFY ABOVE EACH PERMIT FORM AND ATTACHMENT THAT IS BEING CERTIFIED BY THIS SEAL)							

Attach Additional Sheets As Necessary

FORM B

SPECIFIC EMISSION SOURCE INFORMATION (REQUIRED FOR ALL SOURCES)

REVISED 09/22/16 NCDEQ/Division	n of Air Quality - J	Application f	or Air Permit t	o Construct/C)perate		В
E! 'ON SOURCE DESCRIPTION: 250 TPH HMA Doubl	e barrel DRUM PL	ANT	EMISSION S	OURCE ID NO	D: HMA-1		
(\					(S): HMA-CD1	=	
OPERATING SCENARIO 1 OF	1) ID NO(S): EP)1	
DESCRIBE IN DETAIL THE EMISSION SOURCE PROCES	S (ATTACH ELOV				<u>/ 10 110(0). Li</u>	<u>, </u>	
1. Drying of aggregate (drying drum) 2. Mixing of Aggregate (silos)				ge of final Proc	luct		
TYPE OF EMISSION SOURCE (CHECI	K AND COMPLET	E APPROPR	ATE FORM B	1-B9 ON THE	FOLLOWING	PAGES):	
Coal,wood,oil, gas, other burner (Form B1)	· 🗌 Woodwor	king (Form B4	ł)	🗌 Manu	f. of chemicals/	coatings/inks	(Form B7)
Int.combustion engine/generator (Form B2)	Coating/fi	nishing/printin	g (Form B5)	🔲 Incine	ration (Form B	8)	
Liquid storage tanks (Form B3)	✓ Storage s	ilos/bins (Forr	n B6)	Other	(Form B9)		
START CONSTRUCTION DATE:		DATE MANU	FACTURED:				
MANUFACTURER / MODEL NO.: Astec		EXPECTED	OP. SCHEDUL	.E: 10 HR/	DAY <u>6</u> D	AY/WK 50	WK/YR
IS THIS SOURCE SUBJECT TO? 🗹 NSPS (SUBPAR	TS?): I	L	NESH	AP (SUBPART	S?):		
PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB		Y 30	JUN-AUG	30	SEP-NOV 2	5	
CRITERIA AIR POLLU							
	SOURCE OF		D ACTUAL			EMISSIONS	and we have a second
	EMISSION						ROLS / LIMITS)
ALD DOLLUTANT FAILTED			ROLS / LIMITS)		TROLS / LIMITS)		1
	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
PARTICULATE MATTER (PM)							
PARTICULATE MATTER<10 MICRONS (PM10)				<u>-</u>			
PARTICULATE MATTER<2.5 MICRONS (PM2,5)		SEE A	PENDIX B				
SULFUR DIOXIDE (SO2)							
NITROGEN OXIDES (NOx)							
CARBON MONOXIDE (CO)							
V ILE ORGANIC COMPOUNDS (VOC)							
LÈ,							
OTHER					and a second	and a start of the	a Managara na Aran ang mangarang ang managarang na sa
HAZARDOUS AIR POLL	<u>LUTANT EMIS</u>	SIONS INF	ORMATIO	N FOR THI	S SOURCE	in an	
	SOURCE OF	EXPECTE	D ACTUAL		POTENTIAL	EMISSIONS	
	EMISSION	(AFTER CONT	ROLS / LIMITS)	(BEFORE CON	ROLS / LIMITS)	(AFTER CONT	ROLS / LIMITS)
HAZARDOUS AIR POLLUTANT CAS NO	. FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
	SEE APPEN						
							· · · ·
TOXIC AIR POLLUT	ANTEMISSIO	NS INFOR	MATION F	OR THIS S	OURCE		
						ander dat og dat forster i som her oppde	and the memory and the
	SOURCE OF	EXPE	CTED ACTUAL	. EMISSIONS	AFTER CONTI	ROLS / LIMIT	ATIONS
TOXIC AIR POLLUTANT CAS NO	EMISSION FACTOR	Ih	/hr	lb/	day	11	o/yr
				1.57	~~ <i>j</i>		
						·	
· · · · · · · · · · · · · · · · · · ·			· · · · · · · · · · · · · · · · · · ·				
	SEE APPEN			· · · · · · · · · · · · · · · · · · ·			
A) vents: (1) emissions calculations and supporting documentation							

describe how these are monitored and with what frequency; and (3) describe any monitoring devices, gauges, or test ports for this source. COMPLETE THIS FORM AND COMPLETE AND ATTACH APPROPRIATE B1 THROUGH B9 FORM FOR EACH SOURCE

Attach Additional Sheets As Necessary

FORM B9 EMISSION SOURCE (OTHER)

DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAGRAM):	JM PLANT	EMISSION SOURCE ID NO: HM CONTROL DEVICE ID NO(S): HI EMISSION POINT (STACK) ID N			
DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAGRAM): 1. DRYING OF AGGREGATE (DRYING DRUM) 2. MIXING OF AGGREGATE AND RAP WITH LIQUID ASPHALT (MIXIN			MA-CD1		
DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAGRAM): 1. DRYING OF AGGREGATE (DRYING DRUM) 2. MIXING OF AGGREGATE AND RAP WITH LIQUID ASPHALT (MIXIN	<u> </u>	EMISSION POINT (STACK) ID N			
1. DRYING OF AGGREGATE (DRYING DRUM) 2. MIXING OF AGGREGATE AND RAP WITH LIQUID ASPHALT (MIXIN			O(S): EP-1		
3. STORAGE OF FINAL PRODUCT (Silos)	IG DRUM)				
MATERIALS ENTERING PROCESS - CONTINUOUS PROC	-00	MAX. DESIGN	REQUESTED CAPACITY		
		CAPACITY (UNIT/HR)	LIMITATION(UNIT/HR)		
TYPE		250	250		
Aggregate (virgin and RAP)	tons	12	1:		
iquid AC	tons				
MATERIALS ENTERING PROCESS - BATCH OPERATIO	Ń	MAX. DESIGN	REQUESTED CAPACITY		
TYPE	UNITS	CAPACITY (UNIT/BATCH)	LIMITATION (UNIT/BATCH)		
·					
			······································		
AXIMUM DESIGN (BATCHES / HOUR):	1				
REQUESTED LIMITATION (BATCHES / HOUR):	(BATCHES/Y				
UEL USED: NG/#2/ REC #2/ REC #4	1	MUM FIRING RATE (MILLION BT	J/HR): 80		
MAX. CAPACITY HOURLY FUEL USE:	REQUESTED CAPACITY ANNUAL FUEL USE:				
COMMENTS:					

					ORM B					
	EMISSIC		-						ED BURNER)	and the second se
REVISED 09/2				of Air Quality - A		r Air Pe	rmit to Constru	ict/Opera	te	B1
U/hr bu	OURCE DESCRIPTION	JN: HMA	Drum Plant Dry	er neater (nauck,			ON SOURCE I			
	·						ROL DEVICE ID			
OPERATING S		1	OF	1		EMISSI	ON POINT (ST			
DESCRIBE US				SPACE HEAT			ELECTRICAL		ION	
		NUOUS	USE				OTHER (DESC	RIBE):		
HEATING ME	CHANISM:		INDIRECT	. 🗸						
MAX. FIRING	RATE (MMBTU/HO	JR): 80	and the first star			a ana ana ana ana ana ana ana ana ana a			in market i din singe sing	Kata di
			Strangen and the a		-FIRED BU	RNER				<u></u>
WOOD TYF	PE: BARK		WOOD/BARK	WET WC	DOD		RY WOOD		OTHER (DESCRIBI	Ξ):
PERCENT MC	ISTURE OF FUEL:									
	UNCONTROLLED			LED WITH FLYAS	SH REINJECTI	ON	[ROLLED W/O REINJE	ECTION
FUEL FEED M	ETHOD:			the second se	SFER MEDIA:	Construction and the		<u>в</u> от	HER (DESCRIBE)	
			(COAL-	FIRED BUP	RNER	landar Tarihar			
TYPE OF BOIL	.ER		F OTHER DESC	CRIBE:						
PULVERIZED	OVERFEED STO	KER	UNDERFE	ED STOKER	SPRI	EADER	STOKER	F	LUIDIZED BED	
U WET BED		LLED		OLLED		NTROLL	ED		CIRCULATING	
DRY BED		D	CONTROLI	LED	FLYAS	H REIN	JECTION		RECIRCULATING	
		CORPORE AND ADDRESS		Advert of Adverticity, a street the acceleration of a street to be	And the second state of th	to mar in modern	EINJECTION	AT DE TOURS BRIERS		
	A.C.			OIL/GAS	S-FIRED BU	IRNEF	8	lari interio Altra di Alt		
TYPE OF BOIL		UTILITY		USTRIAL	Сомме			•	JTIONAL	
7 OF FIRI	NG:	NORMA	L TAN	IGENTIAL			have	4	W NOX BURNER	
	letter fearing		and the second second	OTHERIFU	JEL-FIRED	BURN	EK	3.4.3.51 S.2.		
TYPE(S) OF F	UEL:			PE				-		
TYPE OF BOIL	.ER:	UTILITY		USTRIAL		RCIAL	L	INSTIT	JTIONAL	
TYPE OF FIRI	<u>NG:</u>	ale internet	ALL AND THE CONTRACT OF A 19 19 19 19 19 19 19 19	F CONTROL(S) (I	the second party and the lower to the to the second party of the			0		
Lind House States		<u>alan an</u>		AGE (INCLUI		NEW ALCONG ALCONG		<u>.9)</u>	REQUESTED C/	
			UNITS		CAPACITY (LIMITATION (U	
					· · · · · · · · · · · · · · · · · · ·		<u> </u>			
Propane/NG/ #2	2/ Rec #2/ Rec #4	cf/gallor	18	80 MMBtu/hou	Ir					
		FUE	CHARACTE	ERISTICS (CC	MPLETE A	LL TH	AT ARE AP	I PLICAE	LE)	
ozatogenariat nortali		1940: Miller Hannon		_	PECIFIC	nggoringstik Schola	SULFUR CO		ASH CC	NTENT

COMMENTS:

FUEL TYPE

Attach Additional Sheets As Necessary

BTU CONTENT

(% BY WEIGHT)

(% BY WEIGHT)

,

FORM B6 EMISSION SOURCE (STORAGE SILO/BINS)

REVISED 09/22/16	NCDEQ/Divisi	ion of Air Quality - Ap	plicatio	n for Air Permit	to Cons	struct/Operate	B6
SION SOURCE DESCRIF	PTION:			EMISSIC)N SOL	IRCE ID NO: HMA-Silo1	
HMA Drum Plant - Hot Mix Asp	halt Silo 1			CONTRO	<u> JL DEV</u>	ICE ID NO(S): HMA-CD1	. <u></u>
OPERATING SCENARIO:		OF1		EMISSIC)N POI	NT(STACK) ID NO(S): EP-1	
DESCRIBE IN DETAIL THE PF 1. DRYING OF AGGREGATE (2. Mixing of aggregate and rap 3. Storage of final product (silos	(DRYING DRUM) with liquid asphalt (mi:						
				.			
MATERIAL STORED: Hot Mix	Asphalt			DENSITY OF M	ATERIA	AL (LB/FT3):	
CAPACITY	CUBIC FEET:			TONS: 150			<u></u>
DIMENSIONS (FEET)	HEIGHT:	DIAMETER:	(OR)	LENGTH:	V	VIDTH: HEIGHT:	
ANNUAL PRODUCT THRC	contract theory of the second s	ACTUAL:	STREET, MARINE	CONTRACTOR OF A STREET OF A STREET CONTRACTOR	M DES	IGN CAPACITY:	Trans. Californi terror Miller
PNEUMATICALLY/FI	LLED	MECHANIC	ALLY F	LLED		FILLED FROM	
BLOWER		SCREW CONVEYOR	२				
COMPRESSOR		BELT CONVEYOR					
OTHER:		BUCKET ELEVATOR	ξ			STORAGE PILE	
		OTHER:			l	OTHER: Plant	
NO. FILL TUBES:							
MUM ACFM:							
MATERIAL IS UNLOADED TO:	, •						
BY WHAT METHOD IS MATER Gravity	NAL UNLOADED FRC)M SILO?					
MAXIMUM DESIGN FILLING R	ATE OF MATERIAL (TONS/HR):					
MAXIMUM DESIGN UNLOADI							
COMMENTS: OIL FILLED SEAL AT TOP OF	SILO.						

FORM B6

EMISSION SOURCE (STORAGE SILO/BINS)

REVISED 09/22/16	NCDEQ/Divisi	on of Air Quality - Ap	plicatio	n for Air Permit	to Cons	struct/	Operate	-	B6
-SION SOURCE DESCRIF				1			D NO: HMA-Silo:	2	
HMA Drum Plant - Hot Mix Asp	halt Silo 2			CONTR	OL DEV	ICE ID	NO(S): HMA-CI	01	
OPERATING SCENARIO:	1	OF1		EMISSI	ON POIN	VT(ST	ACK) ID NO(S): I	EP-1	
DESCRIBE IN DETAIL THE PR 1. DRYING OF AGGREGATE (2. Mixing of aggregate and rap 3. Storage of final product (silos	DRYING DRUM) with liquid asphalt (mix								
MATERIAL STORED: Hot Mix A	Asphalt			DENSITY OF M	IATERIA	L (LB/	/FT3):		
CAPACITY	CUBIC FEET:			TONS: 150					
DIMENSIONS (FEET)	HEIGHT:	DIAMETER:	(OR)	LENGTH:	v	VIDTH	: HEIGI	-IT:	
ANNUAL PRODUCT THRO	UGHPUT (TONS)	ACTUAL:		ΜΑΧΙΜΙ	JM DES	GN C	APACITY:		
PNEUMATICALLY FII	LLED	MECHANIC	ALLY F	LLED		(1/40/32) 	FILL	ED FROM	
BLOWER		SCREW CONVEYOR	2				RAILCAR		
COMPRESSOR		BELT CONVEYOR					TRUCK		
OTHER:		BUCKET ELEVATOR	2				STORAGE PILE	Ξ	
		OTHER:				J	OTHER: Plant		
NO. FILL TUBES:									
MUM ACFM:								·	
MATERIAL IS UNLOADED TO:									
BY WHAT METHOD IS MATER Gravity	RIAL UNLOADED FRC	DM SILO?							
MAXIMUM DESIGN FILLING R	ATE OF MATERIAL (1	TONS/HR):							
MAXIMUM DESIGN UNLOADIN	NG RATE OF MATERI	IAL (TONS/HR):							
COMMENTS: OIL FILLED SEAL AT TOP OF	SILO.								
		•							

FORM B6 EMISSION SOURCE (STORAGE SILO/BINS)

	-			•							D A
REVISED 09/22/16	NCDEQ/	Divisi	on of Air Quality - Ap	plicatio							B6
SION SOURCE DESCRI	PTION:				EMIS	SION SOL	JRCE II	d NO: <i>HN</i>	/A-Silo3		
HMA Drum Plant - Hot Mix Asp	ohalt Silo 3				CON	TROL DE	/ICE ID	NO(S): /	HMA-CD1		
OPERATING SCENARIO:	1		OF1		EMIS	SION POI	NT(ST/	ACK) ID N	10(S): EP-1	1	
DESCRIBE IN DETAIL THE PI 1. DRYING OF AGGREGATE 2. Mixing of aggregate and rap 3. Storage of final product (silo	(DRYING DRUN with liquid asph	Л)									
MATERIAL STORED: Hot Mix	Asphalt				DENSITY OF	- MATERI	AL (LB/	FT3):			
CAPACITY	CUBIC FEET:				TONS: 100		<u> </u>				
DIMENSIONS (FEET)	HEIGHT:		DIAMETER:	(OR)	LENGTH:		WIDTH	:	HEIGHT:		
ANNUAL PRODUCT THR		VS)	ACTUAL:			MUM DES			:		
PNEUMATICALLY F	the second se		MECHANIC	ALLY F	CONTRACTOR OF STREET, STRE			n Harris da Kana da sa	FILLED	ROM	
BLOWER			SCREW CONVEYOR					RAILCA	R	<u></u>	
			BELT CONVEYOR					TRUCK			
OTHER:		I	BUCKET ELEVATOR					STORA	GE PILE		
			OTHER:				7	OTHER	Plant		
NO FILL TUBES:				•••••••••••••							
MUM ACFM:											
MATERIAL IS UNLOADED TO):										
BY WHAT METHOD IS MATE Gravity	RIAL UNLOADE	D FRC	DM SILO?								
MAXIMUM DESIGN FILLING F	RATE OF MATE	RIAL (TONS/HR):								
MAXIMUM DESIGN UNLOADI	NG RATE OF M	IATER	IAL (TONS/HR):								
COMMENTS: OIL FILLED SEAL AT TOP OF	= SILO.										
		·									

FORM B6 EMISSION SOURCE (STORAGE SILO/BINS)

	5	001011 00001			.o/birtoj		
REVISED 09/22/16	NCDEQ/Divis	sion of Air Quality	- Application	n for Air Permit to	o Construct/Ope	rate	B6
SION SOURCE DESCR	IPTION:			EMISSIO	N SOURCE ID N	O: HMA-Silo4	
HMA Drum Plant - Hot Mix As	phalt Silo 4			CONTRO	L DEVICE ID NO	(S): HMA-CD1	
OPERATING SCENARIO:	1	OF1		EMISSIO	N POINT (STACK) ID NO(S): EP-1	
DESCRIBE IN DETAIL THE F 1. DRYING OF AGGREGATE 2. Mixing of aggregate and rap 3. Storage of final product (sild	: (DRYING DRUM) o with liquid asphalt (n						
MATERIAL STORED: Hot Mix	Asphalt			DENSITY OF MA	TERIAL (LB/FT3):	
CAPACITY	CUBIC FEET:		•	TONS: 100		<u> </u>	
DIMENSIONS (FEET)	HEIGHT:	DIAMETER:	(OR)	LENGTH:	WIDTH:	HEIGHT:	
ANNUAL PRODUCT THR		ACTUAL:			1 DESIGN CAPA	CITY:	·······
PNEUMATICALLY F	out of the constant state with the second a second of the back to the second of	and the second	NICALLY FI	stands to be a set of the state of the Second Second			
BLOWER		SCREW CONVE	YOR	<u></u>	RA	ILCAR	
COMPRESSOR		BELT CONVEYC)R		TR	UCK	
OTHER:		BUCKET ELEVA	TOR		ST	ORAGE PILE	
		OTHER:			ло 🖸	HER: <i>Plant</i>	
NO FILL TUBES:							
MUM ACFM:							
MATERIAL IS UNLOADED TO	D:						
BY WHAT METHOD IS MATE Gravity	RIAL UNLOADED FR	OM SILO?					
MAXIMUM DESIGN FILLING	RATE OF MATERIAL	(TONS/HR):					
MAXIMUM DESIGN UNLOAD	ING RATE OF MATE	RIAL (TONS/HR):					
COMMENTS: OIL FILLED SEAL AT TOP OI	= SILO.						
·							

FORM B6

EMISSION SOURCE (STORAGE SILO/BINS)

	NODEO/Divis	sion of Air Quality - Ap	nlicatio	n for Air Pormit to	o Construct/Operate B6
REVISED 09/22/16		sion of Air Quanty - Ap	pilcatio		N SOURCE ID NO: HMA-Silo5
SION SOURCE DESCRI					D DEVICE ID NO(S): HMA-CD1
HMA Drum Plant - Hot Mix Asp	nait Silo 5	OF 1			N POINT(STACK) ID NO(S): <i>EP-1</i>
OPERATING SCENARIO: DESCRIBE IN DETAIL THE PF					
 DRYING OF AGGREGATE Mixing of aggregate and rap Storage of final product (silos) 	(DRYING DRUM) with liquid asphalt (m				
· · · · · · · · · · · · · · · · · · ·					
MATERIAL STORED: Hot Mix .	Asphalt			DENSITY OF MA	ATERIAL (LB/FT3):
CAPACITY	CUBIC FEET:			TONS: 200	
DIMENSIONS (FEET)	HEIGHT:	DIAMETER:	(OR)	LENGTH:	WIDTH: HEIGHT:
ANNUAL PRODUCT THRO	VALUE AND DESCRIPTION OF A DESCRIPTION O	ACTUAL:	10120102020	the state of the second st	M DESIGN CAPACITY:
PNEUMATICALLY FI	LLED	MEGHANIC	ALLY F	LLED	FILLED FROM
BLOWER		SCREW CONVEYOR	1		
COMPRESSOR		BELT CONVEYOR			
OTHER:		BUCKET ELEVATOR			
		OTHER:			OTHER: Plant
NO. FILL TUBES:					
.MUM ACFM:	l				
MATERIAL IS UNLOADED TO	:				
BY WHAT METHOD IS MATEF Gravity	RIAL UNLOADED FR	ROM SILO?			
MAXIMUM DESIGN FILLING R	RATE OF MATERIAL	(TONS/HR):			
MAXIMUM DESIGN UNLOADII	NG RATE OF MATE	RIAL (TONS/HR):			
COMMENTS: OIL FILLED SEAL AT TOP OF	SILO.				

FORM C1 CONTROL DEVICE (FABRIC FILTER)

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REVISED 09/22/16 NCDEQ/Div	vision of Air Quality -	Application for Air	r Permit to (Construct/Operate	•		C1
CONTROL DEVICE ID NO: HMA-CD1	CONTROLS EMISSI	ONS FROM WHICH	EMISSION	SOURCE ID NO(S	S): See Form A2&	43	
EMISSION POINT (STACK) ID NO(S): EP-1	POSITION IN SERIE			NO		1 UNITS	
THE REPORT OF THE PARTY OF TH							
1 OF 1	A CONTRACTOR OF A CONTRACT OF A CONTRACT	P.E. SEAL REQUIF	RED (PER 2)	g.0112)?	YES		
DESCRIBE CONTROL SYSTEM: Astec Model RBH-51 - 51, HMA Plant. (768) 4-5/8" Ø x 10' long 14oz aramid bags o 9,299 ft2 cloth area; 5.5 fpm filtering velocity (Air/Cloth Rai o 41-5/8" ID stack; 31'-0" discharge height above grade o Integral 9' Ø x 10' long horizontal cyclone primary collector	,111 CFM to control ei io)				<u></u>		
POLLUTANTS COLLECTED:		PM	PM10	• •			
BEFORE CONTROL EMISSION RATE (LB/HR):		118	58				
CAPTURE EFFICIENCY:		~100 %	~100	%	_%	%	
CONTROL DEVICE EFFICIENCY:		~93%	~90	. "	_%	%	
CORRESPONDING OVERALL EFFICIENCY:		93%	90		%	<u>%</u>	
EFFICIENCY DETERMINATION CODE:		1	1	. <u></u>			
TOTAL AFTER CONTROL EMISSION RATE (LB/HR):		8.25	5.75	• • • • • • • • • • • • • • • • • • • •			
PRESSURE DROP (IN H ₂ 0): MIN: TBD MAX: TBD	GAUGE?		<u>NO</u>				
BULK PARTICLE DENSITY (LB/FT ³): 0.000038		INLET TEMPERATI		MIN Ambient	MAX 325		
POLLUTANT LOADING RATE: 118 🗹 LB/HR	GR/FT ³	OUTLET TEMPERA	ATURE (°F)	MIN Ambient	MAX 325		
INLET AIR FLOW RATE (ACFM): 51,111		FILTER OPERATIN	IG TEMP (°F	;): 325			
NO. OF COMPARTMENTS: 3 NO. OF BAGS F	PER COMPARTMENT	: 256	<u>. </u>	LENGTH OF BAG	(IN.): 120.5		
NO. OF CARTRIDGES: 768 FILTER SURFA	CE AREA PER CART	RIDGE (FT ²): 12.11		DIAMETER OF BA	AG (IN.): 4-5/8		
TOTAL FILTER SURFACE AREA (FT ²): 9,299	AIR TO CLOTH RAT	10: 5.5					
DRAFT TYPE: INDUCED/NEGATIVE	FORCED/POSITIVE		FILTER MA		WOVEN	FELTED	
DESCRIBE CLEANING PROCEDURES:				PAR	TICLE SIZE DIST	RIBUTION	17753
AIR PULSE	SONIC			SIZE	WEIGHT %	CUMULA	ATIVE
REVERSE FLOW	SIMPLE BAG COLLA	APSE		(MICRONS)	OF TOTAL	%	
MECHANICAL/SHAKER	RING BAG COLLAPS	SE		0-1	TBD	TBL)
OTHER:				1-10	TBD	TBL)
DESCRIBE INCOMING AIR STREAM: Hot air from drying an	nd mixing drums in HM	1A plant		10-25	TBD	TBL)
				25-50	TBD	TBC)
				50-100	TBD	TBL)
				>100	TBD	TBL	
				- 100	J	TAL = 100	,
					10	17AL - 100	
ON A SEPARATE PAGE, ATTACH A DIAGRAM SHOWING	THE RELATIONSHIP	OF THE CONTROL	DEVICE T	O ITS EMISSION S	OURCE(S):		
COMMENTS:							

DIAGRAM OF BAGHOUSE IN RELATION TO CONTROLLED EQUIPMENT



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FORM B

SPECIFIC EMISSION SOURCE INFORMATION (REQUIRED FOR ALL SOURCES)

REVISED 09/22/16 NC	DEQ/Division	of Air Quality	Application f	or Air Permit	to Construct/0	Operate		В		
E/ 'ON SOURCE DESCRIPTION: RAP Cru	ishing System			EMISSION S	SOURCE ID NO	D: RAP-CRSH	RAP-CNV RA	P-SCN		
				CONTROL DEVICE ID NO(S):						
OPERATING SCENARIO 1	OF	1			OINT (STACK	· · · · · · · · · · · · · · · · · · ·				
DESCRIBE IN DETAILTHE EMISSION SOUR RAP Crushing System consisting of: One crus	her (65 tph), Fo	our conveyors, C)ne screen							
TYPE OF EMISSION SOU							-			
Coal,wood,oil, gas, other burner (Form B1)			king (Form B4	•		f. of chemicals/	•	(Form B7)		
Int.combustion engine/generator (Form B2)		nishing/printin			ration (Form B	8)			
Liquid storage tanks (Form B3)	····	Storage s	ilos/bins (Forr		✓ Other	(Form B9)				
START CONSTRUCTION DATE:			T	IFACTURED:						
MANUFACTURER / MODEL NO.: TELSMITH F			L	OP. SCHEDUI			AY/WK	WK/YR		
	S (SUBPARTS				AP (SUBPAR)	[S?):				
PERCENTAGE ANNUAL THROUGHPUT (%):		MAR-MAY		UN-AUG	SEP-					
CRITERIA A	IR POLLUT	<u> TANT EMISS</u>	IONS INFO	DRMATION	FOR THIS	SOURCE				
		SOURCE OF	EXPECTE	D ACTUAL		POTENTIAL	EMISSIONS			
		EMISSION	(AFTER CONT	ROLS / LIMITS)	(BEFORE CON	TROLS / LIMITS)	(AFTER CON	TROLS / LIMITS)		
AIR POLLUTANT EMITTED		FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr		
PARTICULATE MATTER (PM)					1					
PARTICULATE MATTER<10 MICRONS (PM10)		1		1	1					
PARTICULATE MATTER<2.5 MICRONS (PM25)				1						
SULFUR DIOXIDE (SO2)			SEE A	PENDIX B	1					
NITROGEN OXIDES (NOx)					······			1		
CARBON MONOXIDE (CO)								· · · · · · · · · · · · · · · · · · ·		
V/ ILE ORGANIC COMPOUNDS (VOC)										
								1		
OTHER								· · · · · · · · · · · · · · · · · · ·		
HAZARDOUS			SIONS INF		N EOR THU	SSOURCE				
		SOURCE OF		D ACTUAL			EMISSIONS	10.02.20100.003.145.01.091		
		EMISSION			(PEEODE CON					
HAZARDOUS AIR POLLUTANT	CAS NO.	FACTOR		ROLS / LIMITS)		rROLS / LIMITS)		rROLS / LIMITS)		
TAZARDOUS AIR FOLLUTANT	CAS NO.	FACIOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr		
								<u> </u>		
· · · · · · · · · · · · · · · · · · ·										
							······			
					·					
	- <u> </u> -:									
				1272292201012204145204145504240424			the same test on the second	a di sanata dina kata manana manana di sa		
TOXIC AIR	POLLUTA	NT EMISSIO	<u>NS INFOR</u>	MATION FO	OR THIS SO	DURCE		Carlos Carlos I.		
		SOURCE OF	EXPE	CTED ACTUAL	EMISSIONS	AFTER CONT	ROLS / LIMIT	ATIONS		
TOXIC AIR POLLUTANT	CAS NO.	EMISSION . FACTOR		/hr	ib/	day		o/yr		
	CAUNC.		di	/11	1070	Jay		<i>y</i> yı		
· · · · · · · · · · · · · · · · · · ·	-	<u> </u>								
		ł								
	-									
······································	+									
={	<u> </u>									
$A^{h}_{\rm table}$ lents: (1) emissions calculations and supporting describe how these are monitored and with what frequ							operation, emis	ssion rates) and		

COMPLETE THIS FORM AND COMPLETE AND ATTACH APPROPRIATE B1 THROUGH B9 FORM FOR EACH SOURCE Attach Additional Sheets As Necessary

FORM B9 EMISSION SOURCE (OTHER)

REVISED 09/22/16 NCDEQ/Division of Air Quality	- Application f	or Air Permit to Construct/Oper	ate B9				
SION SOURCE DESCRIPTION: RAP Crushing System		EMISSION SOURCE ID NO: RA	AP-CRSH RAP-CNV RAP-SCN				
		CONTROL DEVICE ID NO(S): NA					
OPERATING SCENARIO: 0F 1		EMISSION POINT (STACK) ID	NO(S):				
DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAGRAM):							
RAP Crushing System consisting of:							
One crusher (65 tph)							
Four conveyors One screen							
MATERIALS ENTERING PROCESS - CONTINUOUS PROC	ESS	MAX. DESIGN	REQUESTED CAPACITY				
TYPE	UNITS	CAPACITY (UNIT/HR)	LIMITATION(UNIT/HR)				
RAP	tons	65	65				
		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·				
							
MATERIALS ENTERING PROCESS - BATCH OPERATIC	N	MAX. DESIGN	REQUESTED CAPACITY				
ТҮРЕ	UNITS	CAPACITY (UNIT/BATCH)	LIMITATION (UNIT/BATCH)				
MAXIMUM DESIGN (BATCHES / HOUR):							
REQUESTED LIMITATION (BATCHES / HOUR):	(BATCHES/YF		· · · · · · · · · · · · · · · · · · ·				
FUEL USED: <i>NG/#2/ REC #2/ REC #4</i>		//UM FIRING RATE (MILLION BT	U/HR)· 80				
MAX. CAPACITY HOURLY FUEL USE:		CAPACITY ANNUAL FUEL USE					
COMMENTS:	1						

FORM B

SPECIFIC EMISSION SOURCE INFORMATION (REQUIRED FOR ALL SOURCES)

REVISED 09/22/16 NC	DEQ/Division	of Air Quality	Application fo	or Air Permit	o Construct/0	Operate	,	В
EN ON SOURCE DESCRIPTION: Truck M	ix Concrete Ba	tch Plant (120 cl	ubic yards per	EMISSION S	OURCE ID NO): RM-1 throug	h RM-5	
h6						(S): RMC-CD2		
OPERATING SCENARIO 1	OF	1		· · · · · · · · · · · · · · · · · · ·) ID NO(S): EP	2.2	
DESCRIBE IN DETAILTHE EMISSION SOUR Truck Mix Concrete Batch Plant (120 cubic yai Cement silo (185 tons maximum capacity), Fly Aggregate weigh batcher (5 tons maximum cap TYPE OF EMISSION SOU	rds per hour) c ash silo (135 t pacity)	onsisting of: ons maximum ca	apacity), Truck	loadout point,	Cement/flyash	n weigh batcher	r (5 tons maxi	mum capacity),
TYPE OF EMISSION SOU		r						(Corm D7)
Int.combustion engine/generator (Form B2			king (Form B4	-		. of chemicals/	•	(Form B7)
Liquid storage tanks (Form B3))		nishing/printing ilos/bins (Form	,		ration (Form B8 (Form B9)	5)	
START CONSTRUCTION DATE:			DATE MANU		J Other			
MANUFACTURER / MODEL NO.:			r					
		201.	EXPECTED (<u>//KWK/</u>	YR
PERCENTAGE ANNUAL THROUGHPUT (%):	S (SUBPARTS	MAR-MAY			AP (SUBPART		<u> </u>	
CRITERIA A				UN-AUG	SEP-			W. C. M. BARRIS
	INFOLLOI				<u>FUN I HIS</u>			
		SOURCE OF		D ACTUAL			EMISSIONS	
		EMISSION	(AFTER CONT	r		ROLS / LIMITS)		TROLS / LIMITS)
	······ · · · · · · · · · · · · · · · ·	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
PARTICULATE MATTER (PM)								
PARTICULATE MATTER (10 MICRONS (PM10)								
PARTICULATE MATTER<2.5 MICRONS (PM _{2.5})			SEE AI	PENDIX B				+
								<u></u>
Vf 'LE ORGANIC COMPOUNDS (VOC)		· · · · ·						
OTHER								
HAZARDOUS			SIGNSINE			SOUDCE		
TIAZANDOUS		T			N FOR I HIS			To a data ang data data da
		SOURCE OF	EXPECTE			POTENTIAL		
HAZARDOUS AIR POLLUTANT	CAS NO.	EMISSION FACTOR	(AFTER CONTR		(BEFORE CONT	· · · · · · · · · · · · · · · · · · ·		ROLS / LIMITS)
TIAZARDOUS AIR FOLLUTANT	CAS NO.	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
				• • • • • • • • • • • • • • • • • • • •				
<u> </u>								
								· · · · · ·
······		SEE APPEN						
								·
							······································	
TOXIC AIR	POLIUTA	NT EMISSIO	NS INFOR		DR THIS SC			L. Starty and T. S.
		SOURCE OF				AFTER CONTR	ROLS / LIMIT/	ATIONS
		EMISSION						
TOXIC AIR POLLUTANT	CAS NO.	FACTOR	lb/	hr	lb/c	iay	lb	o/yr
		ļļ	·					
				· · · · · · · · · · · · · · · · · · ·				
·		ļ ļ						
		SEE APPEN	DIX B					
		 						
Atuents: (1) emissions calculations and supporting describe how these are monitored and with what frequences	g documentation ency; and (3) des	; (2) indicate all rec scribe any monitori	quested state an ing devices, cau	d federal enforc ges, or test port	eable permit limi s for this source.	ts (e.g. hours of	operation, emis	sion rates) and

COMPLETE THIS FORM AND COMPLETE AND ATTACH APPROPRIATE B1 THROUGH B9 FORM FOR EACH SOURCE Attach Additional Sheets As Necessary

FORM B9 EMISSION SOURCE (OTHER)

REVISED 09/22/16 NCDEQ/Division of Air Quality	- Application f	or Air Permit to Construct/Oper	ate B9
SION SOURCE DESCRIPTION: Truck Mix Concrete Batch Plant	(120 cubic	EMISSION SOURCE ID NO: RA	A-1 through RM-5
} per hour)		CONTROL DEVICE ID NO(S): F	
OPERATING SCENARIO: 0F1		EMISSION POINT (STACK) ID I	
DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAGRAM):			
Truck Mix Concrete Batch Plant (120 cubic yards per hour) consisting o Cement silo (185 tons maximum capacity), Fly ash silo (135 tons maxin capacity), Aggregate weigh batcher (5 tons maximum capacity)		Truck loadout point, Cement/flyasi	h weigh batcher (5 tons maximum
	reo		
MATERIALS ENTERING PROCESS - CONTINUOUS PROC		MAX. DESIGN	
	UNITS	CAPACITY (UNIT/HR)	LIMITATION(UNIT/HR)
Cement	lb	448	448
Supplement	lb	148	148
Coarse Aggregate	lb	1980	1980
Sand	lb	1440	1440
Water	lb	140	140
MATERIALS ENTERING PROCESS - BATCH OPERATIO	I DN	MAX. DESIGN	REQUESTED CAPACITY
TYPE	UNITS	CAPACITY (UNIT/BATCH)	LIMITATION (UNIT/BATCH)
		•	
	-		
· ·			
	1		
· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	
MAXIMUM DESIGN (BATCHES / HOUR):	<u>L</u>		
REQUESTED LIMITATION (BATCHES / HOUR):	(BATCHES/YI	·····	
	T		
FUEL USED: NG/#2/ REC #2/ REC #4		MUM FIRING RATE (MILLION BT	
MAX. CAPACITY HOURLY FUEL USE: COMMENTS:	IKEQUESTED	CAPACITY ANNUAL FUEL USE	
FORM C1 CONTROL DEVICE (FABRIC FILTER)

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REVISED 09/22/16	NCDEQ/I	Division of Air Quality	- Applicatio	on for Air Pern	nit to Construct/Op	erate			C1
CONTROL DEVICE ID NO: RMC-CD2		CONTROLS EMISS	SIONS FROM	WHICH EMI	SSION SOURCE ID	NO(S):	See Form A2&A3	3	
EMISSION POINT (STACK) ID NO(S):	EP-2	POSITION IN SERI	ES OF CON	TROLS		NO.	1 OF	1 UNITS	
OPERATING S	SCENARIO:								
					PER 2q .0112)?	<u> </u>	ES	✓ NO	
DESCRIBE CONTROL SYSTEM: C&W Ma and aggregate and truck loading.	anufacturing - R	A-140 - 6500 CFM to c	ontrol emiss	ions from ceme	ent /fly ash silos				
and aggregate and track loading.									
POLLUTANTS COLLECTED:			PM	PA	<i>M</i> 10				
								_	
BEFORE CONTROL EMISSION RATE (LE	3/HR):				<u>.</u>			_	
CAPTURE EFFICIENCY:			. <u> </u>	_%	%	%		%	
CONTROL DEVICE EFFICIENCY:				%	%	%		%	
			<u> </u>			^		- **	
CORRESPONDING OVERALL EFFICIENC	CY:			%	%	%		_%	
EFFICIENCY DETERMINATION CODE:			•					-	
TOTAL AFTER CONTROL EMISSION RAT	TE (LB/HR):		Se	e Appendix	В				
		0.110-0		· · · · · · · · · · · · · · · · · · ·					
PRESSURE DROP (IN H ₂ 0): MIN: BULK PARTICLE DENSITY (LB/FT ³):	MAX:	GAUGE?	YES		****		^ X		
POLLUTANT LOADING RATE:	LB/HR	GR/FT ³		IPERATURE (EMPERATURI		• M	AX		
INLET AIR FLOW RATE (ACFM): 6,500		<u>L] 0.0.1</u>	·	ERATING TE		141			
NO, OF COMPARTMENTS: 2	NO. OF BAGS	PER COMPARTMEN			LENGTH OF	BAG (IN	.):		
NO. OF CARTRIDGES:		ACE AREA PER CART		²):	DIAMETER O		· · · · · · · · · · · · · · · · · · ·		
TOTAL FILTER SURFACE AREA (FT ²):		AIR TO CLOTH RAT	10:	<u>.</u>					
DRAFT TYPE: INDUCED/NEG		FORCED/POSITIVE		FILTE	R MATERIAL:	Πw	OVEN	FELTED	
DESCRIBE CLEANING PROCEDURES:					ENG 189	PARTIC	LE SIZE DISTRI	BUTION	197.20
AIR PULSE		SONIC			SIZE		WEIGHT %	CUMULA	TIVE
REVERSE FLOW		SIMPLE BAG COLL	APSE		(MICRONS	5)	OF TOTAL	%	
		RING BAG COLLAP	SE		0-1				
OTHER:	<u></u>				1-10			·	
DESCRIBE INCOMING AIR STREAM: weig	thing and truck	loading of aggregate, fly	/ ash and ce	ment	10-25				
					25-50				
					50-100				
					>100			1 - 100	
							1014	AL = 100	
ON A SEPARATE PAGE, ATTACH A DIAG									
COMMENTS:		G THE RELATIONSHIP	- OF THE C	UNTROL DEV	ICE 10 113 EMISSI	511 301			

APPENDIX B

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EMISSIONS CALCULATIONS

Carolina Sunrock Burlington

	Potential	Emissions		TPER Three	shold		Above	TPER Thresh	old?
Facility-wide PTE	lb/hr	lb/day	lb/year	lb/hr	lb/day	lb/year	lb/hr	lb/day	lb/year
Acetaldehyde	3.25E-01	7.80E+00	1.94E+03	28.43			No		
Acrolein	6.50E-03	1.56E-01	3.87E+01	0.08			No		
Ammonia	7.17E-03	1.72E-01	6.28E+01	2.84			No		
Arsenic unlisted cmpds (comp. of ASC)	2.15E-04		1.49E+00			0.194			Yes
Benzene	9.90E-02	2.38E+00	5.90E+02			11.069			Yes
Benzo(a)pyrene	4.41E-06	1.06E-04	2.63E-02			3.044			No
Beryllium metal (unreacted)	1.14E-05	2.74E-04	1.00E-01			0.378			No
Cadmium metal (elemental unreacted)	1.10E-04	2.64E-03	6.75E-01	-		0.507			Yes
Carbon disulfide	6.23E-04	1.49E-02	3.71E+00		7.8			No	
Chromic acid (VI) (component of solCR6 and CRC)	2.78E-04	6.66E-03	2.12E+00		2.60E-02			No	
Dichlorobenzene	2.69E-06	6.46E-05	2.36E-02	69.5			No		
Formaldehyde	7.97E-01	1.91E+01	4.75E+03	0.16			Yes		
Hexachlorodibenzo-p-dioxin 1,2,3,6,7,8	3.25E-10	7.80E-09	1.94E-06			0.007			No
Hexane, n-	2.43E-01	5.84E+00	1.46E+03		46.3			No	
Hydrogen Chloride (hydrochloric acid)	5.25E-02	1.26E+00	3.13E+02	0.74	•		No		
Hydrogen Sulfide	1.37E-02	3.28E-01	8.15E+01		5.1			No	
Manganese unlisted compounds	2.69E-03	6.45E-02	1.81E+01		1.3			No	
Mercury, vapor	6.57E-04	1.58E-02	3.93E+00		2.50E-02			No	
Methyl chloroform	1.20E-02	2.88E-01	7.15E+01	257.98	505.4		No	No	
Methyl ethyl ketone	6.70E-03	1.61E-01	3.99E+01		155.8			No	
Methylene chloride	8.23E-06	1.97E-04	4.90E-02	1.79		2213.752	No		No
Nickel metal	1.59E-02	3.83E-01	9.55E+01		0.3			Yes	
Perchloroethylene (tetrachloroethylene)	8.01E-05	1.92E-03	4.77E-01			17525.53			No
Phenol	1.01E-03	2.41E-02	5.99E+00	1			No		
Styrene	2.40E-04	5.77E-03	1.43E+00	11.16			No		
Tetrachlorodibenzo-p-dloxin, 2,3,7,8-	5.25E-11	1.26E-09	3.13E-07			2.77E-04			No
Toluene	7.29E-01	1.75E+01	4.34E+03	58.97	197.96		No	No	
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00			5442.14			No
Trichlorofluoromethane (CFC 111)	1.35E-05	3.24E-04	8.05E-02	589.66			No		
Xylene	6.04E-02	1.45E+00	3.59E+02	68.44	113.7		No	No	

NC Department of Environmental Quality Received

SEP 17 2019

Winston-Salem Regional Office

Carolina Sunrock Burlington

Source: Description: Asphalt Cement Heater IES-4

1.2 MMBtu/hour heater for asphalt Cement (Heatec HCS-70 Heater)

Maximum operation: Heating value of NG: Heating value of 2 FO: Sulfur content of 2 FO:

Maximum NG usage:

Maximum 2 FO usage:

1026 Btu/cf 140 MMBtu/1000 gallon 0.50% 1.17E-03 MMcf/hour 8.57E-03 '000 gallons/hour

8760 hours/year

NG Emissions (ib/hour) = Emission Factor (ib/MMcf) * Potential Fuel Usage (MMcf/hour) NG Emissions (tons/year) = Emissions (ib/hour) * Operation (hour/year) / 2000 (ib/ton) 2 FO Emissions (ib/hour) = Emission Factor (ib/1000 gallons) * Potential Fuel Usage ('000 gallons/hour) 2 FO Emissions (tons/year) = Emissions (ib/hour) * Operation (hour/year) / 2000 (ib/ton)

	Nat	ural Gas Combu	stion		2 F	uel Oil Combus	tion	
				Emission				Max
	Emission			Factor				Emissions
	Factor	Emissions	Emissions	(lb/'000		Emissions	Emissions	(NG/2 FO)
Pollutant	(lb/MMcf) ¹	(lb/hour	(tons/year)	gallons) ²		(lb/hour	(tons/year)	(tons/year)
PM	7,6	8.89E-03	3.89E-02		2	1.71E-02	7.51E-02	7.51E-02
PM-10	7.6	8.89E-03	3.89E-02	1.	241	1.06E-02	4.665-02	4.66E-02
PM-2.5	7,6	8,89E-03	3.89E-02	1.	241	1.06E-02	4.66E-02	4.668-02
502	0.6	7.02E-04	3.07E-03		71	6.09E-01	2.67E+00	2.67E+00
NOx	100	1.17E-01	5,12E-01		20	1.71E-01	7.51E-01	7.51E-01
VOCs	5.5	6.43E-03	2.82E-02	0.	556	4.77E-03	2.09E-02	2.82E-02
со	84	9.82E-02	4.30E-01		5	4.29E-02	1.88E-01	4.30E-01
2-Methylnaphthalene	2.40E-05	2.81E-08	1.23E-07			0.00E+00	0.00E+00	1.23E-07
3-Methylchloranthrene	1.80E-06	2.11E-09	9.22E-09			0.00E+00	0.00E+00	9.22E-09
7,12-Dimethylbenz(a)anathracene	1.60E-05	1.87E-08	8,20E-08			0.00E+00	0.00E+00	8.20E-08
Acenaphthene	1.80E-06	2.11E-09	9.22E-09	2,118		1.81E-07	7.92E-07	7.92E-07
Acenaphtylene	1.80E-06	2.11E-09	9.22E-09	2.538	E-07	2.17E-09	9.50E-09	9,50E-09
Acetaldehyde	1.52E-05	1.78E-08	7.79E-08			0.00E+00	0.00E+00	7.79E-08
Acrolein	1.80E-05	2.11E-08	9.22E-08			0.00E+00	0.00E+00	9.22E-08
Ammonia	3.20E+00	3.74E-03	1.64E-02			0.00E+00	0.00E+00	1.64E-02
Anthracene	2,40E-06	2.81E-09	1.23E-08	1.228		1.05E-08	4.58E-08	4.58E-08
Benz(a)anthracene	1.80E-06	2.11E-09	9.22E-09	4.01E		3.44E-08	1.51E-07	1.51E-07
Benzene	2.10E-03		1.08E-05	2.145	-04	1.83E-06	8.03E-06	1.08E-05
Benzo(a)pyrene	1.20E-06	1.40E-09	6.15E-09			0.00E+00	0.00E+00	6.15E-09
Benzo(b)fluoranthene	1.80E-06	2.11E-09	9,22E-09	1.48E		1.27E-08	5.56E-08	5.56E-08
Benzo(g,h,i)perylene	1.20E-06	1.40E-09	6.15E-09	2.26E	-06	1.94E-08	8.48E-08	8.48E-08
Benzo(k)fluoranthene	1.80E-06	2.11E-09	9.22E-09			0.00E+00	0.00E+00	9,22E-09
Butane	2.1	2.46E-03	1.08E-02			0.00E+00	0.00E+00	1.08E-02
Chrysene	1.80E-06	2. 1 1E-09	9.22E-09	2.38E		2.04E-08	8.94E-08	8.94E-08
Dibenzo(a,h)anthracene	1.20E-06	1.40E-09	6.15E-09	1.67E	-06	1.43E-08	6.27E-08	6.27E-08
Dichlorobenzene	1.20E-03	1.40E-06	6.15E-06			0.00E+00	0.00E+00	6.15E-06
Ethane	3.1	3.63E-03	1.59E-02			0.00E+00	0.00E+00	1.59E-02
Ethylbenzene		0.00E+00	0.00E+00	6.36E		5.45E-07	2.39E-06	2.39E-06
Fluoranthene	3,005-06	3.51E-09	1.54E-08	4.84E		4.15E-08	1.82E-07	1.82E-07
Fluorene	2.80E-06	3.27E-09	1.43E-08	4.47E		3.83E-08	1.68E-07	1.68E-07
Formaldehyde	7.50E-02	8.77E-05	3.84E-04	3.30E	-02	2.83E-04	1.24E-03	1.24E-03
Hexane	1.8	2.11E-03	9.22E-03			0.00E+00	0.00E+00	9.22E-03
Indeno(1,2,3-cd)pyrene	1.80E-06	2.11E-09	9.22E-09	2.14E		1.83E-08	8.03E-08	8.03E-08
Naphthalene OCDD	6.10E-04	7.13E-07	3.12E-06	. 1.13E		9,69E-06	4.24E-05	4.24E-05
Pentane	2.6	0.00E+00	0.00E+00	3,10E	-09	2.66E-11	1.16E-10	1.16E-10
Phenanathrene	2.6 1.70E-05	3.04E-03	1.33E-02	1.055	05	0.00E+00	0.00E+00	1,332-02
Propane	1.702-05	1.99E-08 1.87E-03	8.71E-08 8.20E-03	1.05E	-05	9.00E-08	3.94E-07	3.94E-07
Pyrene	5.00E-06	5,85E-09	2.56E-03	4.25E	nc	0.00E+00	0.00E+00	8.20E-03
Toluene	3,40E-02	3,98E-05	1.74E-04	4.23E 6.20E		3.64E-08 5.31E-05	1.60E-07 2.33E-04	1.60E-07 2.33E-04
1,1,1-Trichloroethane	5,402-02	0.00E+00	0.00E+00	2.36E		2.02E-06	8,86E-06	8.86E-06
Xylene		0,00E+00	0.00E+00	2.58E		2.02E-08 9.34E-07	4.09E-06	4.09E-06
Arsenic	2.00E-04	2.34E-07	1.02E-06	5.60E		4.80E-06	2.10E-05	2.10E-05
Barium	4.40E-03	5.15E-06	2.25E-05	0.00E		0.00E+00	0.00E+00	2.102-05 2.25E-05
Beryllium	1.20E-05	1.40E-08	6.15E-08	4.20E		3.60E-06	1.58E-05	1,58E-05
Cadmium	1.10E-03	1.29E-06	5.64E-06	4.205		3,60E-06	1.58E-05	1,585-05
Chromium (as chromic acid)	1.40E-03	1.64E-06	7.17E-06	4.205		3,60E-06	1.58E-05	1.58E-05
Cobalt	8.40E-05	9.82E-08	4.30E-07	4.200		0.00E+00	0.00E+00	4.30E-07
Copper	8.50E-04	9.94E-07	4.35E-06	8.40E	-04	7.20E-06	3.15E-05	4.50E-07 3.15E-05
Lead	5.00E-04	5.85E-07	2.56E-06	1.265		1.08E-05	4.73E-05	4.73E-05
Manganese	3.80E-04	4.44E-07	1.95E-06	8.40E		7.20E-05	3.15E-05	4.75E-05 3.15E-05
Mercury	2.60E-04	3.04E-07	1.33E-06	4.205		3.60E-06	1.58E-05	1.58E-05
Molybdenum	1.10E-03	1.29E-06	5.64E-06	4,201	57	0.00E+00	0.00E+00	5.64E-06
Nickel	2.10E-03	2.46E-06	1.08E-05	4.20E	-04	3.60E-06	1,58E-05	1.58E-05
Selenium	2.40E-05	2.40E-00	1.23E-07	4.20E- 2.10E-		1.80E-05	7.88E-05	7,88E-05
Vanadium	2.30E-03	2.69E-06	1.18E-05	2,100	00	0.00E+00	0.00E+00	1,18E-05
Zinc	2.90E-02	3,39E-05	1.49E-04	5.60E	-04	4.80E-06	2,10E-05	1,182-03
1 AD 47. Constitution of Ale Dollutout Frates		Stationary Ser	LIGEDA Eth				2,101-03	1,475-04

¹ - AP-42; Compilation of Air Pollutant Emission Factors Vol. 1 - Stationary Sources USEPA, 5th ed. Section 1.4, 7/98 - with following exceptions:

Acetaldehyde, ammonia, acrolein are from WebFIRE database.

² - AP-42; Compilation of Air Pollutant Emission Factors Vol. 1 - Stationary Sources USEPA, 5th ed. Section 1.3, 9/98

Source:

Description:

Heater for Liquid Asphalt Tank IES-5

8760 hours/year

1.1 MMBtu/hour heater for liquid asphalt tank (Heatec Direct Heater)

,

Maximum operation: Heating value of NG: Heating value of 2 FO: Sulfur content of 2 FO:

Maximum NG usage: Maximum 2 FO usage: 1026 Btu/cf 140 MMBtu/1000 gallon 0.50% 1.07E-03 MMcf/hour

7.86E-03 '000 gallons/hour

NG Emissions (ib/hour) = Emission Factor (Ib/MMcf) * Potential Fuel Usage (MMcf/hour) NG Emissions (tons/year) = Emissions (ib/hour) * Operation (hour/year) / 2000 (ib/ton) 2 FO Emissions (ib/hour) = Emission Factor (ib/1000 gallons) * Potential Fuel Usage ('000 gallons/hour) 2 FO Emissions (tons/year) = Emissions (ib/hour) * Operation (hour/year) / 2000 (ib/ton)

	Nat	ural Gas Combu	istion			Fuel Oll Combus	tion	
				Emissio	n			Max
	Emission			Factor				Emissions
	Factor	Emissions	Emissions	(lb/'000	-	Emissions	Emissions	(NG/2 FO)
Pollutant	(lb/MMcf) ¹	(lb/hour	(tons/year)	gallons)		(lb/hour	(tons/year)	(tons/year)
PM	7.6	8.15E-03	3.57E-02		2	1.57E-02	6.88E-02	
PM-10	7.6	8.15E-03	3.57E-02		1.241	9.75E-03	4.27E-02	4.27E-02
PM-2.5	7.6	8.15E-03	3.57E-02		1.241	9.75E-03	4.27E-02	4.27E-02
SO2	0,6	6.43E-04	2.82E-03		71	. 5.58E-01	2.44E+00	2.44E+00
NOx	100	1.07E-01	4.70E-01		20	1.57E-01	6.88E-01	6,88E-01
VOCs	5.5	5.90E-03	2.58E-02		0.556	6 4.37E-03	1.91E-02	2.58E-02
со	84	9.01E-02	3.94E-01		5	3.93E-02	1.72E-01	3.94E-01
2-Methylnaphthalene	2,40E-05	2,57E-08	1.13E-07			0.00E+00	0.00E+00	1.13E-07
3-Methylchloranthrene	1.80E-06	1.93E-09	8.45E-09			0.00E+00	0.00E+00	8.45E-09
7,12-Dimethylbenz(a)anathracene	1.60E-05	1.72E-08	7.51E-08			0.00E+00	0.00E+00	7.51E-08
Acenaphthene	1.80E-06	1.93E-09	8.45E-09	2.:	L1E-05	1.66E-07	7.26E-07	7.26E-07
Acenaphtylene	1.80E-06	1.93E-09	8.45E-09	2.5	3E-07	1.99E-09	8.71E-09	8.71E-09
Acetaldehyde	1.52E-05	1.63E-08	7.14E-08			0.00E+00	0.00E+00	7.14E-08
Acrolein	1,80E-05	1.93E-08	8.45E-08			0.00E+00	0.00E+00	8.45E-08
Ammonia	3,20E+00	3,43E-03	1.50E-02			0.00E+00	0.00E+00	1.50E-02
Anthracene	2,408-06	2.57E-09	1.13E-08	1.2	2E-06	9.59E-09	4.20E-08	4.20E-08
Benz(a)anthracene	1.80E-06	1.93E-09	8.45E-09	4.0	1E-06	3.15E-08	1.38E-07	1.38E-07
Benzene	2.10E-03	2.25E-06	9,86E-06		4E-04		7.36E-06	9.86E-06
Benzo(a)pyrene	1.20E-06	1.29E-09	5.64E-09			0.00E+00	0.00E+00	5.64E-09
Benzo(b)fluoranthene	1.80E-06	1.93E-09	8.45E-09	1.4	8E-06		5.09E-08	5.09E-08
Benzo(g,h,i)perylene	1.20E-06	1.29E-09	5.64E-09		6E-06		7.78E-08	7.78E-08
Benzo(k)fluoranthene	1.80E-06	1.93E-09	8.45E-09			0,00E+00	0.00E+00	8.45E-09
Butane	2.1	2.25E-03	9.86E-03			0.00E+00	0.00E+00	9.86E-03
Chrysene	1.80E-06	1.93E-09	8.45E-09	2.9	8E-06		8.19E-08	8.19E-08
Dibenzo(a,h)anthracene	1.20E-06	1.29E-09	5.64E-09		7E-06		5.75E-08	5.75E-08
Dichlorobenzene	1.20E-03	1.29E-06	5.64E-06	2.0		0.00E+00	0.00E+00	5.64E-06
Ethane	3.1	3.32E-03	1.46E-02			0.00E+00	0.00E+00	1.46E-02
Ethylbenzene	5.1	0.00E+00	0.00E+00	63	6E-05		2.19E-06	2.19E-06
Fluoranthene	3.00E-06	3.22E-09	1.41E-08		4E-06		1.67E-07	1.67E-07
Fluorene	2.80E-06	3,00E-09	1.31E-08		7E-06		1.54E-07	1.54E-07
Formaldehyde	7.50E-02	8.04E-05	3,52E-04		0E-02	2.59E-04	1.14E-03	1.14E-03
Hexane	1.8	1.93E-03	8.45E-03	5.5	01-02	0.00E+00	0.00E+00	8.45E-03
Indeno(1,2,3-cd)pyrene	1.80E-06	1.93E-09	8.45E-09	21	4E-06		7.36E-08	7.36E-08
Naphthalene	6.10E-04	6.54E-07	2.86E-06		3E-03	8.88E-06	3.89E-05	3,89E-05
OCDD	0.102-04	0.00E+00	0.00E+00		0E-09	2.44E-11	1.07E-10	1.07E-10
Pentane	2,6	2.79E-03	1.22E-02	3,1	01-05	0.00E+00	0.00E+00	1.22E-02
Phenanathrene	1.70E-05	1.82E-08	7.98E-08	10	5E-05	8.25E-08	3.61E-07	3.61E-07
Propane	1.6	1.72E-03	7.51E-03	1,0	56-05	0.00E+00	0,00E+00	7.51E-03
Pyrene	5,00E-06	5.36E-09	2.35E-08	47	5E-06	3.34E-08	1.46E-07	1.46E-07
Toluene	3.40E-08	3.56E-05	1.60E-08		0E-08	4.87E-05	2.13E-04	2.13E-04
1,1,1-Trichloroethane	3.400-02	0.00E+00	0.00E+00		68-04	4.872-05 1.85E-06	8.128-04	8.12E-06
Xylene		0.00E+00	0,00E+00		9E-04	8.56E-07	3.75E-06	3.75E-06
Arsenic	2.00E-04	2.14E-07	9.39E-07		0E-04	4.40E-06	1.93E-05	1.93E-05
Barium	4.40E-03	4.72E-06	2.07E-05		DE+00	0.00E+00	0.00E+00	2,07E-05
Beryllium	1.20E-05	4.722-08 1.29E-08	5,64E-08		0E-04	3.30E-06	1.45E-05	1.45E-05
Cadmium	1.10E-03	1.18E-06			0E-04			
			5.17E-06			3.30E-06	1.45E-05	1.45E-05
Chromium (as chromic acid)	1.40E-03 8.40E-05	1.50E-06	6.57E-06	4.2	0E-04	3.30E-06	1.45E-05	1.45E-05
Cobalt	8.40E-05 8.50E-04	9.01E-08	3.94E-07 3.99E-06		0E-04	0.00E+00	0.00E+00	3.94E-07
Copper		9.11E-07				6.60E-06	2.89E-05	2.89E-05
Lead	5.00E-04	5.36E-07	2.35E-06		6E-03	9.90E-06	4.34E-05	4.34E-05
Manganese	3.80E-04	4.07E-07	1.78E-06		0E-04	6.60E-06	2.89E-05	2.89E-05
Mercury	2.60E-04	2.79E-07	1.22E-06	4.2	0E-04	3,30E-06	1.45E-05	1.45E-05
Molybdenum	1.10E-03	1.18E-06	5.17E-06			0.00E+00	0.00E+00	5.17E-06
Nickel	2.10E-03	2.25E-06	9.86E-06		0E-04	3.30E-06	1.45E-05	1.45E-05
Selenium	2.40E-05	2.57E-08	1.13E-07	2.1	0E-03	1.65E-05	7.23E-05	7.23E-05
Vanadium	2.30E-03	2.47E-06	1.08E-05			0.00E+00	0.00E+00	1.08E-05
Zinc	2.90E-02	3.11E-05	1.36E-04	5.6	0E-04	4.40E-06	1.93E-05	1.36E-04

¹ - AP-42; Compllation of Air Pollutant Emission Factors Vol. 1 - Stationary Sources USEPA, 5th ed. Section 1.4, 7/98 - with following exceptions:

Acetaldehyde, ammonia, acrolein are from WebFIRE database.

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² - AP-42; Compilation of Air Pollutant Emission Factors Vol. 1 - Stationary Sources USEPA, 5th ed. Section 1.3, 9/98

ASPHALT EMISSIONS CALCULATOR REVISION F 07/18/2012 INPUT SCREEN



Does Method 5 data already exist?: NO

Allowable emission rate under 2 D .0506:	55.39	lb/hr
Does this plant emit less than this limit ?:	Yes	(based on emission factors)
Control efficiency required:	99,209	%

Silo Filling plus Loa Pollutant ^{Total PM} co Voc	28 6.4 28 6.5 0.0837 0.1300 0.0550 0.0320 Emission Factor, combined (lb/tan)	Controlled Emission Factor (b/ton) 0.0194 0.0039 0.0033 0.023 0.023 0.0837 0.130 0.055 0.032 0.010	uncontrolled emission rate (lb/hr) 16.35 7000 1600 7000 1625 20.93 32.5 13.75 8 5 5 13.75 8 5 5 13.75 8 5 5 13.75 8 5 7 13.75 8 5 7 13.75 8 7 13.75 8 7 13.75 8 7 13.75 8 7 13.75	controlled emission rate (lb/hr) 4.85 3.5 0.975 8.25 5.75 20.93 32.5 13.75 8 2.5	Title V, Potential Emissions (tpy) (no controls, 8760 hours per year operation) (1997)	PSD, Potential Emissions, (tpy) (with controls, 8760 hours per year operation) 36.1 25.2 91.69 142.4 60.2 35.0 11.0	(tp (with all operation restrictions)
Filterable PM Filterable PM10 Total PM Total PM10 SO2 CC NO3 VOC HAPS, TOTAL SIIO Filling plus Loa Pollutant Total PM CO VOC	28 6.4 28 6.5 0.0837 0.1300 0.0550 0.0320 minute factor, combined (lb/tan)	0.014 0.0039 0.033 0.023 0.0837 0.130 0.055 0.032 0.010	7000 1600 7000 1625 20.93 32.6 13.75 8 \$	3.5 0.975 8.25 5.75 20.93 32.5 13.75 8	59.9 30.1 91.69 142.4 60.2 35.0	36.1 25.2 91.69 142.4 60.2 35.0	24.6 17.1 62.32 96.8
Filterable PM10 Total PM Total PM10 SO2 CC NO3 VOC HAPs, TOTAL Silo Filling plus Loa Pollutant Total PM CO	6.4 28 6.5 0.0837 0.1300 0.0550 0.0320 d Out Emission Factor, combined (lb/ton)	0.0039 0.033 0.023 0.0837 0.130 0.055 0.032 0.010	1600 7000 1625 20.93 32.5 13.75 8 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	0.975 8.25 5.75 20.93 32.5 13.75 8	59.9 30.1 91.69 142.4 60.2 35.0	36.1 25.2 91.69 142.4 60.2 35.0	24.6 17.1 62.32 96.8
Total PM Total PM10 S02 CC NO3 VOC HAPs, TOTAL Silo Filling plus Loa Pollutant Total PM CO VOC	28 6.5 0.0837 0.1300 0.0550 0.0320 d Out Emission Factor, combined (lb/tan)	0.033 0.023 0.0837 0.130 0.055 0.032 0.010	7000 1625 20.93 32.5 13.75 8 8	8.25 5.75 20.93 32.5 13.75 8	59.9 30.1 91.69 142.4 60.2 35.0	36.1 25.2 91.69 142.4 60.2 35.0	24.6 17.1 62.32 96.8
Total PM10 SO2 CC NO3 VOCC HAPs, TOTAL SIIO FIIIIng plus Los Pollutant Total PM CC VOC	6.5 0.0837 0.1300 0.0550 0.0320 Constant Constant Emission Factor, combined (ib/tan)	0.023 0.0837 0.130 0.055 0.032 0.010	1625 20.93 32.5 13.75 8 8	5.75 20.93 32.5 13.75 8	30.1 91.69 142.4 60.2 35.0	25.2 91.69 142.4 60.2 35.0	17.1 62.32 96.8
So: cc NO: VOC HAPs, TOTAI Silo Filling plus Los Pollutant Total PM CO VOC	0.0837 0.1300 0.0550 0.0320 d Out Emiss Emission Factor, combined (lb/tan)	0.0837 0.130 0.055 0.032 0.010	20.93 32.5 13.75 8	20.93 32.5 13.75 8	91.69 142.4 60.2 35.0	91.69 142.4 60.2 35.0	62.32 96.8
cc NO) VOC HAPs, TOTAL Silo Filling plus Loa Pollutant Total PM CO VOC	0.1300 0.0550 0.0320 Contemport dout Emission Factor, combined (lb/ton)	0.130 0.055 0.032 0.010	32.5 13.75 8	32.5 13.75 8	142.4 60.2 35.0	142.4 60.2 35.0	96.8
NO VOC HAPs, TOTAL Silo Filling plus Loa Pollutant Total PM CO VOC	0.0550 0.0320 d Out Emission Factor, combined (lb/ton)	0.055 0.032 0.010	13.75 8 8	13.75 8	60.2 35.0	60.2 35,0	
Voc HAPs, TOTAL Silo Filling plus Loa Pollutant Total PM CO Voc	0.0320 d Out Emiss Emission Factor, combined (lb/ton)	0.032 0.010	8 8	8	35.0	35.0	
HAPs, TOTAL Silo Filling plus Los Pollutant Total PM CO VOC	Emission Factor, combined (lb/ton)	0.010					23.8
Silo Filling plus Loa Pollutant ^{Total PM} co Voc	ed Out Emiss Emission Factor, combined (lb/ton)						7.4
Pollutant Total PM CO Voc	Emission Factor, combined (lb/ton)	ions, Crite	ria Pollutants			1 11.0	
Total PM CO VOC	Factor, combined (lb/ton)						· · ·
Total PM CO VOC				emission rate (lb/hr)	Title V, Potential Emissions (tpy) (no controls, 8760 hours per year operation)	PSD, Potential Emissions, (tpy) (8760 hours per year operation)	Synthetic Minor, Potential Emissions (tr (with all operation restrictions)
co Voc				2 775 01	4.0	10	
Voc				2.77E-01 6.32E-01	1.2	<u>1.2</u> 2.8	0.8
				4.02E+00	17.6	17.6	12.0
HAPs, TOTAL	2.74E-04	ALCONTRACTOR OF STREET		6.85E-02	0.3	0.3	0.2
Rap Crusher Emiss					1 0.0	<u> </u>	L
:	Emission Factor, all sources combined (lb/ton)			emission rate (lb/hr)	Title V, Potential Emissions (tpy) (no controls, 8760 hours per year operation)	PSD, Potential Emissions, (tpy) (8760 hours per year operation)	Synthetic Minor, Potential Emissions (tr (with all operation restrictions)
Pollutant Total PM	0.0224			2.175.00	0.5	0.5	
Total PM Total PM10				2.17E+00 7.93E-01	9.5	9.5 3.5	6.5
Pollutant Total PM	Emission Factor (Ib/MMBtu)			emission rate (lb/hr) 5.42E-02	Title V, Potential Emissions (tpy) (no controls, 8760 hours per year operation) 0,2	PSD, Potential Emissions, (tpy) (8760 hours per year operation) 0.2	Synthetic Minor, Potential Emissions (tp (with all operation restrictions)
Total PM10	0.0235714	1997 (1997) 1997 (1997)	ette lainen selvien er alter staar (* 19 Turstaal Siron en die Tarren die s	5.42E-02	0.2	0.2	0.2
SO2	0.5071429		and an interaction in the second s	1,17E+00	5.1	5.1	5.1
CO				8.21E-02	0.4	0,4	0.4
NOx	0.1428571			3.29E-01	1.4	1.4	1.4
VOC				5.59E-03	0.0	0.0	0.0
				····			······
acility-wide Criteria	Pollutant El	nissions Si	ummary	Controlled Emission Rate, Ib/hr	Title V, Potential Emissions (tpy) (no controls, 8760 hours per year operation)	PSD, Potential Emissions, (tpy) (8760 hours per year operation)	Synthetic Minor, Potential Emissions (tp (with all operation restrictions)
				1.05E+01	70.9	47.1	32.1
Total PM10		新統制商用制作		6.60E+00	35.0	30.1	20.5
SO2				2.21E+01	96,8	96.8	67.4
co				3.32E+01	145.5	145.5	99.0
				1.41E+01	61.7	61.7	42.4
NOx				1.20E+01 2.57E+00	52.7	52.7	35.8
NOX VOC				2.07 2400	11.3	11.3	7.6
NOx VOC HAPs, TOTAL	Ir Pollutante	Summary		ТАВ		Action	
NOX VOC HAPs, TOTAL acility-wide Toxic /	ir Pollutants	CAS No	Action International	IAP		NOTE 3	clude TAP in TPER stipulation.
NOx VOC HAPs, TOTAL acility-wide Toxic A TAP	aldehyde (TH)	CAS No. 75070 107028	NOTE 1	•	Mercury, vapor (TH) 7439976		
NOX VOC HAPS, TOTAL acility-wide Toxic / TAP Ace	aldehyde (TH) Acrolein (TH)	75070 107028	NOTE 1 NOTE 1		ethyl ethyl ketone (TH) 78933	NOTE 1	
NOX VOC HAPS, TOTAL acility-wide Toxic / TAP Ace nic unlisted cmpds (comp	aldehyde (TH) Acrolein (TH) of ASC) (TH)	75070 107028 ASC-other	NOTE 1 NOTE 1 NOTE 3		lethyl ethyl ketone (TH) 78933 Nethylene chloride (TH) 75092	NOTE 1 NOTE 1 NOTE 2: Ind	clude TAP in TPER stipulation
NOX VOC HAPs, TOTAL acility-wide Toxic A TAP Ace nic unlisted cmpds (comp	aldehyde (TH) Acrolein (TH) of ASC) (TH) Benzene (TH)	75070 107028 ASC-other 71432	NOTE 1 NOTE 1 NOTE 3 NOTE 3 NOTE 3	M	iethyl ethyl ketone (TH) 78933 Aethylene chloride (TH) 75092 Nickel metal (TH) 7440020	NOTE 1 NOTE 1 NOTE 1 NOTE 2: Ind NOTE 3 with operation	
NOX VOC HAPs, TOTAL acility-wide Toxic A TAP Ace nic unlisted cmpds (comp Benz	aldehyde (TH) Acrolein (TH) of ASC) (TH) Benzene (TH) o(a)pyrene (T)	75070 107028 ASC-other 71432 50328	NOTE 1 NOTE 1 NOTE 3 NOTE 3 NOTE 3 NOTE 1	M	iethyl ethyl ketone (TH) 78933 Aethylene chloride (TH) 75092 Nickel metal (TH) 7440020 Irachloroethylene) (TH) 127184	NOTE 1 NOTE 1 NOTE 1 NOTE 3 NOTE 1 with operation	clude TAP in TPER stipulation ion restrictions.
NOX VOC HAPs, TOTAL acility-wide Toxic A TAP Ace nic unlisted cmpds (comp	aldehyde (TH) Acrolein (TH) of ASC) (TH) Benzene (TH) 5(a)pyrene (T) nreacted) (TH)	75070 107028 ASC-other 71432	NOTE 1 NOTE 1 NOTE 3 NOTE 3 NOTE 3	M	iethyl ethyl ketone (TH) 78933 Methylene chloride (TH) 75092 Nickel metal (TH) 7440020 Irachloroethylene) (TH) 127184 Phenol (TH) 108952	NOTE 1 NOTE 1 NOTE 3 NOTE 1 NOTE 1 NOTE 1 NOTE 3 NOTE 1	clude TAP in TPER stipulation ion restrictions. odeling Required. See "Toxic
NOX VOC HAPs, TOTAL TAP TAP Ace nic unlisted cmpds (comp Benz Beryllium metal (u dmium metal (elemental u	aldehyde (TH) Acrolein (TH) of ASC) (TH) Benzene (TH) 5(a)pyrene (T) nreacted) (TH)	75070 107028 ASC-other 71432 50328 7440417	NOTE 1 NOTE 1 NOTE 3 NOTE 3 NOTE 1 NOTE 1	M Perchloroethylene (let	iethyl ethyl ketone (TH) 78933 Methylene chloride (TH) 75092 Nickel metal (TH) 7440020 Irachloroethylene) (TH) 127184 Phenol (TH) 108952	NOTE 1 NOTE 1 NOTE 3 NOTE 1 NOTE 1 NOTE 1 NOTE 3 NOTE 1	clude TAP in TPER stipulation ion restrictions.
NOx VOC HAPs, TOTAL TAP TAP Ace nic unlisted cmpds (comp Benz Beryllium metal (u dmium metal (elemental u Carbor	aldehyde (TH) Acrolein (TH) of ASC) (TH) Benzene (TH) b(a)pyrene (T) nreacted) (TH) nreacted) (TH)	75070 107028 ASC-other 71432 50328 7440417 7440439	NOTE 1 NOTE 1 NOTE 3 NOTE 3 NOTE 1 NOTE 1 NOTE 1 NOTE 3	M Perchloroethylene (tet Soluble Chromate Compour	lethyl ethyl ketone (TH) 78933 Methylene chloride (TH) 75092 Nickel metal (TH) 7440020 Irachloroethylene) (TH) 127184 Phenol (TH) 108952 Ids as Chrome VI (TH) 7738945	NOTE 1 NOTE 2: In NOTE 3 NOTE 1 NOTE 1 NOTE 1 NOTE 3: MO NOTE 1 NOTE 3: MO NOTE 1 Calculations	clude TAP in TPER stipulation ion restrictions. odeling Required. See "Toxic
NOx VOC HAPs, TOTAL TAP TAP Ace nic unlisted cmpds (comp Benz Beryllium metal (u dmium metal (elemental u Carbor	laldehyde (TH) Acrolein (TH) of ASC) (TH) Benzene (TH) b(a)pyrene (T) nreacted) (TH) nreacted) (TH) aldehyde (TH)	75070 107028 ASC-other 71432 50328 7440417 7440439 75150	NOTE 1 NOTE 3 NOTE 3 NOTE 1 NOTE 1 NOTE 1 NOTE 3 NOTE 1	M Perchloroethylene (tet Soluble Chromate Compour	iethyl ketone (TH) 78933 Methylene chloride (TH) 75092 Nickel metal (TH) 7440020 Irachloroethylene) (TH) 127184 Phenol (TH) 108952 nds as Chrome VI (TH) 7738945 Styrene (TH) 100425	NOTE 1 NOTE 2 NOTE 2 NOTE 2 NOTE 1 NOTE 1 NOTE 1 NOTE 3 NOTE 1 NOTE 3 NOTE 1 NOTE 3 NOTE 3 NOTE 3 NOTE 3 NOTE 3 NOTE 3 NOTE 3 NOTE 3 NOTE 3 NOTE 2 NOTE 3 NOTE 2 NOTE 3 NOTE 2 NOTE 3 NOTE 2 NOTE 3 NOTE 3 NOTE 2 NOTE 3 NOTE 3 NOTE 1 NOTE 3 NOTE 3 NOTE 1 NOTE 3 NOTE 3 NO	clude TAP in TPER stipulation ion restrictions. odeling Required. See "Toxic
NOX VOC HAPs, TOTAL actility-wide Toxic A TAP Ace Nic unlisted cmpds (comp Beryllium metal (u dmium metal (elemental u Carbor Form ixachlorodibenzo-p-dioxin	laldehyde (TH) Acrolein (TH) of ASC) (TH) Benzene (TH) b(a)pyrene (T) nreacted) (TH) nreacted) (TH) aldehyde (TH)	75070 107028 ASC-other 71432 50328 7440417 7440439 75150 50000	NOTE 1 NOTE 3 NOTE 3 NOTE 3 NOTE 1 NOTE 1	M Perchloroethylene (tet Soluble Chromate Compour Tetrachlorodibenzo-	tethyl ketone (TH) 78933 Methylene chloride (TH) 75092 Nickel metal (TH) 7440020 Irachloroethylene) (TH) 127184 Phenol (TH) 108952 rds as Chrome VI (TH) 7738945 Styrene (TH) 100425 p-dioxin, 2,3,7,8- (TH) 1746016	NOTE 1 NOTE 2: Inv NOTE 2: Inv NOTE 2: Inv with operati NOTE 1: NOTE 3: Ma NOTE 1: Calculations NOTE 1 NOTE 1	clude TAP in TPER stipulation ion restrictions. odeling Required. See "Toxic
NOX VOC HAPs, TOTAL acility-wide Toxic A TAP Ace nic unlisted cmpds (comp Benyllium metal (u dmium metal (elemental u Carbor Form sxachlorodibenzo-p-dioxin H	Laldehyde (TH) Acrolein (TH) of ASC) (TH) Benzene (TH) b(a)pyrene (T) nreacted) (TH) nreacted) (TH) disulfide (TH) 1,2,3,6,7,8 (T) yeane, n- (TH) gen Sulfide (T)	75070 107028 ASC-other 71432 50328 7440417 7440439 75150 50000 57653857 110543 7783064	NOTE 1 NOTE 3 NOTE 3 NOTE 3 NOTE 1 NOTE 1 NOTE 3 NOTE 1 NOTE 3 NOTE 1 NOTE 3 NOTE 1	M Perchioroethylene (tet Soluble Chromate Compour Tetrachlorodibenzo-	iethyl ketone (TH) 78933 Methylene chloride (TH) 75092 Nickel metal (TH) 7440020 Irachloroethylene) (TH) 127184 Phenol (TH) 108952 rds as Chrome VI (TH) 7738945 Styrene (TH) 10425 pedioxin, 2,3,7,8- (TH) 1746016 Toluene (TH) 108883	NOTE 1 NOTE 2: In NOTE 2: In NOTE 2: In With operati NOTE 1 NOTE 1 NOTE 1 NOTE 1 NOTE 1 NOTE 1 NOTE 1	clude TAP in TPER stipulation ion restrictions. odeling Required. See "Toxic
		cility-wide Toxic Air Pollutants	cility-wide Toxic Air Pollutants Summary	TAP CAS No. Action	TAP CAS No. Action TAP	TAP CAS No. Action TAP CAS No.	TAP CAS No. Action TAP CAS No. Action Acetaldehyde (TH) 75070 NOTE 1 Mercury, vapor (TH) 7439976 NOTE 3

ASPHALT EMISSIONS CALCULATOR REVISION F 07/18/2012 - OUTPUT SCREEN



Instructions: Enter emission source / facility data on the "INPUT" tab/screen. The air emission results and summary of input data are viewed / printed on the "OUTPUT" tab/screen. The different tabs are on the bottom of this screen.

This spreadsheet is for your use only and should be used with caution. DENR does not guarantee the accuracy of the information contained. This spreadsheet is subject to continual revision and updating. It is your responsibility to be aware of the most current information available. DENR is not responsible for errors or omissions that may be contained herein.

· SOU	CE/FAC	ILITY / USER IN	rui SUMMI	KY (FROM	INPUT SCREE			ΝΔ
COMPANY:	Carolin	a Sunrock	LLC			FACILITY ID		NA NA
		h Waste, No.4 d		il firod Drum	mix aenhalt	FACILITY C		Burlington
		eat input, w/silof				FACILITY C		Alamance
		T					<u> </u>	
Annual Production Limit: 1,488,581	ton/year	Daily Produ	ction Limit:	r	ı/a	ton/day		
SPREADSHEET PREPARED BY: RTP Enviro	onmental						••	
	CRITER	A AIR POLLUT	ANT EMISS	ONS INFOR	MATION			
		ACTUAL EM	ISSIONS		POTENTIAL	1		
IR POLLUTANT EMITTED		(AFTER CONTRO			TROLS / LIMITS)	(AFTER CONTR		
		lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	
PARTICULATE MATTER (PM)		10.48	32.09		70.91		32.09 20.54	
PARTICULATE MATTER<10 MICRONS (PM10)		6.60	20.54		35.01		20.54	
PARTICULATE MATTER<2.5 MICRONS (PM _{2.5})							07.40	
SULFUR DIOXIDE (SO2)		22.10	67.43		96.80		67.43	
VITROGEN OXIDES (NOx)		14.08 33.21	42.38 99.00		61.66 145.48		42.38 99.00	
/OLATILE ORGANIC COMPOUNDS (VOC)		12.03	35.82		52.69		35.82	
OTAL HAP		2.57	7.65		11.25		7.65	
ARGEST HAP (formaldehyde)		0.80	2.37		3.49		2.37	
		Attach I	VPUT wor	ksheet				
ΤΟλ	(IĈ / HAZA	RDOUS AIR PC	LLUTANT E	MISSIONS II	VFORMATION	B_{2}^{3}		
	·							EMISSION FACTOR
	CAS	ACTUAL EM			POTENTIAL I TROLS / LIMITS)	EMISSIONS		(lb/ton asphalt produce
TOXIC / HAZARDOUS AIR POLLUTANT	Number	(AFTER CONTRO	lb/yr	Ib/hr	lb/yr	lb/hr	lb/yr	with Fabric filter control
Acetaldehyde (TH)	75070	3,25E-01	1.94E+03	3.25E-01	2847.00	3.25E-01		1.3E-03
Acrolein (TH)	107028	6.50E-03	3.87E+01	6,50E-03	56.94	6.50E-03		2.6E-05
Antimony unlisted compounds (H)	SBC-other	4.50E-05	2.68E-01	4.50E-05	0.39	4,50E-05	2.68E-01	1.8E-07
Arsenic unlisted cmpds (comp. of ASC) (TH)	ASC-other	1.40E-04	8.34E-01	1.40E-04	1.23	1.40E-04	8.34E-01	5.6E-07
Benzene (TH)	71432	9.90E-02	5.90E+02	9.90E-02	867.38	9,90E-02		4.0E-04
Benzo(a)pyrene (T)	50328	4.41E-06	2.63E-02	4.41E-06	0.04	4.41E-06		1.8E-08
Beryllium metal (unreacted) (TH)	7440417	0.00E+00	0.00E+00	0.00E+00	0.00	0.00E+00	0.00E+00	0.0E+00 4.1E-07
Cadmium metal (elemental unreacted) (TH) Carbon disulfide (TH)	7440439	1.03E-04 6.23E-04	6.10E-01 3.71E+00	1.03E-04 6.23E-04	0.90	1.03E-04 6.23E-04	6,10E-01 3,71E+00	2.5E-06
Chromium unlisted cmpds (add w/chrom acid to get CRC) (H)	CRC-other	1.26E-03	7.52E+00	1.26E-03	11.06	1,26E-04	7.52E+00	5.1E-06
Chromic acid (VI) (component of solCR6 and CRC) (TH)	7738945	1.13E-04	6.70E-01	1.13E-04	0.99	1.13E-04	6.70E-01	4.5E-07
Cobalt unlisted compounds (H)	COC-other	6.50E-06	3.87E-02	6.50E-06	0.06	6.50E-06	3.87E-02	2.6E-08
Cumene (H)	98828	1.14E-03	6.81E+00	1.14E-03	10.02	1.14E-03	6.81E+00	4.6E-06
Ethyl benzene (H)	100414	6.41E-02	3.81E+02	6.41E-02	561.24	6.41E-02	·	2.6E-04
Ethyl chloride (chloroethane) (H)	75003	2.18E-06	1.30E-02	2.18E-06	0.02	2.18E-06		8.7E-09
Formaldehyde (TH)	50000	7.97E-01	4.75E+03	7.97E-01	6981.17	7.97E-01		3.2E-03 1.3E-12
Hexachlorodibenzo-p-dioxin 1,2,3,6,7,8 (T) Hexane, n- (TH)	57653857 110543	3.25E-10 2.39E-01	1.94E-06 1.42E+03	3.25E-10 2.39E-01	0.00	3.25E-10 2.39E-01		9.6E-04
Hydrogen Chloride (hydrochloric acid) (TH)		5.25E-01	3.13E+02	5.25E-01	459.90	5.25E-01		2.1E-04
Hydrogen Sulfide (T)	7783064	1.37E-02	8.15E+01	1.37E-02	119.84	1.37E-02	8.15E+01	5.5E-05
Lead unlisted compounds (H)	PBC-other	3.75E-03	2.23E+01	3.75E-03	32.85	3.75E-03	2.23E+01	1.5E-05
Manganese unlisted compounds (T)	MNC-other	1.93E-03	1.15E+01	1.93E-03	16.86	1.93E-03	1.15E+01	7.7E-06
Mercury, vapor (TH)	7439976	6.50E-04	3.87E+00	6.50E-04	5.69	6.50E-04	3.87E+00	2.6E-06
Methyl bromide (H)	74839	2.49E-04	1.48E+00	2.49E-04	2.18	2,49E-04	1,48E+00	1.0E-06
Methyl chloride (H)	74873	1.56E-04	9.29E-01	1.56E-04	1.37	1.56E-04	9.29E-01	6.2E-07
Methyl chloroform (TH) Methyl ethyl ketone (TH)	71556	1.20E-02	7.15E+01	1.20E-02	105.12	1.20E-02	7.15E+01	4.8E-05 2.7E-05
Methylene chloride (TH)	78933 75092	6.70E-03 8.23E-06	3.99E+01 4.90E-02	6.70E-03 8.23E-06	58.67 0.07	6.70E-03 8.23E-06	3.99E+01 4.90E-02	3.3E-08
Naphalene (H)	91203	1.65E-01	4.90E-02 9.81E+02	1.65E-00	1442.95	1.65E-00	9.81E+02	6.6E-04
Nickel metal (TH)	7440020	1.58E-02	9.38E+01	1.58E-02	137.97	1.58E-02	9.38E+01	6.3E-05
Perchloroethylene (tetrachloroethylene) (TH)	127184	8.01E-05	4.77E-01	8.01E-05	0.70	8.01E-05	4.77E-01	3.2E-07
Phenol (TH)	108952	1.01E-03	5.99E+00	1.01E-03	8.81	1.01E-03	5.99E+00	4.0E-06
Phosphorus Metal, Yellow or White (H)	7723140	7.00E-03	4.17E+01	7.00E-03	61.32	7.00E-03	4.17E+01	2.8E-05
Polycyclic Organic Matter (H)	POM	2.20E-01	1.31E+03	2.20E-01	1927,20	2.20E-01	1.31E+03	8.8E-04
Propionaldehyde (H)	123386	3.25E-02	1.94E+02	3.25E-02	284.70	3.25E-02	1.94E+02	1.3E-04
Quinone (H)	106514	4.00E-02	2.38E+02	4.00E-02	350.40	4.00E-02	2.38E+02 5.21E-01	1.6E-04 3.5E-07
Selenium compounds (H) Styrene (TH)	SEC 100425	8.75E-05 2.40E-04	5.21E-01 1.43E+00	8.75E-05 2.40E-04	0.77	8.75E-05 2.40E-04	1.43E+00	9.6E-07

Toluene (TH)	108883	7.29E-01	4.34E+03	7.29E-01	6386.67	7.29E-01	4.34E+03	2.9E-03
Trichloroethylene (TH)	79016	0.00E+00	0.00E+00	0.00E+00	0.00	0.00E+00	0,00E+00	0.0E+00
Trichlorofluoromethane (CFC 111) (T)	75694	1.35E-05	8.05E-02	1.35E-05	0.12	1.35E-05	8.05E-02	5,4E-08
Trimethylpentane, 2,2,4- (H)	540841	1.00E-02	5.97E+01	1.00E-02	87.85	1.00E-02	5.97E+01	4.0E-05
Xylene (TH)	1330207	6.04E-02	3.59E+02	6.04E-02	528,72	6.04E-02	3.59E+02	2,4E-04
Xylene, o- (H)	95476	2.57E-03	1,53E+01	2.57E-03	22,50	2.57E-03	1.53E+01	1.0E-05
TOXIC AIR I	POLLUTAN	T EMISSIONS	NFORMATIC	ON (FOR PEP	RMITTING PUI	RPOSES)		网络国家常用的权利工
								EMISSION FACTOR
Expected actual emissions after control	ols and lim	itations consis	ting of an ai	nual produc	tion limit of 1:	488581 tons		(lb/ton asphalt produced,
	040 Norm	11- N-	11-1-1	11.6		line Decuderal		with Fabric filter controls)
	CAS Num.	lb/hr	lb/day	lb/yr	and the second state of th	ling Required		1 005 00
Acetaldehyde (TH)	75070	3,25E-01	7.80E+00	1.94E+03		on facility-wide po		1,30E-03
Acrolein (TH)		6.50E-03	1.56E-01	3.87E+01		on facility-wide po		2,60E-05
Arsenic unlisted cmpds (comp. of ASC) (TH)		1.40E-04	3.36E-03	8.34E-01		Modeling required		5.60E-07
Benzene (TH)		9.90E-02	2.38E+00	5.90E+02		Modeling required		3.96E-04
Benzo(a)pyrene (T)	50328	4.41E-06	1.06E-04	2.63E-02		on facility-wide po		1.76E-08
Beryllium metal (unreacted) (TH)		0.00E+00	0.00E+00	0.00E+00		on facility-wide po		0.00E+00
Cadmium metal (elemental unreacted) (TH)	7440439	1.03E-04	2.46E-03	6.10E-01		Modeling required		4.10E-07
Carbon disulfide (TH)	75150	6.23E-04	1.49E-02	3.71E+00		on facility-wide po		2.49E-06
Soluble Chromate compounds as Chrome (VI) (TH)	SOLCR6	1.13E-04	2.70E-03	6.70E-01		on facility-wide po		4.50E-07
Formaldehyde (TH)	50000	7.97E-01	1.91E+01	4.75E+03	YES.	Modeling required		3.19E-03
Hexane, n- (TH)	110543	2.39E-01	5.74E+00	1.42E+03	NO. Based	on facility-wide po	tential.	9,57E-04
Hexachlorodibenzo-p-dioxin 1,2,3,6,7,8 (T)	57653857	3.25E-10	7.80E-09	1.94E-06	NO, Based	on facility-wide po	tential.	1.30E-12
Hydrogen Sulfide (T)	7783064	1.37E-02	3.28E-01	8.15E+01	NO, Based	on facility-wide po	tential.	5.47E-05
Manganese unlisted compounds (T)	MNC-other	1.93E-03	4.62E-02	1,15E+01	NO. Based	on facility-wide po	tential.	7,70E-06
Mercury, vapor (TH)	7439976	6.50E-04	1.56E-02	3.87E+00	YES.	Modeling required		2.60E-06
Methylene chloride (TH)	75092	8.23E-06	1.97E-04	4.90E-02	NO. Based	on facility-wide po	tentlal.	3,29E-08
Methyl chloroform (TH)	71556	1.20E-02	2.88E-01	7.15E+01	NO. Based	on facility-wide po	tentiai,	4.80E-05
Methyl ethyl ketone (TH)	78933	6.70E-03	1.61E-01	3.99E+01	NO. Based of	on facility-wide po	tential.	2.68E-05
Nickel metal (TH)	7440020	1.58E-02	3.78E-01	9.38E+01	YES.	Modeling required		6.30E-05
Perchloroethylene (tetrachloroethylene) (TH)	127184	8.01E-05	1.92E-03	4.77E-01	NO. Based of	on facility-wide po	tential.	3.20E-07
Phenol (TH)	108952	1.01E-03	2.41E-02	5.99E+00	NO. Based of	on facility-wide pol	tential.	4.02E-06
Styrene (TH)	100425	2.40E-04	5.77E-03	1.43E+00	NO. Based o	on facility-wide pol	tential,	9.62E-07
Tetrachlorodibenzo-p-dioxin, 2,3,7,8- (TH)	1746016	5.25E-11	1.26E-09	3.13E-07	NO, Based o	on facility-wide pol	tential.	2.10E-13
Toluene (TH)	108883	7.29E-01	1.75E+01	4.34E+03		on facility-wide pol		2.92E-03
Trichloroethylene (TH)	79016	0,00E+00	0.00E+00	0.00E+00	NO. Based o	on facility-wide pol	iential.	0.00E+00
Trichlorofluoromethane (CFC 111) (T)	75694	1.35E-05	3.24E-04	8.05E-02	NO. Based o	on facility-wide pol	ential.	5.41E-08
Xylene (TH)	1330207	6.04E-02	1.45E+00	3,59E+02		on facility-wide pol		2.41E-04

rate calculations page	
emission	
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xic Air Pollutant	
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This sheet presents the emission rate calculations that are necessary for modeling determinations.

				NOTE 1	NOTE 1	NOTE 3	NOTE 1	NOTE 1	NOTE 1	NOTE 1	NOTE 1	NOTE 1	NUIET	NOIE1	NOTE 1			NOTES	NOTE 1	NOTE 1	NOTE 3	NOTE 3	NOTE 1	NOTE 1	NOTE 1	NOTE 3	NOTE 1	NOTE 1	NOTE 1	Carlos and a second														
		willimitations	ER greater than TPER 7	THE REAL PROPERTY OF						q	ş	8	Ø2	ov :	on a		e s	τaγ γes	N.	QN	Yes	Yes	å	å	٩ N	Yes	DN Comparison of the local division of the l	No	8								1							
		Controlled		Г	2200 9	۲e ۲e	PN N	9 9	٩	PR-	No	9 J	2	z	8	2		, s	Ŋ	q	Yes	Yes	å	쀻	8	Yes No		् २ २	R	and a second			1				ij	*	j.					
	Controlled	WLImitations (Emission Date 1	(b/year) th	1.94E+03	3.87E+01	(,75E+03	5,99E+00	1.43E+00	8.05E-02	7,156+01	3.99E+01	4.34E+03	A DAE OD	4,805-02	D-SULEAU		1,13CTU	9.38E+01	3.71E+00	3.13E-07	8,34E-01	5.90E+02	2.636-02	9,15E+01	0.00E+00	6, TOE-UT	135+00	4.77E-01	00000-000	9.81E+02	4.17E+01	84151	38F+00	5,21E-01	5.97E+01	2.68E-01	7.52E+00	3.87E-02	5,81E+UZ		5.81E+00	1.30E-02	9.29E-01	1,53E+01 徽
	Controllad .		Emission Rate	7.80E+00	1.56E-01	.91E+01					1.61E-01		I	1.31C-03			56F.02	3.785-01	1.49E-02			2.38E+00	1.06E-04		0,00E+00		1.266+00	1.92E-03	D.00E+D0	3.95E+00	1.685-01	5.28E+00	B.60E-01	2,10E-03	2.41E-01	1.08E-03	3.03E-02	1.565-04	00F-00	S GRE-US	2.74E-02			
		Controlled WL	-			•		2.11E+00 5.				6.39E+03 1.		0 000 01				1,38E+02 3.		4.60E-07 1.				1.20E+02 3.					Ĩ				3.50E+02											25E+01 6.
		Controlled Con mission Rate Emiss	(lb/day) (lb	7.80E+00 2.8								1,75E+01 6.3 1 45E400 5.3		2 70E-03				3.78E-01 1.3		1.26E-09 4.5		-			0.00E+00 0.0							2005-00 1.5		_				1.56E-04 5.6					3.746-03 1.3	"
-	r	<u><u>µ</u></u>	(Ino	-	-				-			7.29E-01 1.75 6.04E-07 1.46	Ŧ	╀					5.23E-04 1.45	┝					0.00 - 00 0.00			-	-	ľ								0.50E-06 1.54						2.5/E-03 6.10
total	-		_	ſ	Ű	-	-						l		- 14					ľ			•		_						~ (e	ŗ.	ч						•••	6.24E-07 1.56	
		Rate Emission		1.30E-03	Ċ.	_	-		-				╀			13	2.60E-06	50-30E-05	Г	2.10E-1	꽳		Ť			1.30E-12	3278 2.10E-04		-		2.80E-05	a a de contra de	1.60	3.50		1.801	202E-00	2 EEE 04		1				+
total handling		ctor En	(Inoundi)			g.	S 1.01E-03					1.53E-05 4.07E-03 4.14E-05 1.04E-03		attents:	1.84E-05 4.61E-03				6.23E-04				7.84E-09 1.96E-06	2E-06 7.30E-04					:	8.88E-06 2.22E-03					1,13E-07 2.82E-0			FAELOR A CTC AD		17 2.49E-04			1,565-04	
9		ate Emission F	(loften)			_	4.02E-06		2				325	10.000000000000000000000000000000000000	-	and device the			2.49E-06			- Т		2.9					8						-					9.96E-07			6.24E-07	2
oadout			(iu)qi) (i				-		0-20-100				ľ		1,566-03	San and			1.35E-04			1		3.65E-04						1.07E-03					1.87E-05			2 01F_03					1.56E-04	
		_	tactor (lotton)				-	3.04E-07	4	00+2000	•		-		6.24E-06	STATE STATE AND IN COMPANY			5.41E-07		2	2.1bE-08	-	1.46E-06				\square	-	4.26E-06					1 7.49E-08			1165-05		-	_		6.24E-07	╉
Silo Filing		Ē	(auna)			70-2017	0,000E+00	1.65E-04	0.001-200		1 001 00	6.095-03	8.23E-D6		3.05E-03	AN ULT AND			4.87E-04			9./DE-U4	0,000-100	3.65E-04				0.00E+00	0,00E+D0	1.16E-03					9.44E-06			16F-03		1.496-04			0.00E+00	ľ
SID		_	Tactor (IDADA)				0,00E+00	6.58E-07		0.00E+00	1 567 90	2.44E-05	3,295-08	South States and State	1.22E-05	語言ないが、日本		の目前北方	1,95E-06			3.9UE-05	0.00E+00	1.46E-06			States and	D.00E+00	0,00E+00	4,62E-06			5.5		3.78E-08			4.63F-06		5.97E-07	0.006+00	0.005+00	0.00E+00	4 075 04
dryer		Controlled Emission Rate	(Ib/hour)	3.256-01	6.505-03				1 201 02	20-302-1		5.00E-02		1.13E-04	2.35E-01	1.93E-03	6.50E-04	1.58E-02	States and the	5.256-11	1.405-04	20-20/-6	2.45E-05	1.306-02	1.035-04	3.25E-10	5,25E-02			1.63E-01	2 206-04	3.25E-02	4.00E-02	8.75E-05	1.00E-02	4.50E-05	5 EDE 03	6.00F-02	3.75E-03					
£		Emission	Factor (Ib/ton)	1.30E-03	2,60E-05	2, 10E-03			A BOE OF	4.00E 0E		2.00E-04	TO SHIT IS HARDING	4.50E-07	9.38E-04	7.70E-06	2.GOE-06	6,30E-05	AND AND ADDRESS	2,10E-13	10-202.0	0.001 00		5.18E-05	4.105-07	1.30E-12	2.106-04			6.50E-04	arene-to	1.30E-04	1,605-04	3.50E-07	4-00E-05	1.80E-07		2.406-04	1,50E-05					
			ER Units							Aspen oc		S7 Ib/day	L																															STATISTICS STATISTICS
			Units TPER	1b/hr			in mail	lb/hr	2				Ľ	1b/dav 製銀	Ib/day	は の の の の の の の の の の の の の	blday with	Ibidary [Ib/day	Ibyr Wil			TUNT .	Activity		Ibyr	b/hr	phyr mai	lb/yr 🎆															STOLEN STATES CAL
			TPER	6.8		5	970	5	a	ន ភ្នំ	1	16,4	62.0	0.013	ន	0.63	0.013	0.13	3.9	0,0002			3;	20	15.0	0.0051	0.18	13000	490 900 900															N.S. SANG XX
		ns emissions	handling		2			50				g y	ľ				2	-		2					2			YES						g						sak		ē.		
		emissions		0 yos		-		81	ľ			2 20				ther yes		-	2							5	yes						14 yes				ther yes			61 01			5 5 2 5	l
			CAS No.	_	820/01 (H)		_	TH) 100425				-	TH) 75092	TH) SOLCRE		(T) MNC-other	_										Ŕ			(H) 91203	-		-	-	. 1	(H) SBC-other			ο.	_			(H) 148/3 (H) 95476	
			Pollutant	Acetaldehyde (TH	Acroletin (1 H)			Styrens (TH) Styrens (Technologic (TH)		Mathal after a first and a first and a first and a first	(1) a muan remains remains	t numerae (1 r.) Xylenae (TH)	Methylene chloride (TH)	Soluble Chromate compounds as Chrome (VI) (TH)	Hexane, n- (TH)	Manganese unlisted compounds (T)	Mercury, vapor (TH)	Nickel metal (TH)	Carbon disulfide (TH)	Tetrachlorodibenzo-p-dioxin, 2,3,7,8- (TH)	(m) (bee in think) endure natering minetic	Diamana (a) service (b)		Depthic matching in the matching of the matchi	Cadmium metal (elemental unreacted) (TH)	Hexachlorodibenzo-p-dioxin 1,2,3,6,7,8 (T)	Hydrogen Chlarlde (hydrochloric acid) (TH) 7647010	Perchloroethylene (tetrachloroethylene) (TH)	Trichloroethylene (TH)	Napthalene (H)	Fixeption with the polymore of the second struct (r)	Propionaldenyde (H	Quinone (H)	Selenium compounds (H)	I ninetritylpeniane, 2,2,4- (r)	Antimery unlisted compounds (H)	(r) (OVO) og og nor mennen var had sadding berenn minnen v (f)	Ethyl benzene (H)	Lead unlisted compounds (H)	Methyl bromide (H	Currene (H)	Ethyl chloride (chloroethane) (H)	Metry chorte (H) Xviene, p- (H)	HADE TOTAL

Asphalt cement heater heat input sulfur content Assumptions:

2.3 MMBtu/hr 0.50 %S

Fired with distillate oil (No.2 or diesel)Emission factors taken from AP-42 section 1.3 Fuel Oil CombustionHeating value140MMBtu/ 1000 gallons

Pollutant	factors		factors
	(lb/1000 gallon)		lb/MMBtu
SO2	142 S	where $S = \%$ sulfur	0.5071
NOx	20		0.1429
CO	5		0.0357
VOC (NMTOC)	0.34		0.0024
filterable PM	2		0.0143
condensible PM	1.3		0.0093
total PM	3.3		0.0236
total PM10	3.3		0.0236

Emission factors taken t	from AP-42	,Table 11.19	.2-2, 8/04, Cru	ushed Stor	ne Processing a	nd Pulverize	ed Mineral Pi	rocessing
AP crusher								
maximum capacity	65	tph						
hours of operation	8760	hours						
•	omission f	actors (dry)	emissions		emissions			
	(lb/ton)	(lb/ton)	(lb/hr)	(lb/hr)	ton/yr	ton/yr		
	TSP	PM-10	TSP	PM-10	TSP	PM-10		
primary crusher	0.0054	0.0024	0.351	0.156	1.54	0.68		
screening	0.025	0.0087	1.625	0.5655	7.12	2.48		
conveyor transfer point	0.003	0.0011	0.195	0.0715	0.85	0.31		
		total	2.17	0.79	9.51	3.47		

combined EF 0.0334 0.0122

Emissions summary from Silo Filling and Loadout operations

		Emission Factors		Potential	Emissions	Emission factors	
		(lb/ton)	(lb/ton)	(lb/hr)	(lb/hr)	(lb/ton)	
Pollutant	CAS Nos.	Silo Filling SCC-3-05- 002-13	Load out SCC-3-05- 002-14	Silo Filling SCC-3-05- 002-13	Load out SCC-3-05- 002-14	Silo Filling plus Load Out	
Total PM	1405.	5.86E-04	5.22E-04	1.46E-01	1.30E-01	1.11E-03	
CO		1.18E-03	1.35E-03	2.95E-01	3.37E-01	2,53E-03	
Voc		1.22E-02	3.91E-03	3.05E+00	9.77E-01	1.61E-02	
PAH HAPS TOTAL		2.89E-05	2.02E-05	7.24E-03	5.05E-03	4.92E-05	
Volatile organic HAPs, TOTAL		1.58E-04	6.24E-05	3.96E-02	1.56E-02	2.21E-04	
HAPs, TOTAL		1.87E-04	8.66E-05	4.68E-02	2.17E-02	2.74E-04	
Benzo(a)pyrene (T)	50328	0.00E+00	7.84E-09	0.00E+00	1.96E-06	7.84E-09	
Naphalene (H)	91203	4.62E-06	4.26E-06	1.16E-03	1.07E-03	8.88E-06	
Phenol (TH)	108952	0.00E+00	4.02E-06	0.00E+00	1.01E-03	4.02E-06	
Benzene (TH)	71432	3,90E-06	2.16E-06	9.75E-04	5.41E-04	6.06E-06	
Methyl bromide (H)	74839	5.97E-07	3.99E-07	1.49E-04	9.98E-05	9.96E-07	
Methyl ethyl ketone (TH)	78933	4.75E-06	2.04E-06	1.19E-03	5.09E-04	6.79E-06	
Carbon disulfide (TH)	75150	1.95E-06	5.41E-07	4.87E-04	1.35E-04	2.49E-06	
Cumene (H)	98828	0.00E+00	4.57E-06	0.00E+00	1.14E-03	4.57E-06	
Ethyl benzene (H)	100414	4.63E-06	1.16E-05	1.16E-03	2.91E-03	1.63E-05	
Ethyl chloride (chloroethane) (H)	75003	0.00E+00	8.73E-09	0.00E+00	2.18E-06	8.73E-09	
Formaldehyde (TH)	50000	8.41E-05	3.66E-06	2.10E-02	9.15E-04	8.77E-05	
Hexane, n- (TH)	110543	1.22E-05	6.24E-06	3.05E-03	1.56E-03	1.84E-05	
Methyl chloride (H)	74873	0.00E+00	6.24E-07	0.00E+00	1.56E-04	6.24E-07	
Methyl chloroform (TH)	71556	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Methylene chloride (TH)	75092	3.29E-08	0.00E+00	8.23E-06	0.00E+00	3.29E-08	
Perchloroethylene (tetrachloroethylene) (TH)	127184	0.00E+00	3.20E-07	0.00E+00	8.01E-05	3.20E-07	
Styrene (TH)	100425	6.58E-07	3.04E-07	1.65E-04	7.59E-05	9.62E-07	
Toluene (TH)	108883	7.56E-06	8,73E-06	1.89E-03	2.18E-03	1.63E-05	
Trichloroethylene (TH)	79016	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Trichlorofluoromethane (CFC 111) (T)	75694	0.00E+00	5.41E-08	0.00E+00	1.35E-05	5.41E-08	
Trimethylpentane, 2,2,4- (H)	540841	3.78E-08	7.49E-08	9.44E-06	1.87E-05	1.13E-07	
Xylene (TH)	1330207	2.44E-05	1.71E-05	6.09E-03	4.26E-03	4.14E-05	
Xylene, o- (H)	95476	6.95E-06	3.33E-06	1.74E-03	8.32E-04	1.03E-05	
Hydrgen Sulfide (T)	7783064	1.46E-06	1.46E-06	3.65E-04	3.65E-04	2.92E-06	

Plant maximum production capacity:	250	tons per hour	
Requested Annual Production Limit:	1,488,581	tons per year	
Requested Daily Production Limit:	6,000	tons per day	

V			5 %		l et a tradi		
ť			5 oF			-	
77 - 1		78	5 oR				
18	ble 11.1-14						
Pre	dictive Emission Fac	tor Equations	for Load-out and silo				
Fill	ing Operations						
201	1500	pollutant	EF (lb/ton)				
SOL	lice	Total PN		7		-	
Loa	ad out SCC-3-05-	Organic PN					
002	2-14	TOC		3			
		CC	0.00134924	4			
		Total PM	0.000585889	`			
Sile	o Filling SCC-3-05-	Organic PM					
	2-13	TOC					
		CC		1			
			·				
Tak	ble 11.1-15						
	eciation Profiles for Lo	oad-out. Silo I	Filling and Asphalt				
	orage Emissions - Org						
			Spec. profile for Load-out	Spec. profile for Silo filling			
			and yard emissions	and asphalt storage tank emissions			
			% Compound / Organic	% Compound / Organic			
			PM	PM		loadout emission factors	Silo filling emission
						(lb/ton)	factors (lb/ton)
	Benzo(a)pyrene (T)	50328	0.0023	0		7.84155E-09	0
	Napthalene (H)	91203	1.25	1.82		4.26171E-06	4.62078E-06
		HAPs TOTAL 108952		11.4 0		2.02176E-05 4.02306E-06	2.89434E-05 0
	Phenol (TH)	106952	1.18			4.023001-00	0
Tab	ble 11.1-16						
Sne	eciation Profiles for L	ad-out. Silo I	Filling and Asphalt				
	eciation Profiles for Lo rage Emissions - Org						
	eciation Profiles for Lo rage Emissions - Org			Spec. profile for Silo			
			based Compounds				
			based Compounds Spec. profile for Load-			leadeut aminina factor	
			based Compounds Spec. profile for Load- out and yard emissions	filling and asphalt		loadout emission factors	
			based Compounds Spec. profile for Load- out and yard emissions	filling and asphalt		loadout emission factors (lb/ton) 0.003909411	Silo filling emission factors (Ib/ton) 0.012186685
	rage Emissions - Org		based Compounds Spec. profile for Load- out and yard emissions % Compound / TOC	filling and asphalt % Compound / TOC 100 0.032		(lb/ton) 0.003909411 2.16265E-06	factors (lb/ton) 0.012186685 3.89974E-06
	rage Emissions - Org VOC Benzene (TH) Methyl bromide (H)	anic Volatile 71432 74839	based Compounds Spec. profile for Load- out and yard emissions % Compound / TOC 94 0.052 0.0096	filling and asphalt % Compound / TOC 100 0.032 0.0049		(lb/ton) 0.003909411 2.16265E-06 3.99259E-07	factors (Ib/ton) 0.012186685 3.89974E-06 5.97148E-07
	rage Emissions - Org VOC Benzene (TH) Methyl bromide (H) Methyl ketone (TH)	anic Volatile 71432 74839 78933	based Compounds Spec, profile for Load- out and yard emissions % Compound / TOC 94 0.052 0.0096 0.049	filling and asphalt % Compound / TOC 100 0.032 0.0049 0.039		(lb/ton) 0.003909411 2.16265E-06 3.99259E-07 2.03788E-06	factors (lb/ton) 0.012186685 3.89974E-06 5.97148E-07 4.75281E-06
	vOC Benzene (TH) Methyl bromide (H) Methyl sthyl ketne (TH) Carbon disulfide (TH)	2014 2014 2014 2014 2014 2014 2014 2014	based Compounds Spec. profile for Load- out and yard emissions % Compound / TOC 94 0.052 0.0096 0.049 0.013	filling and asphalt % Compound / TOC 100 0.032 0.0049 0.039 0.016		(lb/ton) 0.003909411 2.16265E-06 3.99259E-07 2.03788E-06 5.40663E-07	factors (lb/ton) 0.012186685 3.89974E-06 5.97148E-07 4.75281E-06 1.94987E-06
	rage Emissions - Org VOC Benzene (TH) Methyl bromide (H) Methyl ethyl ketone (TH) Carbon disulfide (TH) Cumene (H)	71432 74839 78933 75150 98828	based Compounds Spec. profile for Load- out and yard emissions % Compound / TOC 94 0.052 0.0096 0.049 0.013 0.11	filling and asphalt % Compound / TOC 100 0.032 0.0049 0.039 0.016 0		(lb/ton) 0.003909411 2.16265E-06 3.99259E-07 2.03788E-06 5.40663E-07 4.57484E-06	factors (lb/ton) 0.012186685 3.89974E-06 5.97148E-07 4.75281E-06 1.94987E-06 0
Sto	vOC Benzene (TH) Methyl bromide (H) Methyl bromide (H) Carbon disulfide (TH) Currene (H) Ethyl benzene (H)	71432 74839 76933 75150 98828 100414	based Compounds Spec. profile for Load- out and yard emissions % Compound / TOC 94 0.052 0.0096 0.049 0.013 0.11 0.28	filling and asphalt % Compound / TOC 100 0.032 0.0049 0.039 0.016		(lb/ton) 0.003909411 2.16265E-06 3.99255E-07 2.03788E-06 5.40663E-07 4.57484E-06 1.16451E-05	factors (lb/ton) 0.012186685 3.89974E-06 5.97148E-07 4.75281E-06 1.94987E-06
Sto	rage Emissions - Org VOC Benzene (TH) Methyl bromide (H) Methyl ethyl ketone (TH) Carbon disulfide (TH) Cumene (H)	71432 74839 78933 75150 98828	based Compounds Spec. profile for Load- out and yard emissions % Compound / TOC 94 0.052 0.0096 0.049 0.013 0.11	filling and asphalt % Compound / TOC 100 0.032 0.0049 0.039 0.016 0		(lb/ton) 0.003909411 2.16265E-06 3.99259E-07 2.03788E-06 5.40663E-07 4.57484E-06	factors (lb/ton) 0.012186685 3.89974E-06 5.97148E-07 4.75281E-06 1.94987E-06 0
Sto	VOC Benzene (TH) Methyl bromide (H) Methyl bromide (TH) Carbon disulfide (TH) Cumene (H) Ethyl benzene (H) hlovide (chloroethane) (H)	71432 74839 78933 75150 98828 100414 75003	based Compounds Spec. profile for Load- out and yard emissions % Compound / TOC 94 0.052 0.0096 0.049 0.013 0.11 0.28 0.00021 0.088 0.15	filling and asphalt % Compound / TOC 0.032 0.0049 0.039 0.016 0 0.038		(lb/ton) 0.003909411 2.16265E-06 3.99259E-07 2.03788E-06 5.40663E-07 4.57484E-06 1.16451E-05 8.73379E-09 3.65987E-06 6.23842E-06	factors (lb/ton) 0.012186685 3.89974E-06 5.97148E-07 4.75281E-06 1.94987E-06 0 4.63094E-06 0 8.40881E-05 1.21867E-05
Sto	VOC Benzene (TH) Methyl bromide (F) Methyl bromide (TH) Carbon disulfide (TH) Currene (H) Ethyl benzene (H) hloide (chloroethane) (H) Formaldehyde (TH)	71432 74839 78933 75150 98828 100414 75003 50000	based Compounds Spec. profile for Load- out and yard emissions % Compound / TOC 94 0.052 0.0096 0.049 0.013 0.11 0.28 0.00021 0.088 0.15 0.015	filling and asphalt % Compound / TOC 100 0.032 0.0049 0.039 0.016 0 0.038 0.69 0.1		(lb/ton) 0.003909411 2.16265E-06 3.99259E-07 2.03788E-06 5.40663E-07 4.57484E-06 1.16451E-05 8.73379E-09 3.65987E-06 6.23842E-06 6.23842E-07	factors (lb/ton) 0.012186685 3.89974E-06 5.97148E-07 4.75281E-06 0 4.63094E-06 0 8.40881E-05 1.21867E-05 0
Sto	VOC Benzene (TH) Methyl bromide (H) Methyl bromide (H) Carbon disulfide (TH) Carbon disulfide (TH) Carbon disulfide (TH) Ethyl benzene (H) Formaldehyde (TH) Hexane, n- (TH) Methyl chloride (ch) Methyl chloroform (TH)	271432 74839 76933 75150 98828 100414 75003 50000 110543 74873 71556	based Compounds Spec. profile for Load- out and yard emissions % Compound / TOC 94 0.052 0.0096 0.049 0.013 0.11 0.28 0.00021 0.088 0.15 0.015 0.015 0	filling and asphalt % Compound / TOC 100 0.032 0.0049 0.039 0.018 0 0.038 0.69 0.1		(lb/ton) 0.003909411 2.16265E-06 3.99259E-07 2.03788E-06 5.40663E-07 4.57484E-06 1.16451E-05 8.73379E-09 3.65987E-06 6.23842E-06 6.23842E-07 0	factors (lb/ton) 0.012186685 3.89974E-06 5.97148E-07 4.75281E-06 1.94987E-06 0 4.63094E-06 0 8.40881E-05 1.21867E-05 0 0
Sto Ethyl o	VOC Benzene (TH) Methyl bromide (H) Carbon disulfide (TH) Carbon disulfide (TH) Currene (H) Ethyl benzene (H) Holde (chloroethane) (H) Formaldehyde (TH) Hexane, n- (TH) Methyl chlordorm (TH) Methyl chlordorm (TH)	271432 74839 78933 75150 98828 100414 75003 50000 110543 74873 74873 71556 75092	based Compounds Spec. profile for Load- out and yard emissions % Compound / TOC 94 0.052 0.0096 0.049 0.013 0.11 0.28 0.28 0.00021 0.088 0.15 0.015 0 0 0	filling and asphalt % Compound / TOC 100 0.032 0.0049 0.039 0.016 0 0.038 0.69 0.1 0 0.01		(lb/ton) 0.003909411 2.16265E-06 3.99259E-07 2.03788E-06 5.40663E-07 4.57484E-06 1.16451E-05 8.73379E-09 3.65987E-06 6.23842E-06 6.23842E-07 0 0	factors (lb/ton) 0.012186685 3.89974E-06 5.97148E-07 4.75281E-06 1.94987E-06 0 4.63094E-06 0 8.40881E-05 1.21867E-05 0 0 3.29041E-08
Sto Ethyl o	VOC Benzene (TH) Methyl bromide (F) Methyl bromide (F) Carbon disulfide (TH) Curnere (H) Ethyl benzene (H) Holde (chloroethane) (F) Formaldehyde (TH) Hexane, n- (TH) Methyl chloride (H) Methyl chloride (H) Methyl chloride (TH) (tarachloroethylene) (TH)	71432 74839 78933 75150 98828 100414 75003 50000 110543 74873 71556 75092 127184	based Compounds Spec, profile for Load- out and yard emissions % Compound / TOC 94 0.052 0.0096 0.049 0.013 0.11 0.28 0.00021 0.088 0.15 0.015 0 0 0 0 0.0077	filling and asphalt % Compound / TOC 100 0.032 0.0049 0.039 0.016 0 0.038 0.038 0.018 0.038 0.01 0 0.038		(lb/ton) 0.003909411 2.16265E-06 3.99259E-07 2.03788E-06 5.40663E-07 4.57484E-06 1.16451E-05 8.73379E-09 3.65987E-06 6.23842E-06 6.23842E-07 0 0 3.20239E-07	factors (lb/ton) 0.012186685 3.89974E-06 5.97148E-07 4.75281E-06 1.94987E-06 0 4.63094E-06 0 8.40881E-05 1.21867E-05 0 0 3.29041E-08 0
Sto Ethyl o	VOC Benzene (TH) Methyl bromide (H) Methyl bromide (H) Curnene (H) Ethyl benzene (H) Ethyl benzene (H) Holdde (chloroethane) (H) Formaldehyde (TH) Hextayl chloride (H) Methyl chloride (H) Methyl chloroform (TH) Methylene chloride (TH) (tetrachloroethylene) (TH)	271432 74839 78933 75150 98828 100414 75003 50000 110543 74873 71556 75092 127184 100425	based Compounds Spec. profile for Load- out and yard emissions % Compound / TOC 94 0.052 0.0096 0.049 0.013 0.11 0.28 0.00021 0.088 0.15 0.015 0 0 0 0.0077 0.0077 0.0073	filling and asphalt % Compound / TOC 100 0.032 0.0049 0.039 0.016 0 0.038 0.69 0.1 0 0.00027 0 0 0.00027 0 0.00054		(lb/ton) 0.003909411 2.16265E-06 3.99259E-07 2.03788E-06 5.40663E-07 4.57484E-06 1.16451E-05 8.73379E-09 3.65987E-06 6.23842E-06 6.23842E-07 0 0	factors (lb/ton) 0.012186885 3.89974E-06 5.97148E-07 4.75281E-06 1.94987E-06 0 4.63094E-06 0 8.40881E-05 1.21867E-05 0 3.29041E-08 0 6.58081E-07
Sto Ethyl o	VOC Benzene (TH) Methyl bromide (H) Methyl bromide (H) Carbon disulfide (TH) Carbon disulfide (TH) Carbon disulfide (TH) Ethyl benzene (H) Holde (chloroethane) (H) Formaldehyde (TH) Hexane, n- (TH) Methyl chloroform (TH) Methyl chloroform (TH) Methylene chloride (TH) (tetrachloroethylene) (TH) Styrene (TH)	271432 74839 76933 75150 98828 100414 75003 50000 110543 74873 71556 75092 127184 100425 108883	based Compounds Spec, profile for Load- out and yard emissions % Compound / TOC 94 0.052 0.0096 0.049 0.013 0.11 0.28 0.00021 0.088 0.15 0.015 0 0 0 0 0.0077	filling and asphalt % Compound / TOC 100 0.032 0.0049 0.039 0.016 0 0.038 0.038 0.018 0.038 0.01 0 0.038		(lb/ton) 0.003909411 2.16265E-06 3.99259E-07 2.03788E-06 5.40663E-07 4.57484E-06 1.16451E-05 8.73379E-09 3.65987E-06 6.23842E-06 6.23842E-07 0 0 3.20239E-07 3.03603E-07	factors (lb/ton) 0.012186685 3.89974E-06 5.97148E-07 4.75281E-06 1.94987E-06 0 4.63094E-06 0 8.40881E-05 1.21867E-05 0 0 3.29041E-08 0
Sto Ethyl c	VOC Benzene (TH) Methyl bromide (H) Methyl bromide (H) Curnene (H) Ethyl benzene (H) Ethyl benzene (H) Holdde (chloroethane) (H) Formaldehyde (TH) Hextayl chloride (H) Methyl chloride (H) Methyl chloroform (TH) Methylene chloride (TH) (tetrachloroethylene) (TH)	271432 74839 78933 75150 98828 100414 75003 50000 110543 74873 71556 75092 127184 100425	based Compounds Spec. profile for Load- out and yard emissions % Compound / TOC 94 0.052 0.0096 0.049 0.013 0.11 0.28 0.00021 0.088 0.15 0.015 0.015 0 0 0 0.00077 0.0073 0.21	filling and asphalt % Compound / TOC 100 0.032 0.0049 0.039 0.016 0 0.038 0.69 0.1 0 0.00027 0 0.00027 0 0.0054 0.062		(lb/ton) 0.003909411 2.16265E-06 3.99259E-07 2.03788E-06 5.40663E-07 4.57484E-06 1.16451E-05 8.73379E-09 3.65987E-06 6.23842E-07 0 0 3.20239E-07 3.03603E-07 8.73379E-06 0 5.40663E-08	factors (lb/ton) 0.012186685 3.89974E-06 5.97148E-07 4.75281E-06 1.94987E-06 0 4.63094E-06 0 8.40881E-05 1.21867E-05 0 0 3.29041E-08 0 6.58081E-07 7.5557E-06 0 0 0
Sto Ethyl c rerchloroethylene (VOC Benzene (TH) Methyl bromide (H) Methyl bromide (H) Carbon disulfide (TH) Carbon disulfide (TH) Carbon disulfide (TH) Ethyl benzene (H) Holotde (chlotorethane) (H) Formaldehyde (TH) Hexane, n- (TH) Methyl chlordoform (TH) Methyl chlordoform (TH) Methylene chloidde (TH) (tetrachloroethylene) (TH) Styrene (TH) Trichloroethylene (TH)	71432 74839 78933 75150 98828 100414 75003 50000 110543 74873 74873 74873 71556 75092 127184 100425 108883 79016	based Compounds Spec. profile for Load- out and yard emissions % Compound / TOC 94 0.052 0.0096 0.049 0.013 0.11 0.28 0.00021 0.088 0.15 0.015 0 0 0.0015 0 0.0077 0.0073 0.21 0 0.0073 0.21 0 0.0013 0.0013 0.0018	filling and asphalt % Compound / TOC 100 0.032 0.0049 0.039 0.016 0 0.038 0.69 0.1 0 0.00027 0 0.00027 0 0.00054 0.062 0 0 0.0054 0.062 0 0 0.00031		(lb/ton) 0.003909411 2.16265E-06 3.99259E-07 2.03788E-06 5.40663E-07 4.57484E-06 1.16451E-05 8.73379E-09 3.65987E-06 6.23842E-06 6.23842E-07 0 0 3.20239E-07 3.03603E-07 8.73379E-06 0 5.40663E-08 7.48611E-08	factors (lb/ton) 0.012186685 3.89974E-06 5.97148E-07 4.75281E-06 1.94987E-06 0 4.63094E-06 0 8.40881E-05 1.21867E-05 0 0 3.29041E-08 0 6.58081E-07 7.55574E-06 0 3.77787E-08
Sto Ethyl c Perchloroethylene (VOC Benzene (TH) Methyl bromide (H) Methyl bromide (H) Carbon disulfide (TH) Carbon disulfide (TH) Carbon disulfide (TH) Carbon disulfide (TH) Ethyl benzene (H) Holde (chloroethane) (H) Formaldehyde (TH) Hexane, n- (TH) Methyl chloroform (TH) Methyl chloroform (TH) Methyl chloroform (TH) Methyl chloroform (TH) Methyl chlorofthylene (TH) Toluene (TH) Troluene (TH) Troluene (TH) (Xylene (TH)	271432 74839 78933 75150 98828 100414 75003 50000 110543 74873 71556 75092 127184 100425 108883 79016 75694 540841 1330207	based Compounds Spec. profile for Load- out and yard emissions % Compound / TOC 94 0.052 0.0096 0.049 0.013 0.11 0.28 0.00021 0.088 0.15 0.015 0.015 0 0 0.0077 0.0073 0.21 0 0.0013 0.0013 0.0018 0.018 0.018 0.018	filling and asphalt % Compound / TOC 100 0.032 0.0049 0.039 0.016 0 0.038 0.69 0.1 0 0.00027 0 0.00027 0 0.00054 0.0054 0.0054 0.0062 0 0 0.00031 0.2		(lb/ton) 0.003909411 2.16265E-06 3.99259E-07 2.03788E-06 5.40663E-07 4.57484E-06 1.16451E-05 8.73379E-09 3.65987E-06 6.23842E-06 6.23842E-07 0 0 3.20239E-07 3.03603E-07 8.73379E-06 0 5.40663E-08 7.48611E-08 1.70517E-05	factors (lb/ton) 0.012186685 3.89974E-06 5.97148E-07 4.75281E-06 1.94987E-06 0 4.63094E-06 0 8.40881E-05 1.21867E-05 0 3.29041E-08 0 6.58081E-07 7.55574E-06 0 3.77787E-08 2.43734E-05
Sto Ethyl c erchloroethylene Trichlorofluo Tri	VOC Benzene (TH) Methyl bromide (H) Methyl bromide (H) Curnere (H) Ethyl benzene (H) Ethyl benzene (H) Holdde (chloroethane) (H) Formaldehyde (TH) Hesthyl chlorder (H) Methyl chlordorm (TH) Methyl chloroform (TH) Methylene chloride (H) (terachloroethylene) (TH) Trichloroethylene (TH) Trichloroethylene (TH) Trichloroethylene (TH) Trichloroethylene (TH)	271432 74839 78933 75150 98828 100414 75003 50000 110543 74873 71556 75092 127184 100425 108883 79016 75694 540841	based Compounds Spec. profile for Load- out and yard emissions % Compound / TOC 94 0.052 0.0096 0.049 0.013 0.11 0.28 0.00021 0.088 0.15 0.015 0 0 0.0015 0 0.0077 0.0073 0.21 0 0.0073 0.21 0 0.0013 0.0013 0.0018	filling and asphalt % Compound / TOC 100 0.032 0.0049 0.039 0.016 0 0.038 0.69 0.1 0 0.00027 0 0.00027 0 0.00054 0.062 0 0 0.0054 0.062 0 0 0.00031		(lb/ton) 0.003909411 2.16265E-06 3.99259E-07 2.03788E-06 5.40663E-07 4.57484E-06 1.16451E-05 8.73379E-09 3.65987E-06 6.23842E-06 6.23842E-07 0 0 3.20239E-07 3.03603E-07 8.73379E-06 0 5.40663E-08 7.48611E-08	factors (lb/ton) 0.012186685 3.89974E-06 5.97148E-07 4.75281E-06 1.94987E-06 0 4.63094E-06 0 8.40881E-05 1.21867E-05 0 0 3.29041E-08 0 6.58081E-07 7.55574E-06 0 3.77787E-08

loadout emission factors Silo filling emission (lb/ton) factors (lb/ton) 0.00000146 0.00000146

*** These emissions factors were taken from the October 12, 2005 letter from Keith Overcash stating the emissions factors resulting from testing at Mangum Asphalt Services, Knightdale, Wake County, and at S.T. Wooten Asphalt Services, Sanford, Lee County.

Hydrogen Sulfide

7783064

CONCRETE BATCH PLANT EMISSIONS CALCULATOR - INPUT SCREEN

REVISION D; October 15, 2015



Instructions: Enter emission source / facility data on the "INPUT" tab/screen. The air emission results and summary of input data are viewed / printed on the "OUTPUT" tab/screen. The different tabs are on the bottom of this screen.

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> NA NA

Burlington

Alamance

Directions: Enter and select information in the boxes that are highlighted in blue:

General Facility Information

COMPANY NAME:

FACILITY ID NUMBER:

PERMIT NUMBER

FACILITY CITY:

FACILITY COUNTY:

SPREADSHEET PREPARED BY:

General Facility Information

MAXIMUM HOURLY THROUGHPUT AT TRUCK LOAD OUT

ACTUAL ANNUAL PRODUCTION

120	(yd³/hour)	
1,051,200	(yd³/year)	
1 051 200	(vd ³ /vear)	

RTP Environmental Associates Inc.

*Default maximum annual production is maximum hourly throughput times 8,760 hours per year. Enter another

Carolina Sunrock LLC

Facility Production Information

MAXIMUM ANNUAL PRODUCTION*

PERCENT OF ANNUAL LOADOUT THROUGH TRUCK MIX

IS THERE A CONTROL DEVICE ON THE TRUCK MIX? IS THERE A CONTROL DEVICE ON THE CENTRAL MIX?

PERCENT OF ANNUAL LOADOUT THROUGH CENTRAL MIX

100	(% by volume)
0	(% by volume)

Facility Emissions Control Information

limit if applicable (i.e. for arsenic modeling).

2	(1=No, 2=Yes)
1.	(1=No, 2=Yes)

Typical NC Comp.*

Material Composition Information

Cement	448	lbs	410 lbs
Supplement	148	lbs	120 lbs
Coarse Aggregate	1980	lbs	1884 lbs
Sand	1440	lbs	1443 lbs
Water	140	lbs	167 lbs
Total	4156	lbs	4024 lbs

* North Carolina typical material composition is based on data from industry contacts. User may enter site-specific data.

15A NCAC 2D .0515 "Particulates from Miscellaneous Industrial Processes"

	<u>Cement</u> Silo	<u>Flyash silo</u>	<u>Sand&Agg</u> Weigh hopper	Truck mix ¹	<u>Central</u> mix ¹	
Enter the process rate if different from		1				
default, otherwise leave blank						
Process Rate ²	25	25	205,200	240.96	0.000	tons/hr
Maximum Allowable Emission Rate ³	35.4	35.4	58.8	60.5	0.0	lbs/hr
PM Emission Rate Before controls	18.250	78.500	0,985	52.210	0.000	lbs/hr
PM Emission Rate After Controls	0.025	0.223	0.001	1.001	0.000	lbs/hr
Assumed control device efficiency for	weigh hopper	.4	99.9%			_
Complies with 2D .0515?	yes	yes	yes	yes	yes	
Control device required to comply?	no	yes	no	no	no]

¹ Emission factors for truck/central mix include emissions from cement & supplement weigh hoppers.

² Default process rate for silo loading is 25 tons per hour. Default process weight for sand & aggr weigh hopper includes only aggr & sand. Default process rate for truck mix and central mix includes all components except water since assumes water is added directly to truck.

³Allowable emission rate should be calculated to 3 significant digits.

⁴ Default efficiency is 99.9% for bagfilters. Enter 0 if weigh hopper is not controlled.

CONCRETE BATCH PLANT EMISSIONS CALCULATOR - OUTPUT SCREEN

REVISION D; October 15, 2015



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Carolina Sunrock LLC

RTP Environmental Associates Inc.

NA

NA

Burlington

Alamance

SOURCE / FACILITY / USER INPUT SUMMARY (FROM INPUT SCREEN)

General Facility Information COMPANY NAME: FACILITY ID NUMBER: PERMIT NUMBER FACILITY CITY: FACILITY COUNTY: SPREADSHEET PREPARED BY:

General Facility Information

MAXIMUM HOURLY THROUGHPUT AT TRUCK LOAD OUT ACTUAL ANNUAL PRODUCTION

Facility Production Information

PERCENT OF ANNUAL LOADOUT THROUGH TRUCK MIX PERCENT OF ANNUAL LOADOUT THROUGH CENTRAL MIX

Facility Emissions Control Information

IS THERE A CONTROL DEVICE ON THE TRUCK MIX? IS THERE A CONTROL DEVICE ON THE CENTRAL MIX?

Material Composition Information

Cement Supplement Coarse Aggregate Sand Water Total

120 (yd³/hour) 1051200 (yd³/year)

100	(% by volume)	
0	(% by volume)	

2 (1=No, 2=Yes) 1 (1=No, 2=Yes)

		Typical NC Comp.*
448	lbs	410 lbs
148	lbs	120 lbs
1980	lbs	1884 lbs
1440	lbs	1443 lbs
140	lbs	167 lbs
4156	lbs	4024 lbs

* North Carolina typical material composition is based on data from industry contacts. User may enter site-specific data.

		ACTUAL EMISSIONS		POTENTIAL EMISSIONS			
PARTICULATE EMISSIONS		(AFTER CONTROLS / LIMITS)		(BEFORE CON	ITROLS / LIMITS)	(AFTER CONTROLS / LIMITS)	
	Pollutant	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
truck mix*	PM	1.001	4.386	52.210	228.678	1.001	4.386
	PM10	0.375	1.645	14.912	65,314	0.375	1.645
central mix*	PM	0.000	0.000	0.000	0.000	0.000	0.000
	PM10	0.000	0.000	0.000	0.000	0.000	0,000
cement silo	PM	0.027	0.117	19.622	85.946	0.027	0.117
	PM10	0.009	0.040	12.634	55.335	0.009	0.040
suppl. Silo	PM	0.079	0.346	27.883	122.128	0.079	0.346
••	PM10	0.044	0.191	9.768	42.784	0.044	0.19
weigh hopper**	PM	0.985	4.314	0.985	4.314	0.985	4.314
[sand & aggr.]	PM10	0.575	2.517	0.575	2.517	0.575	2.517
sand & aggr.	PM	3.003	13.155	3.003	13.155	3,003	13,158
	PM10	1.433	6.275	1.433	6.275	1.433	6.275
TOTAL PM	PM	5.095	22.318	103.704	454.222	5.095	22.318
TOTAL PM10	PM10	2.435	10.667	39.321	172.225	2.435	10.667
Title V Potential	PM10	ana Agus - Mga St		1	ي. يونيه المراجع		0.231

CONCRETE BATCH PLANT EMISSIONS CALCULATOR - OUTPUT SCREEN REVISION D; October 15, 2015



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TOXIC / HAZARDOUS AIR POLLUTANT EMISSIONS INFORMATION								
POLLUTANT	CAS NUMBER	ACTUAL EMISSIONS		POTENTIAL EMSSIONS				
POLLUTANT	CAS NONDER	(AFTER CONTROLS / LIMITS)		(BEFORE CO	NTROLS / LIMITS)	(AFTER CONTRO	LS / LIMITS)	
		lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	
Arsenic Unlisted Compounds (TH)	ASC-OTHER	6.59E-05	5.77E-01	2.49E-03	2.18E+01	6.59E-05	5.77E-01	
Beryllium metal (TH)	7440-41-7	4.53E-06	3,97E-02	1.00E-05	8.77E-02	4.53E-06	3.97E-02	
Cadmium Metal (TH)	7440-43-9	5.00E-07	4.38E-03	7.69E-06	6.74E-02	5.00E-07	4.38E-03	
Chromic Acid (TH)	7738-94-5	1.58E-04	1.39E+00	4.25E-04	3.73E+00	1.58E-04	1.39E+00	
Lead Unlisted Compounds (H)	PBC-OTHER	5.96E-05	5.22E-01	1.32E-03	1.16E+01	5.96E-05	5.22E-01	
Manganese Unlisted compounds (TH)	MNC-OTHER	7.49E-04	6.56E+00	7.67E-03	6.72E+01	7.49E-04	6.56E+00	
Nickel metal (TH)	7440-02-0	1.92E-04	1.68E+00	9.19E-04	8.05E+00	1.92E-04	1.68E+00	
Phosphorus Metal Yellow or White (H)	7223-14-0	4.71E-04	4.13E+00	1.72E-03	1.51E+01	4.71E-04	4.13E+00	
Selenium compounds (H)	SEC	4.68E-06	4.10E-02	9.43E-05	8.26E-01	4.68E-06	4.10E-02	
Total HAPs		1.71E-03	1.49E+01	1.47E-02	1.28E+02	1.71E-03	1.49E+01	
Highest HAP Manganese		7.49E-04	6.56E+00	7.67E-03	6.72E+01	7.49E-04	6.56E+00	
TOXIC AIR	POLLUTANT EI	MISSIONS IN	FORMATION (I	FOR PERMI	TTING PURP	OSES)		

EXPECTED EMISSIONS AFTER CONTROLS / LIMITATIONS

(Delly calculations are based on maximum hourly plant capacity operating at 24 hours per day. If over the TPER, the facility should more closely analyze the maximum daily emisions based on actual operation. Annual calculations are based on the actual annual production as entered on the INPUT worksheet.)

POLLUTANT	CAS NUMBER	lb/hr	lb/day	lb/yr
Arsenic Unlisted Compounds (TH)	ASC-OTHER			0.5769
Beryllium metal (TH)	7440-41-7	and the second second second		0.040
Cadmium Metal (TH)	7440-43-9		and the second second	0,004
Chromic Acid (TH)	7738-94-5		0.0038	
Manganese Unlisted compounds (TH)	MNC-OTHER		0.018	
Nickel metal (TH)	7440-02-0		0.005	

CONCRETE BATCH PLANT EMISSIONS CALCULATOR - TAP CALCULATIONS



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ARSENIC EMISSION	IS	ACTUAL E	ACTUAL EMISSIONS		POTENTIAL EMISSIONS			
		(AFTER CONTR	OLS / LIMITS)	(BEFORE CON	TROLS / LIMITS)	(AFTER CONTROLS	/LIMITS)	
Source	Pollutant	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	
truck mix	Arsenic	5.69E-05	4.98E-01	2.43E-03	2.13E+01	5.69E-05	4.98E-01	
central mix	Arsenic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
cement silo	Arsenic	1.14E-07	9.98E-04	4.52E-05	3.96E-01	1.14E-07	9.98E-04	
supplement silo*	Arsenic	8.88E-06	7.78E-02	8.88E-06	7.78E-02	8.88E-06	7.78E-02	
TOTAL	Arsenic	6.59E-05	5.77E-01	2.49E-03	2.18E+01	6.59E-05	5.77E-01	
		(Arsenic TPER: 0	.053 lb/yr)				· · · · · · · · · · · · · · · · · · ·	

BERYLLIUM EMISSI	ONS	ACTUAL E	ACTUAL EMISSIONS		POTENTIAL EMISSIONS				
	(AFTER CONTR		OLS / LIMITS) (BEFORE CON		ROLS / LIMITS)	(AFTER CONTROLS /	LIMITS)		
Source	Pollutant	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr		
truck mix	Beryllium	3.72E-06	3.26E-02	8.73E-06	7.64E-02	3.72E-06	3.26E-02		
central mix	Beryllium	-			-	-	- :		
cement silo	Beryllium	1.31E-08	1.14E-04	4.81E-07	4.21E-03	1.31E-08	1.14E-04		
supplement silo*	Beryllium	8.03E-07	7.03E-03	8.03E-07	7.03E-03	8.03E-07	7.03E-03		
TOTAL	Beryllium	4.53E-06	3.97E-02	1.00E-05	8.77E-02	4.53E-06	3.97E-02		
		(Beryllium TPEF	a: 0.28 lb/yr)			· · ·			

CADMIUM EMISSIONS		ACTUAL EMISSIONS		POTENTIAL EMISSIONS				
		(AFTER CONT	ROLS / LIMITS)	(BEFORE CONTROLS / LIMITS) (AFTER CONTROLS / LIM		(LIMITS)		
Source	Pollutant	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	
truck mix	Cadmium	3.24E-07	2.84E-03	1.22E-06	1.07E-02	3.24E-07	2.84E-03	
central mix	Cadmium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
cement silo	Cadmium	-		6.29E-06	5.51E-02	-	-	
supplement silo*	Cadmium	1.76E-07	1.54E-03	1.76E-07	1.54E-03	1.76E-07	1.54E-03	
TOTAL	Cadmium	5.00E-07	4.38E-03	7.69E-06	6.74E-02	5.00E-07	4.38E-03	

CHROMIUM EMISSI	ONS	ACTUAL EMISSIONS		POTENTIAL EMISSIONS				
1		(AFTER CONTR	OLS / LIMITS)	(BEFORE CON	TROLS / LIMITS)	(AFTER CONTROLS / LIMITS)		
Source	Pollutant	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	
truck mix	Chromium	1.47E-04	1.28E+00	4.08E-04	3.57E+00	1.47E-04	1.28E+00	
central mix	Chromium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
cement silo	Chromium	7.80E-07	6.83E-03	6.77E-06	5.93E-02	7.80E-07	6.83E-03	
supplement silo*	Chromium	1.08E-05	9.49E-02	1.08E-05	9.49E-02	1.08E-05	9.49E-02	
TOTÁL	Chromium	1.58E-04	1.39E+00	4.25E-04	3.73E+00	1.58E-04	1.39E+00	



CONCRETE BATCH PLANT EMISSIONS CALCULATOR - TAP CALCULATIONS REVISION D; October 15, 2015 This spreadsheet is for your use only and should be used with caution. DENR does not guarantee the accuracy of the information contained. This spreadsheet is subject to continual revision and updating. It is your responsibility to be aware of the most current information available. DENR is not responsible for errors or omissions that may be contained herein.

LEAD (HAP) EMISSIONS					INFORMATION				
LEAD EMISSIONS	ACTUAL E	ACTUAL EMISSIONS		POTENTIAL EMISSIONS					
		(AFTER CONTR	OLS / LIMITS)	(BEFORE CONTROLS / LIMITS) (AFTER CONTROLS / LIMITS)			LIMITS)		
Source	Pollutant	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr		
truck mix	Lead	5.47E-05	4.79E-01	1.29E-03	1.13E+01	5.47E-05	4.79E-01		
central mix	Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
cement silo	Lead	2.93E-07	2.57E-03	1.98E-05	1.73E-01	2.93E-07	2.57E-03		
supplement silo*	Lead	4.62E-06	4.05E-02	4.62E-06	4.05E-02	4.62E-06	4.05E-02		
TOTAL	Lead	5.96E-05	5.22E-01	1.32E-03	1.16E+01	5.96E-05	5.22E-01		

MANGANESE EMISSIONS		ACTUAL E	ACTUAL EMISSIONS		POTENTIAL EMISSIONS				
		(AFTER CONTR	OLS / LIMITS)	(BEFORE CONTROLS / LIMITS) (AFTER CONTROLS / LIMITS)			IMITS)		
Source	Pollutant	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr		
truck mix	Manganese	7.44E-04	6.52E+00	2.19E-03	1.92E+01	7.44E-04	6.52E+00		
central mix	Manganese	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
cement silo	Manganese	3.14E-06	2.75E-02	5.48E-03	4.80E+01	3.14E-06	2.75E-02		
supplement silo*	Manganese	2.27E-06	1.99E-02	2.27E-06	1.99E-02	2.27E-06	1.99E-02		
TOTAL	Manganese	7.49E-04	6.56E+00	7.67E-03	6.72E+01	7.49E-04	6.56E+00		

NICKEL EMISSIONS			ACTUAL EMISSIONS		DNS INFORMATION POTENTIAL EMISSIONS				
	(AFTER CONTROLS / LIMITS) (BEFO		(BEFORE CON	TROLS / LIMITS)	(AFTER CONTROLS	/ LIMITS)			
Source	Pollutant	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr		
truck mix	Nickel	1.71E-04	1.50E+00	4.26E-04	3.73E+00	1.71E-04	1.50E+00		
central mix	Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
cement silo	Nickel	1.12E-06	9.84E-03	4.73E-04	4.14E+00	1.12E-06	9.84E-03		
supplement silo*	Nickel	2.02E-05	1.77E-01	2.02E-05	1.77E-01	2.02E-05	1.77E-01		
TOTAL	Nickel	1.92E-04	1.68E+00	9.19E-04	8.05E+00	1.92E-04	1.68E+00		
		(Nickel TPER: C	.13 lb/day)			······			

PHOSPHORUS (HAP) EMISSI				ONS INFOR	MATION			
PHOSPHORUS EMISSIONS		ACTUAL E	MISSIONS	POTENTIAL EMISSIONS				
		(AFTER CONTR	OLS / LIMITS)	(BEFORE CONTROLS / LIMITS) (AFTER CONTROLS / LIMIT			/ LIMITS)	
Source	Pollutant	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	
truck mix	Phosphorus	4.40E-04	3.85E+00	1.37E-03	1.20E+01	4.40E-04	3.85E+00	
central mix	Phosphorus	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
cement silo	Phosphorus	-		3.17E-04	2.78E+00	-	-	
supplement silo*	Phosphorus	3.14E-05	2.75E-01	3.14E-05	2.75E-01	3.14E-05	2.75E-01	
TOTAL	Phosphorus	4.71E-04	4.13E+00	1.72E-03	1.51E+01	4.71E-04	4.13E+00	

SELENIUM EMISSIONS		ACTUAL EMISSIONS		POTENTIAL EMISSIONS			
		(AFTER CONTROLS / LIMITS)		(BEFORE CONTROLS / LIMITS) (AFTER CONTROLS / LIMITS)			LIMITS)
Source	Pollutant	lb/hr	lb/yr	ib/hr	lb/yr	lb/hr	lb/yr
truck mix	Selenium	4.04E-06	3.54E-02	9.37E-05	8.21E-01	4.04E-06	3.54E-02
central mix	Selenium	-	-	- ·	-	-	-
cement silo	Selenium	-	-	-	-	-	_
supplement silo*	Selenium	6.43E-07	5.63E-03	6.43E-07	5.63E-03	6.43E-07	5.63E-03
TOTAL	Selenium	4.68E-06	4.10E-02	9.43E-05	8.26E-01	4.68E-06	4.10E-02

APPENDIX C

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TAPS MODELING REPORT

APPENDIX C

TOXIC AIR POLLUTANT MODELING ANALYSIS FOR THE PROPOSED CAROLINA SUNROCK HOT MIX ASPHALT AND CONCRETE BATCH PLANT IN CASWELL COUNTY NORTH CAROLINA

ASUNROCK[®]

Prepared for:

Carolina Sunrock LLC 200 Horizon Drive, Suite 100 Raleigh, North Carolina 27615

Prepared by:

RTP Environmental Associates 304-A West Millbrook Road Raleigh, NC 27609

September 2019

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1.0 INTRODUCTION

Carolina Sunrock LLC ("Sunrock") is proposing to construct a greenfield hot mix asphalt and concrete batch plant in Caswell County North Carolina. The proposed construction will result in emissions of six regulated North Carolina Toxic Air Pollutant ("TAP") pollutants. Modeling of these six pollutants has been conducted to demonstrate compliance with the Acceptable Ambient Levels ("AALs") of 15A NCAC 2D.1104. The modeled emissions have been established at levels to allow for facility operational flexibility by backcalculating the maximum emission rate for each source which allows for compliance with the AAL. Sunrock requests that the TAP permit limits be reestablished at the modeled compliant rates found in Table 2 of this report.

The modeling analyses presented herein conforms with the procedures specified in the <u>Guidelines for Evaluating the Air Quality Impacts of Toxic Pollutants in North</u> <u>Carolina</u>.¹

¹ <u>Guidelines for Evaluating the Air Quality Impacts of Toxic Pollutants in North Carolina</u>, North Carolina Department of Environment and Natural Resources, Division of Air Quality Section. July 2017.

2.0 FACILITY LOCATION AND SITE DESCRIPTION

The Sunrock facility will be in southern Caswell county, along North Carolina Highway 62, approximately 11 miles northeast of Burlington on US 1. The approximate Universal Transverse Mercator (UTM) coordinates of the facility are 650,208m east and 4,013,069m north (NAD 83, Zone 17) at an elevation of 200m above mean sea level. Figure 1 shows the general location of the facility. Figure 2 shows the more specific facility location on the USGS 7.5 minute USGS quadrangles.



Figure 1. General Location of the Sunrock Burlington North Facility

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Figure 2. Specific Location of the Sunrock Burlington North Facility

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3.0 MODEL SELECTION

Version 18081 of the AMS/EPA Regulatory Model (AERMOD) was used to conduct the dispersion modeling analysis. Please note that the EPA has recently released version 19191 of AERMOD. However, this version has yet to be incorporated into the BEEST modeling system employed by RTP Environmental. The recent update should not affect the modeled concentrations provided herein. AERMOD is the most appropriate model for calculating ambient concentrations near the Sunrock facility based on the model's ability to incorporate multiple sources and source types, the model's ability to incorporate building wake effects, and the model's ability to calculate concentrations within the cavity recirculation zone. It is also one of the models recommended for such studies by the North Carolina Department of Environmental Quality ("DEQ"). All model options were selected as recommended in the EPA <u>Guidelines on Air Quality Models</u>².

AERMOD is a Gaussian plume dispersion model that is based on planetary boundary layer principals for characterizing atmospheric stability. The model evaluates the non-Gaussian vertical behavior of plumes during convective conditions with the probability density function and the superposition of several Gaussian plumes. AERMOD is a modeling system with three components: AERMAP is the terrain preprocessor program, AERMET is the meteorological data preprocessor, and AERMOD includes the dispersion modeling algorithms.

AERMOD was developed to calculate concentrations in both simple and complex terrain. As with CTDMPLUS, AERMOD uses the dividing streamline concept to address plume interactions with elevated terrain.

² <u>Guidelines on Air Quality Models</u>, Appendix W of 40 CFR Part 51, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina. January 17, 2017.

4.0 MODEL SETUP AND APPLICATION

AERMOD contains three modules: two pre-processors and the dispersion model. Model receptor elevations and height scales are developed with the AERMAP preprocessor, meteorological data are developed with the AERMET pre-processor, and the model algorithms are applied with AERMOD. Application of each of these three modules is discussed in the following sections.

4.1 AERMAP

The terrain pre-processor AERMAP was used to extract receptor elevation data from USGS National Elevation Data ("NED") files for use as input to AERMOD. One arcsecond resolution NED data files were obtained. Receptor locations were based on North American Datum of 1983 ("NAD83"). AERMAP was used to generate the elevation and height scale for each receptor. The height scale is a measure of the height and distance of the local terrain feature that has the greatest influence on dispersion for that receptor.

The modeled receptor grid included approximately 7,300 receptors. The grid consisted of two Cartesian grids and discrete receptors placed along the facility property line at 50m intervals. The first Cartesian grid extended approximately 2,500m from the property line in all directions, with a dense receptor spacing of 100m. The second Cartesian grid extended from 2,500 to 7,500m from the property line, with receptor spacing of 250m.

Generally, a fine-mesh receptor grid is placed around the location of maximum concentrations to pinpoint the absolute maximum concentrations calculated from a facility. Additional modeling using a fine-mesh receptor grid was not necessary however, because the maximum pollutant concentrations occurred within 500m of the property line. The receptor spacing in this region is 100m; therefore, no fine

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mesh receptor grid was required. Figure 3 shows the near field receptors that were employed in the analysis.

4.2 AERMET

The meteorological data pre-processor AERMET was used to develop meteorological data for the AERMOD modeling system. The AERMET software processes surface meteorological data and twice-daily upper air sounding data into the proper format using a three-stage process. The first stage extracts the data and administers several data quality checks. The second stage merges the data, and the third stage estimates the required boundary layer parameters and writes the data in a format readable by AERMOD. Five years (2014-2018) of "AERMOD-ready" meteorological data were obtained from the DEQ. The AERMET data were processed by the DEQ using AERMET Version 18081. The DEQ's sequential hourly surface data from the National Weather Service (NWS) station in Danville, VA (WBAN No. 13728) and upper air data from Greensboro, NC (WBAN No. 13723) were used. These data are the most representative data for modeling facilities in Caswell County.

4.3 AERMOD

AERMOD was run in the regulatory default mode using the rural land use dispersion option. The land use typing scheme of Auer was used to determine the proper land use classification of the site.³ Specifically, the USGS land use coverages were obtained for the area. The land use classification codes were then categorized as either urban or rural, based on the USGS land use classification codes. It was

³ Auer, Jr., A.H. "Correlation of Land Use and Cover with Meteorological Anomalies." <u>Journal of Applied</u> <u>Meteorology</u>, 17:636-643, 1978.





Figure 3. Receptors Employed in the Sunrock Modeling Analysis

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determined that the land use within the 3km radius of the area comprises less than 50% of the following land use types, as defined by Auer:

- I1 Heavy Industrial major chemical, steel and fabrication industries; generally 3-5 story buildings - grass and tree growth extremely rare; <5% vegetation;
- I2 Light Industrial rail yards, truck depots, warehouses, industrial parks, minor fabrications; generally 1-3 story buildings
 very limited grass, trees almost totally absent; <5% vegetation;
- C1 Commercial office and apartment buildings, hotels; >10 story heights - limited grass and trees; <15% vegetation;
- R2 Compact Residential single, some multiple, family dwelling with close spacing; generally < 2 story; garages no driveways - limited lawn sizes and shade trees; <30% vegetation; and
- R3 Compact Residential old multi-family dwellings with close lateral separation; generally <2 story; garages no driveways limited lawn sizes, old established shade trees; <35% vegetation.

Therefore, the land use within 3km of the facility was determined to be rural.

5.0 SOURCE INPUT PARAMETERS AND MODELED EMISSIONS

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The modeled point source stack parameter data (e.g., stack height, diameter, velocity and temperature) were obtained from Sunrock and are presented in Table 1. The modeled emission rates are presented in Table 2. The potential emissions were modeled initially and then the model was iterated to determine the maximum emissions that could occur and allow the facility to comply with the AALs.

Sunrock requests that these AAL compliant emission rates shown in Table 2 be incorporated as permit conditions so that the facility can maintain maximum operational flexibility.

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Table 1. Sunrock TAP Model Input Data

Model Source	Source	Source	UTM East	UTM North	Base Elevation	Stack Height	Gas Temperature	Exit Velocitv	Stack Diameter
No.	9	Description	(m)	(m)	(m)	(Ħ)	(F)	(ft/sec)	(ft)
-				Point Sources	urces				
~	CD 1	Hot Mix Asphalt	650207.90	4013086.92	201.32	30.2	240.0	96.5	3.1
N	CD_2	Concrete Batch Plant and Silo Filling	650220.86	4013028.42	203.17	35.0	77.0	80.0	1.5
£	ESH_2	Asphalt Cement Heater	650203.84	4013069.45	201.50	9.0	325.0	0.03	1.0
4	ESH_1	Heater for Liquid Asphalt Tank	650190.21	4013088.27	200.30	15.0	325.0	0.03	0.2
				Volume Sources	ources				
Model					Base		Initial Horizontal		
Source	Source	Source	UTM East	M East UTM North	Elevation	Height	Dimension	Initial V	Initial Vertical
No.	0	Description	(m)	(m)	(m)	(ft)	(ft)	Dimension (ft)	ion (ft)
2	Н Н	Asphalt Silo Loadout	650185.20	4013059.18	200.90	40.00	5.81	18.	18.60
9	F2	Cement Silo Loadout	650231.19	4013023.90	203.91	32.50	5.81	15.12	12

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Table 2. Sunrock Modeled TAP Emissions (lb/hr)

	Source					「それになっていた」というにいたいできたとしないできょうないないできょうです。	の方のないという時代になっていたいという
	Description	Arsenic (As)	Benzene (Bz)	Nickel (Ni)	Mercury (Hg)	Formaldehyde Cadmium (Form) (Cd)	Cadmium (Cd)
	Hot Mix Asphalt	1.64E-03	8.85E-01	2.46E-01	2.42E-02	4.05E+01	7.08E-03
-	Concrete Batch Plant and Silo Filling	7.73E-04	0.00E+00	2.99E-03	0.00E+00	0.00E+00	3.44E-05
	Asphalt Cement Heater	5.63E-05	2.21E-05	5.60E-05	1.34E-04	1.44E-02	2.48E-04
4 ESH_1 Hea	Heater for Liquid Asphalt Tank	5.16E-05	2.02E-05	5.14E-05	1.23E-04	1.32E-02	2.27E-04
5 F1 Asp Loa	Asphalt Silo Loadout	0.00E+00	4.80E-03	0.00E+00	0.00E+00	4.48E-02	0.00E+00
6 F2 Cer Loa	Cement Silo Loadout	3.94E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

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5.1 Good Engineering Practice (GEP) Stack Height

A good engineering practice ("GEP") stack height evaluation was conducted to determine if inclusion of building wake effects would be required in the modeling analysis. Procedures used in this analysis were in accordance with those described in the EPA document <u>Guideline for Determination of Good Engineering Practice</u> <u>Stack Height (Technical Support Document for the Stack Height Regulations - Revised</u>).⁴

GEP formula stack height, as defined in 40 CFR 51, is expressed as GEP = Hb + 1.5L, where Hb is the building height and L is the lesser of the building height or maximum projected width. Nearby is defined as the distance up to five times the lesser of the height or width of a structure, but not greater than one-half mile. Both the height and width of the structure are determined from the frontal area of the structure projected onto a plane perpendicular to the wind. Since the stack heights at the GSC facility were determined to be affected by building downwash, AERMOD was run considering building wake effects. Direction-specific building dimensions were calculated using the EPA's BPIP-PRIME computer program (Version 04274). Figure 4 provides a plot plan showing the buildings and sources modeled.

⁴ <u>Guideline for Determination of Good Engineering Practice Stack Height (Technical Support Document for Stack Height Regulations</u> (Revised). EPA-450/4-80-023R, U.S. Environmental Protection Agency. June 1985.


6.0 MODELING METHODOLOGY

Impacts resulting from AERMOD using hourly meteorological data are considered to be part of a refined analysis by the DEQ. A five- year meteorological dataset was modeled. The maximum concentrations for the five-year period were calculated and compared to the applicable AAL(s) for each pollutant.



7.0 RESULTS

The AERMOD analysis results are presented in Table 3. The maximum combined impacts from all sources are presented. As shown, the impacts for each TAP are compliant with the AALs. Attachment A provides the model protocol checklist and tax map (as obtained from the Caswell County GIS server). Attachment B contains the model summary output. Actual model input and output files, including the BPIP-PRIME and AERMAP files, are included on the enclosed diskette.

Pollutant	Averaging Period	Maximum Modeled Impact (μg/m³)	Acceptable Ambient Level (AAL) (μg/m³)	Percent of AAL
Arsenic	Annual	0.0020	0.0021	94.8%
Benzene	Annual	0.11	0.12	95.0%
Cadmium	Annual	0.0052	0.0055	95.1%
Formaldehyde	1-hour	143	150	95.0%
Mercury	24-hour	0.057	0.060	95.2%
Nickel	24-hour	0.57	0.60	95.1%

Table 3. AERMOD Model Summary Results

7.1 Summary and Conclusions

Emissions of NC regulated toxic air pollutants are emitted from the Sunrock facility. These pollutants were evaluated in an air quality modeling analysis. The calculated potential emissions from each source result in ambient concentrations less than the AALs. Emissions were therefore maximized such that total facility impacts were just below the AALs. Maximizing emissions in this manner allows maximum facility operational flexibility while ensuring that ground level impacts do not exceed levels designed to protect human health and welfare. Sunrock requests that the maximized emissions be incorporated as permit conditions.

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ATTACHMENT A

Model Supporting Data

- Model Input Data
 Volume Source Calculations
 - **Model Protocol Checklist** •
 - Tax Parcel Map

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Carolina	

urce ID	Source Description	Easting (m)	Northing (m)	(m)	uuliuu (#)	Temp. (°F)	EXIT Velocity Diameter) (ft/sec) (ft) As (lb/hr)	Diameter (ft)	As (Ib/hr)	Bz (lb/hr)	Ni (Ib/hr) Ha (Ib/		Form (Ib/Int) Cd (Ib/Int)
<u> </u>	farier monter de	650207.90	4013086.92	201.32	30.2	240.0	96.5	3.1	1.64E-03	8.85E-01	8.85E-01 2.46E-01 2.42E-02		7 08F-03
2.2	Concrete Batch Plant and Silo Filling	650220.86	4013028.42	203.17	35.0	77.0	80.0	1.5	7.73E-04	0.00E+00	2.99E-03 0.00E+00		3 44E-05
ESH_2	Asphalt Cement Heater	650203.84	4013069.45	201.50	9.0	325.0	0.03	1.0	5.63E-05	2.21E-05	5.60E-05 1.34E-04		2 48E-04
SH_1	Heater for Liquid Asphalt Tank	650190.21	4013088.27	200.30	15.0	325.0	0.03	0.2	5.16E-05	2.02E-05	5.14F-05 1.23F-04	4 1 37F-07	2 27E-04

Volume Source Input

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Note 1: Release height of elevated source if not on or adjacent to building. One half structure height for source located on or adjacent to building Note 2: Sigma Y value calculated as the square root of the area of release (length of side) divided by 4.3 (Table 3-1 of AERMOD Manual for single volume source). Note 3: Sigma Z value for elevated source on or adjacent (within 5L) to a building calculated based on the building/structure height divided by 2.15. Note 4: Sigma Z value for elevated source not on or adjacent to a building calculated as the vertical dimension of source by 4.3.

Characteristics calculated based on Table 3-1 of AERMOD Manual.

Carolina Sunrock Burlington North Volume Source Parameter Calculation

North Carolina Modeling Protocol Checklist

he North Carolina Modeling Protocol Checklist may be used in lieu of developing the traditional written modeling plan for North Carolina toxics and criteria pollutant modeling. The protocol checklist is designed to provide the same level of information as requested in a modeling protocol as discussed in Chapter 2 of the *Guideline for Evaluating the Air Quality Impacts of Toxic Pollutants in North Carolina*. The modeling protocol checklist is submitted with the modeling analysis.

Although most of the information requested in the modeling protocol checklist is self explanatory, additional comments are provided, where applicable, and are discussed in greater detail in the toxics modeling guidelines referenced above. References to sections, tables, figures, appendices, etc., in the protocol checklist are found in the toxics modeling guidelines.

INSTRUCTIONS: The modeling report supporting the compliance demonstration should include most of the information listed below. As appropriate, answer the following questions or indicate by check mark the information provided or action taken is reflected in your report.

FACIL	ITY INFORMATION	
Name: Carolina Sunrock Corp Facility ID: 9100111 Address: 200 Horizon Drive Raleigh, NC 27615	Consultant (if applicable): RTP Environmental	
Contact Name: Scott Martino	Contact Name: David Keen	
Phone Number: ⁽⁹¹⁹⁾ 747-6336 Email:smartino@thesunrockgroup.com	Phone Number: (919) 845-1422 x41 Email: keen@rtpenv.com	
	GENERAL	
Description of New Source or Source / Process modified source(s) and a brief discussion of how this char	Modification : provide a short description of the new or nge affects facility production or process operation.	Sec 2
	The affected pollutants, by source, which identifies the source a rates over the applicable averaging period(s), and, for point ().	Tables 1&2
Pollutant Emission Rate Calculations: indicate mass balance, etc.) and where applicable, provide the calculation.	how the pollutant emission rates were derived (e.g., AP-42, culations.	Scaled to AAL
sources, buildings or structures, public right-of-ways, and	ng showing the location of all existing and proposed emission the facility property (toxics) / fence line (criteria pollutants) e north indicator, and the UTM or latitude/longitude of at least	Figs 3&4
Certified Plat or Signed Survey: a certified plat (must be submitted to validate property boundaries modele	map) from the County Register of Deeds or a signed survey ed.	Atch A
Topographic Map : A topographic map covering app facility boundaries should be annotated on the map as acc	proximately 5km around the facility must be submitted. The urately as possible.	Fig. 1
region of influence extending to one or more sources mod	ty impact analysis must be conducted for all structures with a leled to determine if cavity regions extend off property separate cavity analysis is required if using AERMOD. <i>See</i>	NA - AERMOD used

GENERAL (continued)	
Background Concentrations (criteria pollutant analyses only): Background concentrations must be determined for each pollutant for each averaging period evaluated. The averaged background value used (e.g., high, high-second-high, high-third-high, etc.) is based on the pollutant and averaging period evaluated. The background concentrations are added to the modeled concentrations, which are then compared to the applicable air quality standard to determine compliance.	NA
Offsite Source Inventories (criteria pollutant analyses only): Offsite source inventories must be developed and modeled for all pollutants for which onsite sources emissions are modeled in excess of the specific pollutant significant impact levels (SILs) as defined in the PSD New Source Review Workshop Manual. The DAQ AQAB must approve the inventories. An initial working inventory can be requested from the AQAB.	NA

SCREEN LEVEL MODELING NA - Refined Modeling

Model : The latest version of the SCREEN3 model must be used until AERSCREEN is developed and approved. The use of other screening models should be approved by NCDAQ prior to submitting the modeling report.	· L
Source / Source emission parameters : Provide a table listing the sources modeled and the applicable source emission parameters. See NC Form 3 – Appendix A.	

Merged Sources: Identify merged sources and show all appropriate calculations. See Section 3.3

GEP Analysis: SCREEN3 – for each source modeled, show all calculations identifying the critical structure used in the model run. *See section 3.2 and NC Form 1 - Appendix A*.

Cavity Impact Analysis: A cavity impact analysis using SCREEN3 must be conducted for all structures with a region of influence extending to one or more sources modeled to determine if cavity regions extend off property (toxics) or beyond the fence line (criteria pollutants). *See Section 4.2*

Terrain: Indicate the terrain modeled: simple (Section 4.4), and complex (Section 4.5 and NC Form 4 – Appendix A). If complex terrain is within 5 kilometers of the facility, complex terrain must be evaluated. Simple terrain must include terrain elevations if any terrain is greater than the stack base of any source modeled.

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Simple: _

Complex:

Meteorology: In SCREEN3, select full meteorology.

Receptors: SCREEN3 – use shortest distance to property boundary for each source modeled and use sufficient range to find maximum (*See Section 4.1 (i) and (j)*). Terrain above stack base must be evaluated.

Modeling Results: For each affected pollutant, modeling results should be summarized, converted to the applicable averaging period (*See Table 3*), and presented in tabular format indicating compliance status with the applicable AAL, SIL or NAAQS. See NC Form S5 – Appendix A.

Modeling Files: Either electronic or hard copies of SCREEN3 output must be submitted.

REFINED LEVEL MODELING	
Model : The latest version of AERMOD should be used, and may be found at http://www.epa.gov/scram001/dispersion_prefrec.htm. The use of other refined models must be approved by NCDAQ prior to submitting the modeling report.	Section 4
Source / Source emission parameters : Provide a table listing the sources modeled and the applicable source emission parameters. <i>See NC Form 3 - Appendix A</i> .	Tables 1 & 2
GEP Analysis: Use BPIP-Prime with AERMOD.	Sect5.1
Cavity Impact Analysis : No separate cavity analysis is required when using AERMOD as long as receptors are placed in cavity susceptible areas. <i>See Section 4.2 and 5.2</i> .	NA-AERMO used
Terrain : Use digital elevation data from the USGS NED database (http://seamless.usgs.gov/index.php). Use of other sources of terrain elevations or the non-regulatory Flat Terrain option will require prior approval from DAQ AQAB.	Section 4.1
Coordinate System : Specify the coordinate system used (e.g., NAD27, NAD83, etc.) to identify the source, building, and receptor locations. Note: Be sure to specify in the AERMAP input file the correct base datum (NADA) to be used for identifying source input data locations. Clearly note in both the protocol checklist and the modeling report which datum was used.	NAD83
Receptors: The receptor grid should be of sufficient size and resolution to identify the maximum pollutant impact. <i>See Section 5.3.</i>	Section 4.1
Meteorology: Indicate the AQAB, pre-processed, 5-year data set used in the modeling demonstration: (See Section 5.5 and Appendix B)	
AERMOD See Section 4.2 If processing your own raw meteorology, then pre-approval from AQAB is required. Additional documentation files (e.g. AERMET stage processing files) will also be necessary. For NC toxics, the modeling demonstration requires only the last year of the standard 5 year data set (e.g., 2005) provided the maximum impacts are less than 50% of the applicable AAL(s).	
Modeling Results: For each affected pollutant and averaging period, modeling results should be summarized and presented in tabular format indicating compliance status with the applicable AAL, SIL or NAAQS. See NC Form R5 - Appendix A.	Sect 7
Modeling Files : Submit input and output files for AERMOD. Also include BPIP-Prime files, AERMAP files, DEM files, and any AERMET input and output files, including raw meteorological data.	on disc

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ATTACHMENT B

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Model Summary Output

9-10-19 Carolina Si Model	9-10-19 Carolina Sunrock Burlington North TAP Analysis - First Pass Results (Initial Emissions) Model Pollutant Average	Results (Initial En Pollutant Av	tial Emissions It Average	Group	Rank	Conc/Dep East (X)	136	North (Y) Elev	- IEH Social	Flag	Tme	Met File	Sources	Grouns	Recentors
AERMOD 18081	Sunrock Burlington North_2018_AS.SUM	AS	ANNUAL	ALL	1ST	D.00017 650	650055.4 4012903		199.17 1	199.17	0 1 YEARS	DAN2018_WET.SFC	പ	T .	7335
AERMOD 18081	Sunrock Burlington North_2017_AS.SUM	AS	ANNUAL	ALL	1ST	0.00016 650	650362.6 4013375		1 11.87	191.87	0 1 YEARS	DAN2017_AVG.SFC	Ŋ	Ч	7335
AERMOD 18081	Sunrock Burlington North_2015_AS.SUM	AS	ANNUAL	ALL	15T	0.00015 650	650055.4 4012903		1 11.66	99.17	0 1 YEARS	DAN2015_WET.SFC	Ŋ	Ч	7335
AERMOD 18081	Sunrock Burlington North_2016_AS.SUM	AS	ANNUAL	ALL	15T	0.00015 650	550055.4 4012903	-	99.17 1	99.17	0 1 YEARS	DAN2016_AVG.SFC	ŝ		7335
AERMOD 18081	Sunrock Burlington North_2014_AS.SUM	AS	ANNUAL	ALL	1ST	0.00014 650	650055.4 4012903	-	99.17 1	99.17	0 1 YEARS	DAN2014_AVG.SFC	- M	н	7335
AERMOD 18081	Sunrock Burlington North_2017_BZ.SUM	ΒZ	ANNUAL	ALL	15T	0.01269 650	650362.6 4013	4013375 15	91.87 1	91.87	0 1 YEARS	DAN2017_AVG.SFC	4	н	7335
AERMOD 18081	Sunrock Burlington North_2014_BZ.SUM	BZ	ANNUAL	ALL	1ST	0.01111 650	650362.6 4013375	-	191.87 1	91.87	0 1 YEARS	DAN2014_AVG.SFC	4	H	7335
AERMOD 18081	Sunrock Burlington North_2016_BZ.SUM	ΒZ	ANNUAL	ALL	1ST	0.01099 650	550362.6 4013375		101.87	191.87	0 1 YEARS	DAN2016_AVG.SFC	4	Ч	7335
AERMOD 18081	Sunrock Burlington North_2018_BZ.SUM	ΒZ	ANNUAL	ALL	1ST	0.01099 650	650362.6 4013375		191.87	91.87	0 1 YEARS	DAN2018_WET.SFC	4	Ч	7335
AERMOD 18081	Sunrock Burlington North_2015_BZ.SUM	ΒZ	ANNUAL	ALL	1ST	0.01023 650	550362.6 4013375		91.87 1	91.87	0 1 YEARS	DAN2015_WET.SFC	4	. 4	7335
AERMOD 18081	Sunrock Burlington North_2017_CD.SUM	8	ANNUAL	ALL	15T	0.00008 650	550362.6 4013375	•••	191.87 1	191.87	0 1 YEARS	DAN2017_AVG.SFC	4	ч	7335
AERMOD 18081	Sunrock Burlington North_2014_CD.SUM	8	ANNUAL	ALL	15T	0.00007 650	650362.6 4013	4013375 15	191.87 1	91.87	0 1 YEARS	DAN2014_AVG.SFC	4	н ,	7335
AERMOD 18081	Sunrock Burlington North_2016_CD.SUM	8	ANNUAL	ALL	15T	0.00007 650	650362.6 4013375		191.87 1	191.87	0 1 YEARS	DAN2016_AVG.SFC	4	Ļ	7335
AERMOD 18081	Sunrock Burlington North_2018_CD.SUM	8	ANNUAL	ALL	1ST	0.00007 650	650362.6 4013	4013375 15	191.87 1	191.87	0 1 YEARS	DAN2018_WET.SFC	4	Ч	7335
AERMOD 18081	Sunrock Burlington North_2015_CD.SUM	8	ANNUAL	ALL	1ST	0.00006 650	650362.6 4013375		191.87 1	191.87	0 1 YEARS	DAN2015_WET.SFC	4	Ţ	7335
AERMOD 18081	Sunrock Burlington North_2014_FORM.SUM	FORM	1-HR	ALL	1ST	2.80099 650	650677.6 4013317		208.75 2	208.75	0 14052803	14052803 DAN2014_AVG.SFC	4	1	7335
AERMOD 18081	Sunrock Burlington North_2015_FORM.SUM	FORM	1-HR	ALL	1ST	-	550677.6 4013317		208.75 2	208.75	0 15011901	15011901 DAN2015_WET.SFC	4	ы	7335
AERMOD 18081	Sunrock Burlington North_2018_FORM.SUM	FORM	1-HR	ALL	1ST	2.64264 650	650420.9 4012871		206.22 2	206.22	0 18033019	18033019 DAN2018_WET.SFC	4	H	7335
AERMOD 18081	Sunrock Burlington North_2016_FORM.SUM	FORM	1-HR	ALL	1ST	2,63599 650	650388.9 4012841		204.24 2	204.24	0 16051420	16051420 DAN2016_AVG.SFC	4	÷	7335
AERMOD 18081	Sunrock Burlington North_2017_FORM.SUM	FORM	1-HR	ALL	1ST	2.63138 650	650677.6 4013317		208.75 2	208.75	0 17012905	17012905 DAN2017_AVG.SFC	4	ч	7335
AERMOD 18081	Sunrock Burlington North_2015_HG.SUM	뛰	24-HR	ALL	15T	0.00153 650	650055.4 4012903		199.17 1	10.17	0 15100424	15100424 DAN2015_WET.SFC	m	ч	7335
AERMOD 18081	Sunrock Burlington North_2018_HG.SUM	Я	24-HR	ALL	15T	0.00151 650	550086.2 4012872		201.06 2	201.06	0 18091424	18091424 DAN2018_WET.SFC	'n	1	7335
AERMOD 18081	Sunrock Burlington North_2017_HG.SUM	Я	24-HR	ALL	1ST	0.00107 650	550055.4 4012903		1 11.661	.99.17	0 17042424	17042424 DAN2017_AVG.SFC	m	H	7335
AERMOD 18081	Sunrock Burlington North_2016_HG.SUM	ዋ	24-HR	ALL	1ST	0.00086 650	650388.9 4012841		204.24 2	204.24	0 16012324	16012324 DAN2016_AVG.SFC	m	1	7335
AERMOD 18081	Sunrock Burlington North_2014_HG.SUM	ЭH	24-HR	ALL	15T	0.00075 650	550388.9 4012841		204.24 2	04.24	0 14110224	14110224 DAN2014_AVG.SFC	m	Ļ	7335
AERMOD 18081	Sunrock Burlington North_2018_NJ.SUM	z	24-HR	ALL	15T	0.03663 650	550086.2 4012872		201.06 2	201.06	0 18091424	18091424 DAN2018_WET.SFC	4	H	7335
AERMOD 18081	Sunrock Burlington North_2015_NI.SUM	īz	24-HR	ALL	1ST	0.03646 650	650055.4 4012	1012903 15	1 0.17	99.17	0 15100424	15100424 DAN2015_WET.SFC	4	1	7335
AERMOD 18081	Sunrock Burlington North_2017_NI.SUM	īŻ	24-HR	ALL	1ST	0.02468 650	650055.4 4012903		1 11.661	99.17	0 17042424	17042424 DAN2017_AVG.SFC	4	,	7335
AERMOD 18081	Sunrock Burlington North_2016_NI.SUM	īz	24-HR	ALL	<u>1</u> 5T	0.02117 650	650388.9 4012841		204.24 2	204.24	0 16012324	16012324 DAN2016_AVG.SFC	4	н ,	7335
AERMOD 18081	Sunrock Burlington North_2014_NI.SUM	īz	24-HR	ALL	1ST	0.01821 650	650388.9 4012841		204.24 2	204.24	0 14110224	14110224 DAN2014_AVG.SFC	4	н	7335
		9-10-19	Carolina Sun	ock Burlir	gton North	9-10-19 Carolina Sunrock Burlington North TAP Analysis - First Pass Results (Initial Emissions)	st Pass Resu	ts (Initial I	(missions)						ĺ

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Pollutant Average		Group	Rank	Conc/Dep AAL		%AAL
AS	ANNUAL	ALL	1ST	0.00017	0.0021	8.1%
BZ	ANNUAL	ALL	1ST	0.01269	0.12	0.1%
8	ANNUAL	ALL	1ST	0.00008	0.0055	1.5%
FORM	1-HR	ALL	1ST	2.80099	150	1.9%
HG	24-HR	ALL	1ST	0.00153	0.06	2.6%
Ī	24-HR	ALL	1ST	0.03663	0.6	6.1%

Model	Fie	Polluta	Pollutant Average	Group.	Rank	Conc/Dep East (X) North (Y) Elev	st (X) NL		ev Hill	ill Flag	Time	Met File	Sources	Groups	Receptors
AERMOD 18081	Sunrock Burlington North_2018_AS.SUM	AS	ANNUAL	ALL	1ST	0.00199 65	650055.4 4	4012903	199.17	199.17	0 1 YEARS	DAN2018_WET.SFC	5	£	7335
AERMOD 18081	Sunrock Burlington North_2017_AS.SUM	AS	ANNUAL	ALL	1ST	0.00188 65	650362.6 4	4013375	191.87	191.87	0 1 YEARS	DAN2017_AVG.SFC	S	ч	7335
AERMOD 18081	Sunrock Burlington North_2015_AS.SUM	AS	ANNUAL	ALL	1ST	0.0018 65	550055.4 4	4012903	199.17	199.17	0 1 YEARS	DAN2015_WET.SFC	Ю	H.	7335
AERMOD 18081	Sunrock Burlington North_2016_AS.SUM	AS	ANNUAL	ALL	1ST	0.00171 65	550055.4 4	4012903	199.17	199.17	0 1 YEARS	DAN2016_AVG.SFC	Ŋ	4	7335
AERMOD 18081	Sunrock Burlington North_2014_AS.SUM	AS	ANNUAL	ALL	1ST	0.0017 65	550055.4 2	4012903	199.17	199.17	0 1 YEARS	DAN2014_AVG.SFC	ŝ	H	7335
AERMOD 18081	Sunrock Burlington North_2017_BZ.SUM	ΒZ	ANNUAL	. ALL	15T	0.11403 65	550362.6 4	4013375	191.87	191.87	0 1 YEARS	DAN2017_AVG.SFC	4	14	7335
AERMOD 18081	Sunrock Burlington North_2014_BZ.SUM	ΒZ	ANNUAL	ALL .	15T	0.09984 6	550362.6	4013375	191.87	191.87	0 1 YEARS	DAN2014_AVG.SFC	4	-1	7335
AERMOD 18081	Sunrock Burlington North_2016_BZ.SUM	ΒZ	ANNUAL	ALL	1ST	0.09875 65	650362.6 4	4013375	191.87	191.87	0 1 YEARS	DAN2016_AVG.SFC	4	-	7335
AERMOD 18081	Sunrock Burlington North_2018_BZ.SUM	BZ	ANNUAL	. ALL	15T	0.09873 6	50362.6 4	4013375	191.87	191.87	0 1 YEARS	DAN2018_WET.SFC	4	Ч	7335
AERMOD 18081	Sunrock Burlington North_2015_BZ.SUM	BZ	ANNUAL	ALL	1ST	0.09193 6	550362.6 4	4013375	191.87	191.87	0 1 YEARS	DAN2015_WET.SFC	4	Ч	7335
AERMOD 18081	Sunrock Burlington North_2017_CD.SUM	8	ANNUAL	ALL .	1ST	0.00523 65	550362.6 4	4013375	191.87	191.87	0 1 YEARS	DAN2017_AVG.SFC	4	Ч	7335
AERMOD 18081	Sunrock Burlington North_2018_CD.SUM	8	ANNUAL	ALL .	1ST	0.00476 65	650362.6 4	4013375	191.87	191.87	0 1 YEARS	DAN2018_WET.SFC	4	Ч	7335
AERMOD 18081	Sunrock Burlington North_2014_CD.SUM	8	ANNUAL	ALL .	1ST	0.00472 65	550362.6 4	4013375	191.87	191.87	0 1 YEARS	DAN2014_AVG.SFC	4	H	7335
AERMOD 18081	Sunrock Burlington North_2016_CD.SUM	8	ANNUAL	ALL .	1ST	0.00449 6	550362.6 4	4013375	191.87	191.87	0 1 YEARS	DAN2016_AVG.SFC	4	Ч	7335
AERMOD 18081	Sunrock Burlington North_2015_CD.SUM	8	ANNUAL	ALL	1ST	0.00437 65	50362.6 2	4013375	191.87	191.87	0 1 YEARS	DAN2015_WET.SFC	4	Ч	7335
AERMOD 18081	Sunrock Burlington North_2014_FORM.SUM	FORM	1-HR	ALL	15T	142.5149 6	550677.6 4	4013317	208.75	208.75	0 14052803	14052803 DAN2014_AVG.SFC	4	г	7335
AERMOD 18081	Sunrock Burlington North_2015_FORM.SUM	FORM	1-HR	ALL	1ST	138.9051 65	550677.6 2	4013317	208.75	208.75	0 15011901	15011901 DAN2015_WET.SFC	4	H	7335
AERMOD 18081	Sunrock Burlington North_2018_FORM.SUM	FORM	1-HR	ALL	1ST	134.4562 6	550420.9 4	4012871	206.22	206.22	0 18033015	18033019 DAN2018_WET.SFC	4	Ч	7335
AERMOD 18081	Sunrock Burlington North_2016_FORM.SUM	FORM	1-HR	ALL	1ST	134.1177 65	550388.9 4	4012841	204.24	204.24	0 16051420	16051420 DAN2016_AVG.SFC	4	r-1	7335
AERMOD 18081	Sunrock Burlington North_2017_FORM.SUM	FORM	1-HR	ALL	15T	133.8854 65	550677.6 4	4013317	208.75	208.75	0 17012905	17012905 DAN2017_AVG.SFC	4	Ч	7335
AERMOD 18081	Sunrock Burlington North_2015_HG.SUM	ЭH.	24-HR	ALL	1ST	0.05712 65	550055.4 4	4012903	199.17	199.17	0 15100424	15100424 DAN2015_WET.SFC	£	H	. 7335
AERMOD 18081	Sunrock Burlington North_2018_HG.SUM	ЫG	24-HR	ALL	1ST	0.05637 6	550086.2 4	4012872	201.06	201.06	0 18091424	18091424 DAN2018_WET.SFC	ĥ	4	7335
AERMOD 18081	Sunrock Burlington North_2017_HG.SUM	ΗG	24-HR	ALL	1ST	0.03984 6	650055.4 2	4012903	199.17	199.17	0 17042424	17042424 DAN2017_AVG.SFC	e	r-1	7335
AERMOD 18081	Sunrock Burlington North_2016_HG.SUM	ЫG	24-HR	ALL	1ST	0.03217 65	550388.9 4	4012841	204.24	204.24	0 16012324	16012324 DAN2016_AVG.SFC	'n	E.	7335
AERMOD 18081	Sunrock Burlington North_2014_HG.SUM	ЫG	24-HR	ALL	1ST	0.02781 6	550388.9 4	4012841	204.24	204.24	0 14110224	14110224 DAN2014_AVG.SFC	m	-	7335
AERMOD 18081	Sunrock Burlington North_2018_NI.SUM	z	24-HR	ALL	1ST	0.57037 65	550086.2 4	4012872	201.05	201.06	0 18091424	18091424 DAN2018_WET.SFC	4		7335
AERMOD 18081	Sunrock Burlington North_2015_NI.SUM	z	24-HR	ALL	1ST	0.5676 6	50055.4 2	4012903	199.17	199.17	0 15100424	15100424 DAN2015_WET.SFC	4	r-1	7335
AERMOD 18081	Sunrock Burlington North_2017_NI.SUM	z	24-HR	ALL	1ST	0.38426 6	550055.4 2	4012903	199.17	199.17	0 17042424	17042424 DAN2017_AVG.SFC	4		7335
AERMOD 18081	Sunrock Burlington North_2016_NI.SUM	N	24-HR	ALL	15T	0.32959 6	650388.9 4	4012841	204.24	204.24	0 16012324	16012324 DAN2016_AVG.SFC	4	H	7335
AERMOD 18081	Sunrock Burlington North_2014_NI.SUM	N	24-HR	ALL	1ST	0.28359 6	650388.9 4	4012841	204.24	204.24	0 14110224	14110224 DAN2014_AVG.SFC	4		7335

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9-10-19 C	Irolina Suni	rock Burling	gton North	9-10-19 Carolina Sunrock Burlington North TAP Analysis - Second Pass Results (Emissions	Second Pa	ss Results	(Emissions
Pollutant	llutant Average	Group	Rank	Conc/Dep AAL		%AAL	
AS	ANNUAL	ALL	1ST	0.00199	0.0021	94.8%	
BZ	ANNUAL	ALL	1ST	0.11403	0.12	95.0%	
8	ANNUAL	ALL	1ST	0.00523	0.0055	95.1%	
FORM	1-HR	ALL	1ST	142.5149	150	95.0%	
ВH	24-HR	ALL	1ST	0.05712	0.06	95.2%	
ī	24-HR	ALL	1ST	0.57037	0.6	95.1%	

APPENDIX D

ZONING CONSISTENCY DETERMINATION



September 4, 2019

Mr. Matthew Hoagland Planning Director Caswell County Planning Department 144 Main Street Yanceyville, NC 27379 RECEIVED SEP 05 2019 CASWELL COUNTY PLANNING DEPARTMENT

RTP ENVIRONMENTAL ASSOCIATES. INC.®

Subject: Zoning Consistency Determination for the Planned Construction of a Hot Mix Asphalt and Truck Mix Concrete Plant in Caswell County

Dear Mr. Hoagland,

RTP Environmental has been retained by Carolina Sunrock LLC to prepare an air permit application for the planned construction of a hot mix asphalt and truck mix concrete plant in Caswell County. The facility will be located at 12971 NC Highway 62 in Burlington (Map and Parcel: 0090 027). An air permit application is required as a result of planned modifications.

We request a Determination of Compliance with the Caswell County zoning ordinance regarding the location's zoning status. This determination is required per 15A North Carolina Administrative Code 2Q.0304(b)(1). Several new buildings and silos will be constructed as part of the modification. Attached is a copy of the draft air permit application for your review.

Upon receipt of this letter, please fax a copy of this letter back to me at (919) 845-1424 acknowledging its receipt by your office.

If you have any questions, please call me at (919) 845-1422 x41.

Sincerely,

Daniel Ken

David Keen RTP Environmental



cc: Brigette Tinsley, NEG

304-A West Millbrook Road, Raleigh, North Carolina 27609 Tel: (919) 845-1422 x41 Fax: (919) 845-1424

Scott Martino <smartino@thesunrockgroup.com></smartino@thesunrockgroup.com>
Monday, September 30, 2019 3:25 PM
Governale, Leo; Gary Saini (saini@rtpenv.com)
Murphy, Davis
[External] RE: Carolina Sunrock LLC - Caswell County -1700016

Hi Leo,

No Problem Sir, Ill round up the data, and get it over to you as soon as I can.

Thanks

Scott

From: Governale, Leo [mailto:Leo.Governale@ncdenr.gov] Sent: Monday, September 30, 2019 3:03 PM

To: Gary Saini (saini@rtpenv.com) <saini@rtpenv.com>; Scott Martino <smartino@thesunrockgroup.com>

Cc: Murphy, Davis <davis.murphy@ncdenr.gov>

Subject: Carolina Sunrock LLC - Caswell County -1700016

Gary/Scott:

During an initial review of the application for an Air Permit for the referenced proposed facility, it was determined that the following information is required to continue processing the application:

- 1. Please provide the particle size distribution values for Bagfilter HMA-CD1 on Form C1. The form submitted indicates these values as "TBD."
- 2. Please provide a completed Form C1 for Bagfilter RMC-CD2. The form submitted is missing a substantial amount of required information.

Until the above information is received, your application will be considered incomplete and inactive. Your response to this request will become part of your initial permit application received September 17, 2019. Please provide the requested information by October 13, 2019, otherwise the application.

may be returned.

1

Should you have any questions, please contact me at your convenience. Thanks for your attention to this matter.

Leo L. Governale, P.E. Environmental Engineer Division of Air Quality, Winston-Salem Regional Office

 336.776.9800 (Main)
 450 West Hanes Mill Road, Suite 300

 336.776.9638 (Direct)
 Winston-Salem, NC 27105

 336.776.9797 (Fax)
 leo.governale@ncdenr.gov



Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

From: Sent:	Scott Martino <smartino@thesunrockgroup.com> Wednesday, October 2, 2019 12:06 PM</smartino@thesunrockgroup.com>
То:	Governale, Leo; Gary Saini (saini@rtpenv.com)
Cc:	Murphy, Davis
Subject:	[External] RE: Carolina Sunrock LLC - Caswell County -1700016
Attachments:	C1 Sent.xlsx

Hi Leo,

Hope all is well, attached is the updated C-1s you requested, I just put each in a separate tab for you.

Let me know if you need anything else and I'll get it to you.

Thanks

Scott

From: Governale, Leo [mailto:Leo.Governale@ncdenr.gov]

Sent: Monday, September 30, 2019 3:03 PM

To: Gary Saini (saini@rtpenv.com) <saini@rtpenv.com>; Scott Martino <smartino@thesunrockgroup.com>

Cc: Murphy, Davis <davis.murphy@ncdenr.gov>

Subject: Carolina Sunrock LLC - Caswell County -1700016

Gary/Scott:

During an initial review of the application for an Air Permit for the referenced proposed facility, it was determined that the following information is required to continue processing the application:

- 1. Please provide the particle size distribution values for Bagfilter HMA-CD1 on Form C1. The form submitted indicates these values as "TBD."
- 2. Please provide a completed Form C1 for Bagfilter RMC-CD2. The form submitted is missing a substantial amount of required information.

Until the above information is received, your application will be considered incomplete and inactive. Your response to this request will become part of your initial permit application

received September 17, 2019. Please provide the requested information by October 13, 2019, otherwise the application may be returned.

Should you have any questions, please contact me at your convenience. Thanks for your attention to this matter.

Leo L. Governale, P.E. Environmental Engineer Division of Air Quality, Winston-Salem Regional Office

 336.776.9800 (Main)
 450 West Hanes Mill Road, Suite 300

 336.776.9638 (Direct)
 Winston-Salem, NC 27105

1

336.776.9797 (Fax)

leo.governale@ncdenr.gov



Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

FORM C1 CONTROL DEVICE (FABRIC FILTER)

REVISED 09/22/16	NCDEQ	Division of Air Qualit	y - Applicati	on for A	ir Permit to	Construct/Oper	ite	<u>```</u> `		C,
CONTROL DEVICE ID NO: HMA-CD1		CONTROLS EMIS	SIONS FRO	M WHIC	H EMISSION	SOURCE ID NO)(S): See	Form A2&	A3	
EMISSION POINT (STACK) ID NO(S):	EP-1	POSITION IN SER	RES OF CON	TROLS		· · ·	NO. 1	OF 1	UNITS	
			P.E. SEAI	REQUI	RED (PER 2	'q .0112)? Г] YES		NO NO	
DESCRIBE CONTROL SYSTEM: Hot N	lix Asphalt P	lant Bag House Mo								
o 51,111 ACFM						•				
o (768) 4-5/8" Ø x 10' long 14oz ar										
o 9,299 ft2 cloth area; 5.5 fpm filt										
o 41-5/8" ID stack; 31'-0" discharg									•	
o Integral 9' Ø x 10' long horizonta	al cyclone pri	mary collector								
			`							
POLLUTANTS COLLECTED:			PM	_	PM10	_ -			_	
PECODE CONTRACT	D#		Sec	— > Appen	ıdix A		-			
BEFORE CONTROL EMISSION RATE (L	.B/HR):		301	- 48L					_	
CAPTURE EFFICIENCY:			99.99	0/	99.99		· • •	. –	D7	
				_ 70	<u> </u>	_%	%		_%	
CONTROL DEVICE EFFICIENCY:			90	%	90	%	%		.%	
. · · ·									~	
CORRESPONDING OVERALL EFFICIEN	ICY:		93	%	90	%	%	<u> </u>	<u>%</u>	
			. 1		1 .					
EFFICIENCY DETERMINATION CODE:							_		-	
TOTAL AFTER CONTROL EMISSION RA	TE (LB/HR)	· ·	See	e Appen	dix A					
										<u>.</u>
	MAX:	GAUGE?	YES							
BULK PARTICLE DENSITY (LB/FT ³):					<u> </u>	MIN	MAX			
		GR/FT ³			ATURE (°f)	MIN	MAX			
INLET AIR FLOW RATE (ACFM): 51,11				PERATIN	NG TEMP (°f)					
NO. OF COMPARTMENTS: 3		S PER COMPARTMEN		2	•	LENGTH OF BA				
NO. OF CARTRIDGES: 768 TOTAL FILTER SURFACE AREA (FT ²): 9		FACE AREA PER CAR): 12.1	1	DIAMETER OF	BAG (IN.): 4 5/8		
		AIR TO CLOTH RA					1 14/			
DESCRIBE CLEANING PROCEDURES:	L		<u> </u>		FILTER MA			EN 🗹	FELTED	
		I SONIC								
			APSE			SIZE (MICRONS)		EIGHT %	CUMUL/	
								AD TOTAL	% 40.1	
	L	- KING BAG COLLAI	U VE			0-1	+		40.	
OTHER:	né Al- *-					1-10		60	100	U
DESCRIBE INCOMING AIR STREAM: H	or air from D	rying and Mixing Dr	ums in HN	A Plan	E/	10-25	—		<u> </u>	-
					•	25-50			<u> </u>	
	1					50-100			1	
		·]	>100				
							-	TOTA	AL = 100	
									-	
		•						•		
										<u> </u>
ON A SEPARATE PAGE, ATTACH A DIAC	GRAM SHOWIN	IG THE RELATIONSHI	P OF THE C	ONTROL		DITS EMISSION	SOURCE	E(S):		
OMMENTS:			-							
							,			
						•				
1 · · · · · · · · · · · · · · · · · · ·		-								
	· ·									

Attach Additional Sheets As Necessary

FORM C1 CONTROL DEVICE (FABRIC FILTER)

REVISED 09/22/16 NCD	EQ/Division of Air Quality	y - Application for	Air Permit to Co	onstruct/Operate		· · ·	ſ	C1
CONTROL DEVICE ID NO: RMS-CD2	CONTROLS EMIS	SIONS FROM WHI	CH EMISSION S	SOURCE ID NO(S): See Forn	n A2&A3		
EMISSION POINT (STACK) ID NO(S): EP-2	POSITION IN SER	IES OF CONTROL	s	NO	1 OF	1 U	JNITS	
			·					
		P.E. SEAL REQU	JIRED (PER 2g	.0112)?	YES	I	NO	
DESCRIBE CONTROL SYSTEM: C&W Manufact	uring - RA-140 - 6500 (sh silos an			ruck
loading.								
	μ.							
· · · · · · · · · · · · · · · · · · ·								
							· · ·	
		PM	PM10					`
POLLUTANTS COLLECTED:								
BEFORE CONTROL EMISSION RATE (LB/HR):				~				
					• • •			
CAPTURE EFFICIENCY:		%	9	6 <u> </u>	%	%	5	
CONTROL DEVICE EFFICIENCY:		%	. 0	,				
		76	9	°	<u>%</u>	%)	
CORRESPONDING OVERALL EFFICIENCY:		%	%	6	%	%		
EFFICIENCY DETERMINATION CODE:	1			·		·		
TOTAL AFTER CONTROL EMISSION RATE (LB/HR)):	. 1		· · ·				
PRESSURE DROP (IN H ₂ 0): MIN: MAX:	GAUGE?	✓ YES						
BULK PARTICLE DENSITY (LB/FT ³):		INLET TEMPERA		11N	MAX			
POLLUTANT LOADING RATE: LB/HR	GR/FT ³	OUTLET TEMPE		1IN	MAX	-,		
INLET AIR FLOW RATE (ACFM): 6,500 cfm		FILTER OPERAT	ING TEMP (°f): A	Ambient				•
NO. OF COMPARTMENTS: 2 NO. OF E	BAGS PER COMPARTMEN	IT: 36	L	ENGTH OF BAG	(IN.): 114			
NO. OF CARTRIDGES: 72 FILTER S	SURFACE AREA PER CAR	TRIDGE (FT ²): 9.8	3 D	AMETER OF BA	G (IN.): 4			
TOTAL FILTER SURFACE AREA (FT ²): 1,433	AIR TO CLOTH RA	TIO: 4.54:1						
DRAFT TYPE: INDUCED/NEGATIVE	FORCED/POSITIVI	E	FILTER MATE	ERIAL:	WOVEN	⊡ · FE	ELTED	
DESCRIBE CLEANING PROCEDURES:								
				SIZE	WEIGH	Г%	CUMULAT	ΓIVE
	SIMPLE BAG COLL	APSE		(MICRONS)	OF TOT	AL	%	
	RING BAG COLLA	PSE		0-1	40		40.2	
OTHER:		1		1-10	60		100	
DESCRIBE INCOMING AIR STREAM: Weighing an	nd Truck Loading of ag	gregate, fly ash	, and	10-25				
Cement			· _	25-50				
			· · L	50-100		·		
	· · ·			>100				
			L			TOTAL =	= 100	
· · · · · ·								
ON A SEPARATE PAGE, ATTACH A DIAGRAM SHO	WING THE RELATIONSHI	P OF THE CONTRO	DL DEVICE TO I	TS EMISSION S	OURCE(S):			
COMMENTS:								
-								
			÷					
				· · · · ·				
	r				•			

Attach Additional Sheets As Necessary

From:	Scott Martino <smartino@thesunrockgroup.com></smartino@thesunrockgroup.com>
Sent:	Friday, October 4, 2019 1:15 PM
То:	Governale, Leo
Cc:	Murphy, Davis
Subject:	[External] RE: Carolina Sunrock LLC - Caswell County -1700016
Attachments:	Prospect Hill Air Permit 10529R00 eff. 09-21-2017 thru. 08-31-25.pdf

Hi Leo,

I left you a message give me a call whenever I'll be mostly free today and all next week. I attached our current permit for what was to be our Prospect Hill facility, but that is no longer going to be the case, as we have shifted to the current property which is the application you are currently reviewing.

All the files for the prospect hill facility are identical to what we are currently permitting to the attached facility other than the location of course.

Feel free to give me a call. I also wanted to talk to you about another project I am working on in Caswell County, which I am about done with, which you all will see here in about 3 weeks as our consultant is not quite done with the modeling just yet.

Thanks for the help and I hope you have a good weekend

Scott

From: Governale, Leo [mailto:Leo.Governale@ncdenr.gov]
Sent: Monday, September 30, 2019 3:03 PM
To: Gary Saini (saini@rtpenv.com) <saini@rtpenv.com>; Scott Martino <smartino@thesunrockgroup.com>
Cc: Murphy, Davis <davis.murphy@ncdenr.gov>
Subject: Carolina Sunrock LLC - Caswell County -1700016

Gary/Scott:

During an initial review of the application for an Air Permit for the referenced proposed facility, it was determined that the following information is required to continue processing the application:

- 1. Please provide the particle size distribution values for Bagfilter HMA-CD1 on Form C1. The form submitted indicates these values as "TBD."
- 2. Please provide a completed Form C1 for Bagfilter RMC-CD2. The form submitted is missing a substantial amount of required information.

Until the above information is received, your application will be considered incomplete and inactive. Your response to this request will become part of your initial permit application received September 17, 2019. Please provide the requested information by October 13, 2019, otherwise the application may be returned.

Should you have any questions, please contact me at your convenience. Thanks for your attention to this matter.

Leo L. Governale, P.E. Environmental Engineer Division of Air Quality, Winston-Salem Regional Office

336.776.9800 (Main) 336.776.9638 (Direct) 336.776.9797 (Fax) 450 West Hanes Mill Road, Suite 300 Winston-Salem, NC 27105 leo.governale@ncdenr.gov



Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

From:	Scott Martino <smartino@thesunrockgroup.com></smartino@thesunrockgroup.com>
Sent:	Thursday, October 10, 2019 10:47 AM
То:	Governale, Leo
Subject:	[External] RE: Carolina Sunrock LLC - Caswell County -1700016
Attachments:	MP0090_027 Zoning Approval.pdf

Here is the signed zoinging form for you.

From: Governale, Leo [mailto:Leo.Governale@ncdenr.gov]
Sent: Monday, September 30, 2019 3:03 PM
To: Gary Saini (saini@rtpenv.com) <saini@rtpenv.com>; Scott Martino <smartino@thesunrockgroup.com>
Cc: Murphy, Davis <davis.murphy@ncdenr.gov>
Subject: Carolina Sunrock LLC - Caswell County -1700016

Gary/Scott:

During an initial review of the application for an Air Permit for the referenced proposed facility, it was determined that the following information is required to continue processing the application:

- 1. Please provide the particle size distribution values for Bagfilter HMA-CD1 on Form C1. The form submitted indicates these values as "TBD."
- 2. Please provide a completed Form C1 for Bagfilter RMC-CD2. The form submitted is missing a substantial amount of required information.

Until the above information is received, your application will be considered incomplete and inactive. Your response to this request will become part of your initial permit application

received September 17, 2019. Please provide the requested information by October 13, 2019, otherwise the application may be returned.

Should you have any questions, please contact me at your convenience. Thanks for your attention to this matter.

Leo L. Governale, P.E. Environmental Engineer Division of Air Quality, Winston-Salem Regional Office

 336.776.9800 (Main)
 450 West Hanes Mill Road, Suite 300

 336.776.9638 (Direct)
 Winston-Salem, NC 27105

 336.776.9797 (Fax)
 leo.governale@ncdenr.gov



1

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September 4, 2019

Mr. Matthew Hoagland Planning Director Caswell County Planning Department 144 Main Street Yanceyville, NC 27379 RECEIVED SEP 05 2019 CASWELL COUNTY PLANNING DEPARTMENT

RTP ENVIRONMENTAL ASSOCIATES, INC.®

Subject: Zoning Consistency Determination for the Planned Construction of a Hot Mix Asphalt and Truck Mix Concrete Plant in Caswell County

Dear Mr. Hoagland,

RTP Environmental has been retained by Carolina Sunrock LLC to prepare an air permit application for the planned construction of a hot mix asphalt and truck mix concrete plant in Caswell County. The facility will be located at 12971 NC Highway 62 in Burlington (Map and Parcel: 0090 027). An air permit application is required as a result of planned modifications.

We request a Determination of Compliance with the Caswell County zoning ordinance regarding the location's zoning status. This determination is required per 15Å North Carolina Administrative Code 2Q.0304(b)(1). Several new buildings and silos will be constructed as part of the modification. Attached is a copy of the draft air permit application for your review.

Upon receipt of this letter, please fax a copy of this letter back to me at (919) 845-1424 acknowledging its receipt by your office.

If you have any questions, please call me at (919) 845-1422 x41.

Sincerely,

Daniel Ken

David Keen RTP Environmental

CI APPRONTA

cc: Brigette Tinsley, NEG

304-A West Millbrook Road, Raleigh, North Carolina 27609 Tel: (919) 845-1422 x41 Fax: (919) 845-1424

From:
Sent:
To:
Subject:

Scott Martino <smartino@thesunrockgroup.com> Friday, November 8, 2019 9:25 AM Governale, Leo [External] Sunrock Burlington North facility

Hi Leo,

Thanks for the call. As we discussed everything in the report summarized in section 2.2 is connected to the bag house. The ending statement is where is states the aggregate weigh batcher is not controlled is incorrect. It is controlled by the bag house like everything else.

1

Let me know if you need anything else and I'll be happy to round it up for you.

Thanks

Scott

Scott Martino

Environmental Compliance Manager/Mine Engineer Carolina Sunrock 200 Horizon Drive Suite 100 Raleigh, NC 27615 Office Phone:(919) 7476336 Cell (984) 202-4761



From:	Scott Martino <smartino@thesunrockgroup.com></smartino@thesunrockgroup.com>
Sent:	Monday, November 18, 2019 12:16 PM
To:	Gurinder (Gary) Saini; Governale, Leo
Cc:	Murphy, Davis; David Keen
Subject:	[External] Re: Carolina Sunrock LLC - Caswell County -1700016

thank you all.

Scott

From: Gurinder (Gary) Saini <saini@rtpenv.com>

Sent: Monday, November 18, 2019 11:52 AM

To: Governale, Leo <Leo.Governale@ncdenr.gov>

Cc: Murphy, Davis <davis.murphy@ncdenr.gov>; Scott Martino <smartino@thesunrockgroup.com>; David Keen <keen@rtpenv.com>

Subject: RE: Carolina Sunrock LLC - Caswell County -1700016

As follow-up to our call this morning, I confirmed that the modeled TPER emission rates account for the maximum plant capacity rate of 250 tons per hour. We actually scaled up the emission rates shown in Table 3-1 to provide even more flexibility in terms of using higher emission rates than calculated using the maximum capacity rate.

Regards

GS 919-845-1422 Ext. 42 919-533-4558

> From: Governale, Leo [mailto:Leo.Governale@ncdenr.gov] Sent: Monday, September 30, 2019 15:03 To: Gurinder (Gary) Saini <saini@rtpenv.com>; Scott Martino (smartino@thesunrockgroup.com) <smartino@thesunrockgroup.com> Cc: Murphy, Davis <davis.murphy@ncdenr.gov> Subject: Carolina Sunrock LLC - Caswell County -1700016 Gary/Scott:

During an initial review of the application for an Air Permit for the referenced proposed facility, it was determined that the following information is required to continue processing the application:

- 1. Please provide the particle size distribution values for Bagfilter HMA-CD1 on Form C1. The form submitted indicates these values as "TBD."
- 2. Please provide a completed Form C1 for Bagfilter RMC-CD2. The form submitted is missing a substantial amount of required information.

1

Until the above information is received, your application will be considered incomplete and inactive. Your response to this request will become part of your initial permit application

received September 17, 2019. Please provide the requested information by October 13, 2019, otherwise the application may be returned.

Should you have any questions, please contact me at your convenience. Thanks for your attention to this matter.

Leo L. Governale, P.E. Environmental Engineer Division of Air Quality, Winston-Salem Regional Office

<u>336.776.9800 (Main)</u> <u>336.776.9638 (Direct)</u> <u>336.776.9797 (Fax)</u> 450 West Hanes Mill Road, Suite 300 Winston-Salem, NC 27105 leo.governale@ncdenr.gov



Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

From:
Sent:
To:
Subject:

Scott Martino <smartino@thesunrockgroup.com> Monday, November 25, 2019 10:00 AM Governale, Leo [External] Carolina Sunrock - Burlington North Air Permit

Hi Leo,

As we talked the 20,000-gallon gasoline tank should have been a 20,000-gallong Diesel fuel for all our Mobil equipment and over the road haulage fleet.

If you could make that change would be great, we do not have gasoline tanks on any of our facilities other than maybe a small 5 gallon container for odds and end type stuff.

1

Let me know if you need anything else and III be happy to help

Thanks

Scott

Scott Martino

Environmental Compliance Manager/Mine Engineer Carolina Sunrock 200 Horizon Drive Suite 100 Raleigh, NC 27615 Office Phone:(919) 7476336 Cell (984) 202-4761



From:	Scott Martino <smartino@thesunrockgroup.com></smartino@thesunrockgroup.com>
Sent:	Tuesday, November 26, 2019 10:30 AM
То:	Murphy, Davis
Cc:	Governale, Leo; Edwards, Lisa; Gregg Bowler
Subject:	[External] RE: Carolina Sunrock LLC Burlington North Application # 1700016.19A -
	Completeness Determination

Hello, Mr. Murphy,

Thanks for the information, we take care of our obligations and get you the necessary information.

Thanks

Scott

From: Murphy, Davis [mailto:davis.murphy@ncdenr.gov]

Sent: Tuesday, November 26, 2019 9:56 AM

To: Scott Martino <smartino@thesunrockgroup.com>

Cc: Governale, Leo <Leo.Governale@ncdenr.gov>; Edwards, Lisa <lisa.edwards@ncdenr.gov>; Gregg Bowler <gbowler@thesunrockgroup.com>

Subject: Carolina Sunrock LLC Burlington North Application # 1700016.19A - Completeness Determination

Scott,

The application for the referenced facility is in an area without zoning, therefore it is required to comply with 15A NCAC 2Q .0113. The application, as submitted, does not fulfill the requirements of 2Q .0113, therefore the application is considered incomplete. A summary of the requirements from this regulation is shown below.

A person covered under this Rule shall publish a legal notice and post a sign as specified below.

(a) The permit applicant shall publish a legal notice in a newspaper of general circulation in the area where the source is or will be located at least two weeks before submitting the permit application for the source. The notice shall identify:

- (1) the name of the affected facility;
- (2) the name and address of the permit applicant; and
- (3) the activity or activities involved in the permit action.

(b) The permit applicant shall submit with the permit application an affidavit and proof of publication (an affidavit is acceptable for proof of publication) that the legal notice was published.

(c) The permit application shall post a sign on the property where the new or expanded source is or will be located. The sign shall meet the following specifications:

- (1) It shall be at least six square feet in area;
- (2) It shall be set off the road right of way, but no more than 10 feet from the road right of way;

1

(3) The bottom of the sign shall be at least six feet above the ground;

(4) It shall contain the following information:

- (A) the name of the affected facility;
- (B) the name and address of the permit applicant; and
- (C) the activity or activities involved in the permit action;
- (5) Lettering shall be a size that the sign can be ready by a person with 20/20 vision standing in the center in the center of the road; and
- (6) The side with the lettering shall face the road, and sign shall be parallel to the road.

The sign shall be posted at least 10 days before the permit application is submitted and shall remain posted for at least 30 days after the application is submitted. The applicant should include in the permit application the date the sign was posted and a statement that all of the above requirements were met.

Until the above requirements are fulfilled, your application will be considered incomplete and inactive. Please keep this office informed of your intentions and progress regarding these requirements. Let me know if you have any questions.

Thanks, Davis

Davis Murphy, EIT Environmental Engineer II/Permits Coordinator Division of Air Quality, Winston-Salem Regional Office

336.776.9800 (Main) 336.776.9644 (Direct) 336.776.9797 (Fax) 450 West Hanes Mill Road, Suite 300 Winston-Salem, NC 27105 davis.murphy@ncdenr.gov



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From:	Scott Martino <smartino@thesunrockgroup.com></smartino@thesunrockgroup.com>		
Sent:	Thursday, December 12, 2019 11:17 AM		
То:	Murphy, Davis; Governale, Leo		
Cc:	Edwards, Lisa; Alexander Culpepper		
Subject:	[External] Carolina Sunrock - Prospect Hill Distribution Center and Burlington North 15A NCAC 2Q .0113		
Attachments:	Prospect HIII Quarry and Distribution Center fullfilment of Rule 15A NCApdf; Burlington North Full filling Rule 15A NCAC 02Q.0113 12-12-2019.pdf		

Hello all,

Please find the attached documenting the fulfillment of 15A NCAC 2Q .0113. Please let me know if you need anything else or have any additional questions.

I will have two hard copies of each in the mail today.

Thank you for the help

Scott

Scott Martino

Environmental Compliance Manager/Mine Engineer Carolina Sunrock 200 Horizon Drive Suite 100 Raleigh, NC 27615 Office Phone:(919) 7476336 Cell (984) 202-4761





Scott Martino Environmental Compliance Manager 200 Horizon Drive, Suite 100 Raleigh, NC 27615

Certified Mail Return Receipt # 7015 0640 0007 8085 1239

December 12, 2019

Ms: Lisa Edwards, P.E. Air Quality Regional Supervisor Winston-Salem Regional Office 450 West Hanes Mill Road, Suite 300 Winston-Salem, North Carolina 27105

Re: Fulfillment of 15A NCAC 02Q.0113 (Notification in Areas without Zoning) Carolina Sunrock LLC – Prospect Hill Quarry and Distribution Center Permit Application No. 1700017.19A Facility Number: 1700017 Prospect Hill, Caswell County, North Carolina

Dear Ms. Edwards:

This letter is intended to notify your office of Carolina Sunrock, LLC completion of the proper public notifications as governed by 15A NCAC 02Q.0113 (Notifications in Areas without Zoning) for the above referenced facility. It should be noted that on December 4, 2019 a public notice was published in The Caswell Messenger, which services the area of the facility. In addition, a sign was posted as set for by the governing regulations on December 2, 2019.

Attached to this document are the Affidavit of Publication and Photo Graph Log depicting sign placement, and applicable scales per the guidance document. It is our understanding that this documentation fulfills all applicable guidelines and the processing of our air permit application shall commence. Please contact me if additional information is required or if this does not meet your requirements.

Sincerely Carolina Sunrock LLC

Scott Martino, Manager Environmental Compliance

Enclosures Affidavit of Publication Photograph Log

smartino@thesunrockgroup.com

Phone: 919.747.6336

Fax: 919.747.6305

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		Carolina (Sunrock	ЦС
200 HC	nzon Dri	ve Raleig	h NC, 27	7615
NCDE	Q Air P	ermit Ap	plication	for
the co	nstruction	i and op	eration	ofa
Quarry	Hot Mix	Asphalt	and Re	vbe
Mix C	oncrete	facility	located	at
Prospe	rit 👘	- BIII	Q	uør-
MY 8	ind D	istribution	n Ce	nter
1238	Wrenn	Road,	Pros	bect
汗相, C	aaweli (County,	NC, 27	314
12/04/2				T.M.
treased and a			slands i St	淵明

NORTH CAROLINA CASWELL COUNTY AFFIDAVIT OF PUBLICATION

Before the undersigned, a Notary Public of said County and State, duly commissioned, qualified, and authorized by law to administer oaths, personally appeared Davin Wilson who being first duly sworn, deposes and says: that he is an authorized employee of The Caswell Messenger, engaged in the publication of a newspaper known as The Caswell Messenger published, issued, and entered as second class mail in the City of Yanceyville. in said County and State; that he is authorized to make this affidavit and sworn statement; that the notice or other legal adverisement, a true copy of which is attached hereto, was published in The Caswell Messenger on the following date, December 4, 2019 that the said newspaper in which such notice, paper, document, or legal advertisement was published was, at the time of each and every such publication, a newspaper meeting all of the requirements and qualifications of Section 8-597 of the General Statutes of North Carolina and was qualified newspaper within the meaning of Section 1-597 of the General Statutes of North Carolina.

This 11th day of December, 2019

(Signature of person making affidavit)

Sworn to and subscribed before me, this 11th day of December.

2019 Notary Public ANITAB, SMITH tary Public, Worth Caroline Caswell County animission Expires



Prospect Quarry and Distribution Center



View of approximate sign location, located less than 10' off of Road Right-of-Way

Prospect Quarry and Distribution Center – Facility ID 1700017 Permit Application No. 1700017.19 31 18 386 0



Prospect Quarry and Distribution Center



View of Posted sign looking north from center line of Wrenn Road.

Prospect Quarry and Distribution Center – Facility ID 1700017 Permit Application No. 1700017.19


Prospect Quarry and Distribution Center



View looking west along centerline of Wrenn Road.

Prospect Quarry and Distribution Center – Facility ID 1700017 Permit Application No. 1700017.19 **3** | Page



Prospect Quarry and Distribution Center



View looking east along centerline of Wrenn Road.

Prospect Quarry and Distribution Center – Facility ID 1700017 Permit Application No. 1700017.19

From:	Scott Martino <smartino@thesunrockgroup.com></smartino@thesunrockgroup.com>
Sent:	Wednesday, December 18, 2019 12:28 PM
То:	Governale, Leo
Subject:	[External] Carolina Sunrock - Burlington North Air Permit
Attachments:	A2-A3 Burlington North Revised xlsx
	- · · · · · · · · · · · · · · · · · · ·

Hi Leo,

Attached is an updated AA2 for you with all the proper labeling for the facility. let me know if you have any further questions and I'll be happy to help out.

1

Happy Holidays

Thanks

Scott

Scott Martino

Environmental Compliance Manager/Mine Engineer Carolina Sunrock 200 Horizon Drive Suite 100 Raleigh, NC 27615 Office Phone:(919) 7476336 Cell (984) 202-4761



FORMs A2, A3 EMISSION SOURCE LISTING FOR THIS APPLICATION - A2

•	112r APPLICABILITY INFOR	RMATION - A3	
REVISED 09/22/16	NCDEQ/Division of Air Quality - Application for Air I	Permit to Construct/Ope	erate A2
	EMISSION SOURCE LISTING: New, Modified, Previo	usly Unpermitted,	Replaced, Deleted
EMISSION SOURCE	EMISSION SOURCE	CONTROL DEVICE	CONTROL DEVICE
ID NO.	DESCRIPTION	ID NO.	DESCRIPTION
	e siekste onder die ste de kalende en Real som die de ste best		人口ないないない。国際の本語の構成のなどの構成です。
Đ	rum Mix Asphalt Plant (250 tons per hour ca	pacity) Consis	sting of the Following
	Propane/Natural Gas/No. 2 Fuel Oil/Recycled No. 2 Fuel		· · · · · · · · · · · · · · · · · · ·
HMA-1	Oil/Recycled No.4 Fuel Oil-fired drum type hot asphalt plant (80	HMA-CD1	Bagfilter (7,778 square feet of filter area)
	MMBtu/hr maximum heat		
HMA Silo1	input capacity)		· · · · · · · · · · · · · · · · · · ·
	Hot mix asphalt storage silo (150 tons maximum capacity)	NA	NA
HMA Silo2	Hot mix asphalt storage silo (150 tons maximum capacity)	NA	NA
HMA Silo3	Hot mix asphalt storage silo (200 tons maximum capacity)	NA	NA
HMA Silo4	Hot mix asphalt storage silo (200 tons maximum capacity)	NA .	NA
HMA Silo5	Hot mix asphalt storage silo (200 tons maximum capacity)	NA	NA
HMA-LO1	Asphalt Loadout Operation Silo 1	NA	NA
HMA-LO2	Asphalt Loadout Operation Silo 2	NA	NA
HMA-LO3	Asphalt Loadout Operation Silo 3	NA	NA
HMA-LO4	Asphalt Loadout Operation Silo 4	NA	NA
HMA-LO5	Asphalt Loadout Operation Silo 5	NA	NA
	RAP Crushing System Consisti	ng of the Foll	owing
RAP-BF1	RAP bin and feeder	NA	NA
RAP-CR1	RAP impact Crusher (65 tons per hour maximum rated capacity)	NA	NA
RAP-SC1	8' X 20' Double Deck Screen	NA	NA
RAP-C1	RAP 36" Conveyor (C-1) Feeder to Crusher (RAP-CR1)	NA	NA
RAP-C2	RAP 36" Conveyor (C-2) Cursher to Screen	NA	NA
RAP-C3	RAP 36" Conveyor (C-3) Screen to Plant	NA	NA
RAP-C4	RÁP 36" Conveyor (C-4) Screen to Conveyor (C-5)	NA	NA
RAP-C5	RAP 36" Conveyor (C-5) Conveyor (C-5) to Conveyor (C-6)	NA	NA
RAP-C5			
NAF-CS	RAP 36" Conveyor (C-6) Conveyor (C-6) to Crusher (RAP-CR1)	NA	NA
In the New York Contract of Seatching and search			
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	an a		
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		이 이 이 이 이 것 같은 것 같은 것 같은 것 같은 것 같은 것 같은	A 3
Is your facility subject to 40 CFR Part 68 "Prevention of Accider	tal Releases" - Section 112(r) of the Federal	I Clean Air Act?	🗆 Yes 🖾 No
If No, please specify in detail how your facility avoided applicab	llity:	· · · · · · · · · · · · · · · · · · ·	
		-	
If your facility is Subject to 112(r), please complete the following	j :	· · · · · · · · · · · · · · · · · · ·	
A. Have you already submitted a Risk Management Plan (R	MP) to EPA Pursuant to 40 CFR Part 68.10	or Part 68.150?	
📋 Yes 🔲 No 🛛 Specify required RMP su	ibmittal date:	If submitted, RMP submittal date:	·
B. Are you using administrative controls to subject your facil	lity to a lesser 112(r) program standard?		
Yes No If yes, please specify:			
C. List the processes subject to 112(r) at your facility:	· · · · · ·		
PROCESS DESCRIPTION	PROCESS LEVEL (1, 2, or 3)	HAZARDOUS CHEMICAL	INVENTORY (LBS)
	-		
		· · · · · · · · · · · · · · · · · · ·	
· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		-
		· · · · · · · · · · · · · · · · · · ·	

FORMs A2, A3 EMISSION SOURCE LISTING FOR THIS APPLICATION - A2

112r APPLICABILITY INFORMATION - A3

	1126	APPLICABI		ATION - A3		
REVISED 09/22/16	NCDEQ/Division of Air G	Quality - Application	on for Air Permit to C	onstruct/Operate	. A	2
	EMISSION SOURCE LISTI	NG: New, Mod	ified, Previously	Unpermitted, Replaced, I	Deleted	
EMISSION SOURCE	EMISSION SOURCE		CONTROL DEVICE	CON	TROL DEVICE	
ID NO.	DESCRIPTION		ID NO.	DI	SCRIPTION	
Truck Mi	x Concrete Batch Plant (1)	20 cubic v	ards per hou	r capacity) Consis	ting of the Follow	vina
RMC-Silo1	Cement Storage Silo (200-ton ca		RMC-CD2			_
RMC-Silo2			· · · · · · · · · · · · · · · · · · ·		square feet of filter area)	
	Flyash Storage Silo (150-ton Ca	pacity)	RMC-CD2		square feet of filter area)	
RMC-LO1	Truck Loadout point		RMC-CD2		square feet of filter area)	
RMC-WB1	Cement/Flyash Weigh Batcher (5-ton r		RMC-CD2	Bagfilter (1,433	square feet of filter area)	
RMC-WB2	Aggregate Weigh Batcher (20-ton ma	ax Capacity)	NA	····· · ·	NA	
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		(MALIII)		HAT (ON 1997)	A Decision	3
Is your facility subject to	o 40 CFR Part 68 "Prevention of Accidental Rele	ases" - Section 11	2(r) of the Federal Clea	an Air Act?	🗌 Yes 🛄 No	
	detail how your facility avoided applicability:			·	· · ·	• • •.
· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·					
	t to 112(r), please complete the following:			· · · · · · · · · · · · · · · · · · ·		
	y submitted a Risk Management Plan. (RMP) to E) CFR Part 68.10 or Pa	art 68.150?		
🗌 Yes 📋				itted, RMP submittal date:	·	+
	ministrative controls to subject your facility to a l	esser 112(r) progra	am standard?	· · ·		
🗌 Yes 🔲						
C. List the processe	es subject to 112(r) at your facility:	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	
		ROCESS LEVEL		· · · · · · · · · · · · · · · · · · ·	MAXIMUM INTENDED INV	ENTORY
PR	ROCESS DESCRIPTION	(1, 2, or 3)	HAZAR	DOUS CHEMICAL	(LBS)	

From:	Scott Martino <smartino@thesunrockgroup.com></smartino@thesunrockgroup.com>
Sent:	Thursday, December 19, 2019 8:40 AM
То:	Governale, Leo
Subject:	[External] RE: Carolina Sunrock - Burlington North Air Permit
Attachments:	A2-A3 Burlington North Revised.xlsx
•	

Hi Leo,

I fixed up the table to match everything as we discussed. If you want to use these labels in the permit that will be fine or you can keep what you have.

As far as staying within the synthetic minor world, that's exactly what we would like to do. We can accept a annually total production limit of 500K – tons per year.

Let me know if you need anything else and I'll be happy to help.

Thanks

Scott

From: Scott Martino
Sent: Wednesday, December 18, 2019 12:28 PM
To: Governale, Leo <Leo.Governale@ncdenr.gov>
Subject: Carolina Sunrock - Burlington North Air Permit

Hi Leo,

Attached is an updated AA2 for you with all the proper labeling for the facility. let me know if you have any further questions and I'll be happy to help out.

Happy Holidays

Thanks

Scott

Scott Martino

Environmental Compliance Manager/Mine Engineer Carolina Sunrock 200 Horizon Drive Suite 100 Raleigh, NC 27615 Office Phone:(919) 7476336 Cell (984) 202-4761



FORMS A2, A3 EMISSION SOURCE LISTING FOR THIS APPLICATION - A2

	112r APPLICABILITY INFO	KMATION - A3	
EVISED 09/22/16	NCDEQ/Division of Air Quality - Application for Air		
	EMISSION SOURCE LISTING: New, Modified, Previo	usly Unpermitted,	Replaced, Deleted
MISSION SOURCE	EMISSION SOURCE DESCRIPTION	CONTROL DEVICE	CONTROL DEVICE DESCRIPTION
) Drum Mix Asphalt Plant (250 tons per hour ca	nacity) Consi	ting of the Following
	Propane/Natural Gas/No. 2 Fuel Oil/Recycled No. 2 Fuel		
	Oil/Recycled No.4 Fuel Oil-fired drum type hot asphalt plant (80		
HMA-1	MMBtu/hr maximum heat	HMA-CD1	Bagfilter (7,778 square feet of filter area)
	input capacity)		
HMA Silo1	Hot mix asphalt storage silo (150 tons maximum capacity)	NA	NA
HMA Silo2	Hot mix asphalt storage silo (150 tons maximum capacity)	NA	NA
HMA Silo3	Hot mix asphalt storage silo (200 tons maximum capacity)	NA	NA
HMA Silo4	Hot mix asphalt storage silo (200 tons maximum capacity)	NA	NA
HMA Silo5	Hot mix asphalt storage silo (200 tons maximum capacity)	NA	NA
HMA-LO1	Asphalt Loadout Operation Silo 1	NA	NA
HMA-LO2	Asphalt Loadout Operation Silo 2	NA	· · · · · · · · · · · · · · · · · · ·
HMA-LO3			NA
	Asphalt Loadout Operation Silo 3	NA	NA
HMA-LO4	Asphalt Loadout Operation Silo 4	NA	NA
HMA-LO5	Asphalt Loadout Operation Silo 5	NA	NA
r	RAP Crushing System Consisting	ng of the Foll	owing
RAP-BF1	RAP bin and feeder	NA	NA
RAP-CR1	RAP impact Crusher (65 tons per hour maximum rated capacity)	NA	NA
RAP-SC1	8' X 20' Double Deck Screen	NA	NA
RAP-C1	RAP 36" Conveyor (C-1) Feeder to Crusher (RAP-CR1)	NA	NA
RAP-C2	RAP 36" Conveyor (C-2) Cursher to Screen	NA	NA
RAP-C3	RAP 36" Conveyor (C-3) Screen to Plant	NA	NA
RAP-C4	RAP 36" Conveyor (C-4) Screen to Conveyor (C-5)	NA	NA
RAP-C5	RAP 36" Conveyor (C-5) Conveyor (C-5) to Conveyor (C-6)	NA	NA
RAP-C5	RAP 36" Conveyor (C-6) Conveyor (C-6) to Crusher (RAP-CR1)	NA	ŇA
	Existing Semification and Semification and Semification (Semification Semification Semification Semification Se		Neavon - State
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					A 3
Is your facility subject to 40 CFR	Part 68 "Prevention of Accid	ental Releases" - Section 112(r) of the Federal (Clean Air Act?	🛛 Yes 🗆	No
If No, please specify in detail how	vyour facility avoided application	ability:			
		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		-
If your facility is Subject to 112(r),	please complete the followi	ng:	· · · · · · · · · · · · · · · · · · ·	· · · · · ·	
A. Have you already submitte	d a Risk Management Plan	(RMP) to EPA Pursuant to 40 CFR Part 68.10 or	Part 68.150?		
🗆 Yes 🗌 No	Specify required RMP	submittal date:	If submitted, RMP submittal date:	1	
B. Are you using administrativ		cility to a lesser 112(r) program standard?	,		
Yes No	If yes, please specify:	-			
C. List the processes subject	to 112(r) at your facility:				
PROCESS DES	SCRIPTION	PROCESS LEVEL (1, 2, or 3)	HAZARDOUS CHEMICAL	INVENTO	RY (LBS)
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FORMs A2, A3 EMISSION SOURCE LISTING FOR THIS APPLICATION - A2

			ILITY INFORM		· · ·
REVISED 09/22/16	NCDEQ/Division of A				A2
EMISSION SOURCE	EMISSION SOURCE LIS EMISSION SOURCE	TING: New, Mo		VUnpermitted, Replaced, D	
ID NO.	DESCRIPTION	•	ID NO.		ITROL DEVICE ESCRIPTION
Truck Mi	x Concrete Batch Plant (120 cubic y	vards per ho	ur canacity) Consis	ting of the Following
RMC-Silo1	Cement Storage Silo (200-ton		RMC-CD2		square feet of filter area)
RMC-Silo2	Flyash Storage Silo (150-ton		RMC-CD2		square feet of filter area)
RMC-LO1	Truck Loadout poin		RMC-CD2		square feet of filter area)
RMC-WB1	Cement/Flyash Weigh Batcher (5-to	n max Capacity)	RMC-CD2		square feet of filter area)
RMC-WB2	Aggregate Weigh Batcher (20-ton	max Capacity)	NA		NA
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e your facility publicat to	40 CEP Dot 69 "Drawantion of Assidented D				A 3
f No. please specify in d	40 CFR Part 68 "Prevention of Accidental R detail how your facility avoided applicability:	eleases" - Section 1"	12(r) of the Federal Cl	ean Air Act?	
	arendou applicability.	· · · · · ·			
	to 112(r), please complete the following:				
	submitted a Risk Management Plan (RMP) t				
B. Are you using adr	No Specify required RMP submitt ministrative controls to subject your facility to			nitted, RMP submittal date:	· · · · ·
			am stanuaru :		
C. List the processes	s subject to 112(r) at your facility:		· · · · · · · · · · · · · · · · · · ·		
	00500 05000 5500	PROCESS LEVEL			MAXIMUM INTENDED INVENTORY
PR	OCESS DESCRIPTION	(1, 2, or 3)	HAZAR	RDOUS CHEMICAL	(LBS)

From: Sent: To: Subject: Attachments: Scott Martino <smartino@thesunrockgroup.com> Wednesday, January 8, 2020 1:50 PM Governale, Leo [External] Carolina Sunrock - Burlington North B9.xlsx; B Forms.xlsx

Hi Leo,

Attached are the two forms you requested with the corrections we discussed.

Also as for the cyclone on the baghouse for the asphalt plant. It is physically part of the baghouse itself. The air from the drum first passes through the cyclone protecting the bags from the larger size fractions. This large size fraction drop to the internal screw in the baghouse and is returned to the drum. Essentially the cyclone and baghouse is all one unit, the cyclone just pretreats the exhaust from the drum to help protect the bags as an internal function of the baghouse.

Keep me posted as to if you need anything else and I'll be happy to round it up for you.

Thanks

Scott

Scott Martino

Environmental Compliance Manager/Mine Engineer Carolina Sunrock 200 Horizon Drive Suite 100 Raleigh, NC 27615 Office Phone:(919) 7476336 Cell (984) 202-4761



FORM B

SPECIFIC EMISSION SOURCE INFORMATION (REQUIRED FOR ALL SOURCES)

REVISED 09/22/16 NCD	EQ/Division o	of Air Quality - A	pplication fo	r Air Permit te	o Construct/O	perate		В
EMISSION SOURCE DESCRIPTION: Truck M							. RMC-Silo2	. RMC-LO1. RMC-WB2
yards per hour)			•		EVICE ID NO(· · · · · · · · · · · · · · · · · · ·		
OPERATING SCENARIO1	OF	1			OINT (STACK)			
DESCRIBE IN DETAILTHE EMISSION SOURCE	E PROCESS (ATTACH FLOW	DIAGRAM):					
Truck Mix Concrete Batch Plant (120 cu				ne (1) 185-ta	on Cement S	ilo, One (1)	135-ton Fiva	sh Silo. Truck Loadout
point, 25-ton Cement/Flyash Weight Bat								, , , , , , , , , , , , , , , , , , , ,
			•					
TYPE OF EMISSION	N SOURCE (ORM B1-B9 C	ON THE FOLL	OWING PAGE	S):
Coal,wood,oil, gas, other burner (Form B1)			king (Form B4			f. of chemicals	-	(Form B7)
Int.combustion engine/generator (Form B2)			nishing/printin	. .,		eration (Form B	8)	
Liquid storage tanks (Form B3)		✓ Storage s	ilos/bins (Forn		✓ Other	(Form B9)		
START CONSTRUCTION DATE:		·	DATE MANU					
MANUFACTURER / MODEL NO.:			EXPECTED	DP. SCHEDUL			DAY/WK	50WK/YR
	SUBPARTS				AP (SUBPART			
PERCENTAGE ANNUAL THROUGHPUT (%): D		15 MAR-M		JUN-AU		SEP-NOV		
	allako 16895						1.	
		SOURCE OF		DACTUAL			ENTIAL EMIS	
		EMISSION		ROLS / LIMITS)		ROLS / LIMITS)		TER CONTROLS / LIMITS)
		FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
PARTICULATE MATTER (PM)		See App	endix A				····· , ···	
PARTICULATE MATTER<10 MICRONS (PM10) PARTICULATE MATTER<2.5 MICRONS (PM25)								
SULFUR DIOXIDE (SO2)				· · · · · · · · · · · · · · · · · · ·			· · · ·	· · · · · · · · · · · · · · · · · · ·
NITROGEN OXIDES (NOx)					· ·			
CARBON MONOXIDE (CO)								
VOLATILE ORGANIC COMPOUNDS (VOC)			· · · · ·					
LEAD				· · ·	······			
OTHER		1				····.		
	TOTAL TOTAL	2006 U.A.	627035764				MHAEKKA	
	**************************************	SOURCE OF		D ACTUAL	organos de sur destructura y su un		ENTIAL EMIS	SIONS
		EMISSION	(AFTER CONTI		(BEFORE CONT			FER CONTROLS / LIMITS)
HAZARDOUS AIR POLLUTANT	CAS NO.	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr.	lb/hr	tons/yr
		See App						
							,	
	같은 사람들이 안 있는 것이 같이 같이 같이 있다.							
		Kirg. Aral.						
		SOURCE OF		EXPECTED	ACTUAL EMIS	SSIONS AFTER	R CONTROLS	/ LIMITATIONS
		EMISSION			I			
TOXIC AIR POLLUTANT	CAS NO.	FACTOR		′hr	lb/c	lay		lb/yr
· · · · · · · · · · · · · · · · · · ·		See App	endix A					
			•					·
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Attachmenter (1) emission coloristica	L				L			

Attachments: (1) emissions calculations and supporting documentation; (2) indicate all requested state and federal enforceable permit limits (e.g. hours of operation, emission rates) and describe how these are monitored and with what frequency; and (3) describe any monitoring devices, gauges, or test ports for this source.

COMPLETE THIS FORM AND COMPLETE AND ATTACH APPROPRIATE B1 THROUGH B9 FORM FOR EACH SOURCE

FORM B9 EMISSION SOURCE (OTHER)

REVISED 09/22/16	NCDEQ/Division o	f Air Quality - Application	for Air Permit to Construct/Operate	B9
EMISSION SOURCE DESCRIPT	ION: Truck Mix Conc	rete Batch Plant (120	EMISSION SOURCE ID NO: RM-1 through RM-5	
cubic yards per hour)			CONTROL DEVICE ID NO(S): RMC-CD2	· · · · ·
OPERATING SCENARIO:	1 OF	1	EMISSION POINT (STACK) ID NO(S): EP-2	<u></u>
1			oncrete Batch Plant (120 Cubic yards Per hour aximum capacity), truck loasdout point, Ceme	
weigh batcher (25 ton maxi	imum canacity) Agg	regate wiegh batchor	(EQ tone maximum consolity)	

		MAX. DESIGN	REQUESTED CAPACITY	
TYPE	UNITS	CAPACITY (UNIT/HR)	LIMITATION(UNIT/HR)	
Cement	lb	448	448	
Supplement	lb	148	148	
Coarse Aggregate	lb	1980	1980	
Sand	lb	1440	1440	
Water	lb	140	140	
	-	,		
	· · ·			
and the second		MAX. DESIGN	REQUESTED CAPACITY	
TYPE	UNITS	CAPACITY (UNIT/BATCH)	LIMITATION (UNIT/BATCH)	
			· · · · ·	
AXIMUM DESIGN (BATCHES / HOUR):	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	
EQUESTED LIMITATION (BATCHES / HOUR):	(BATCHES/YF	र):		
UEL USED:	TOTAL MAXIN	MUM FIRING RATE (MILLION BT	U/HR):	
IAX. CAPACITY HOURLY FUEL USE:		CAPACITY ANNUAL FUEL USE		

From:	Scott Martino <smartino@thesunrockgroup.com></smartino@thesunrockgroup.com>
Sent:	Wednesday, January 15, 2020 1:12 PM
То:	Governale, Leo
Subject:	RE: [External] Carolina Sunrock - Burlington North Air Permit

Hi Leo,

Hope all is well

I was just touching base with you to see if you needed anything and get an update on when you will be finished.

Thanks for all the help

Scott

From: Governale, Leo [mailto:Leo.Governale@ncdenr.gov]
Sent: Monday, November 25, 2019 10:06 AM
To: Scott Martino <smartino@thesunrockgroup.com>
Subject: RE: [External] Carolina Sunrock - Burlington North Air Permit

Thanks Scott. Leo

Leo L. Governale, P.E. Environmental Engineer Division of Air Quality, Winston-Salem Regional Office

336.776.9800 (Main) 336.776.9638 (Direct) 336.776.9797 (Fax) 450 West Hanes Mill Road, Suite 300 Winston-Salem, NC 27105 leo.governale@ncdenr.gov

1



Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

From: Scott Martino <<u>smartino@thesunrockgroup.com</u>>
Sent: Monday, November 25, 2019 10:00 AM
To: Governale, Leo <<u>Leo.Governale@ncdenr.gov</u>>
Subject: [External] Carolina Sunrock - Burlington North Air Permit

Hi Leo,

As we talked the 20,000-gallon gasoline tank should have been a 20,000-gallong Diesel fuel for all our Mobil equipment and over the road haulage fleet.

If you could make that change would be great, we do not have gasoline tanks on any of our facilities other than maybe a small 5 gallon container for odds and end type stuff.

Let me know if you need anything else and Ill be happy to help

Thanks

Scott

Scott Martino

Environmental Compliance Manager/Mine Engineer Carolina Sunrock 200 Horizon Drive Suite 100 Raleigh, NC 27615 Office Phone: (919) 7476336 Cell (984) 202-4761



Scott Martino <smartino@thesunrockgroup.com></smartino@thesunrockgroup.com>
Friday, January 17, 2020 3:45 PM
Governale, Leo
Murphy, Davis; Edwards, Lisa
RE: [External] RE: Carolina Sunrock, LLC - Burlington North - Facility ID No. 1700016
C1 Sent.xlsx

Sorry Leo, for the confusion the baghouse for the asphalt plant is the 9,299 (see attached).

It was my error on the A2 form for the 7700 number. Thus you should have everything you need. I can fix the A2 forms for you if you would like.

But the attached is the proper control devise for both facilities.

Thanks

Scott

From: Governale, Leo [mailto:Leo.Governale@ncdenr.gov] Sent: Friday, January 17, 2020 3:29 PM To: Scott Martino <smartino@thesunrockgroup.com>

Cc: Murphy, Davis <davis.murphy@ncdenr.gov>; Edwards, Lisa <lisa.edwards@ncdenr.gov> **Subject:** RE: [External] RE: Carolina Sunrock, LLC - Burlington North - Facility ID No. 1700016

Hi Scott,

Because the size of bagfilter HMA-CD1 has been changed from 9,299 sf to 7,778 sf, could you please provide an updated Form C along with the required PE certification? Thanks,

Leo L. Governale, P.E. Environmental Engineer Division of Air Quality, Winston-Salem Regional Office

336.776.9800 (Main) 336.776.9638 (Direct) 336.776.9797 (Fax) 450 West Hanes Mill Road, Suite 300 Winston-Salem, NC 27105 leo.governale@ncdenr.gov



Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

1

From: Scott Martino <<u>smartino@thesunrockgroup.com</u>>

Sent: Thursday, January 16, 2020 1:06 PM

To: Governale, Leo <<u>Leo.Governale@ncdenr.gov</u>>

Cc: Murphy, Davis <<u>davis.murphy@ncdenr.gov</u>>; Edwards, Lisa <<u>lisa.edwards@ncdenr.gov</u>> Subject: [External] RE: Carolina Sunrock, LLC - Burlington North - Facility ID No. 1700016

Hi Leo,

Below See our responses to your questions. The modeling questions were answered by our consultant whom prepared the submittal for us. Let me know if you need anything further and I'll be happy to help.

Thanks Scott

From: Governale, Leo [mailto:Leo.Governale@ncdenr.gov]
Sent: Wednesday, January 15, 2020 3:27 PM
To: Scott Martino <smartino@thesunrockgroup.com>
Cc: Murphy, Davis <davis.murphy@ncdenr.gov>; Edwards, Lisa lisa.edwards@ncdenr.gov>
Subject: Carolina Sunrock, LLC - Burlington North - Facility ID No. 1700016

Scott,

The following additional information is needed to complete our review of the referenced air permit application:

 Based on your email dated 12/19/2019, you mentioned that a total annual asphalt production limit of <u>500,000</u> tons would be acceptable. However, the application lists a requested limit of <u>1,488,581</u> tons per year and a fuel sulfur content of 0.5%. Either limit will be sufficient to retain Synthetic Minor permit status. What is the requested production limit?

An annual asphalt production limit of 500,000-tons would be fine for Sunrock

- 2. The above email also provided updated emission source listings (Forms A2 & A3) that indicate relabeling/identification changes for certain sources, as follows:
 - A different bagfilter size is shown for the asphalt plant than that shown on the original submittal (9,299 sf vs. 7,778 sf). If so, please provide an updated Form C.
 - Some HMA Silos differ in size (2 @ 150 tons, 2 @ 100 tons and 1 @ 200 tons vs. 2 @ 150 tons and 3 @ 200 tons).
 - Originally, two Loadout Operations were listed as Truck Loadout Operation (HMA-LO1) and Truck Loadout Operation as (HMA-LO2). The updated forms list 5 (five) Asphalt Loadout Operations (HMA-LO1 through HMA-LO5).
 - Several differences appear in the listings of the RAP Crushing System.
 - The labeling of the Concrete Batch Plant items has been updated. Please indicate the preferred labeling.
 - The updated forms do not indicate that the Aggregate Weigh Batcher is controlled by the bagfilter.

Attached are each of the above forms for comparison. Please confirm the re-submission is correct.

You can use the updated one as you felt more comfortable with its nomenclature than the original.

3. With regard to the air toxics modeling, please provide the following information/clarification:

- It appears that area source F1 is the Asphalt Silo Loadout (ID No.HMA-LO1). Per the updated equipment list each silo is equipped with its own loadout. Does this source represent the emissions from both the silo and loadout? Is it meant to represent all five silos/loadouts or just one?
- F1 is a single volume source that was used in the model to represent the fugitive emissions from all asphalt silos (Emission sources HMA Silos 1-5) and asphalt loading (Emission sources MMA LO1-5).
- For F2, "Cement Silo Loadout" what source is this meant to represent? The batch plant bagfitler exhaust? Or fugitive emissions from the truck loadout? Why is Arsenic only being modeled at F2? Shouldn't Cadmium and Nickel also be included?
 - All emissions from the batch plant and truck loadout (Emission sources RMC-Silo1 & 2, RMC-LO1 and RMC-WB1) occur from the concrete batch plant bagfilter (Modeled emission point CD_2). F2 was erroneously included in the model as an artifact of an earlier plant design and model run. All As, Cd, and Ni emissions from the concrete batch plant will occur from CD_2.
 - It appears that the modeling was optimized to maximize the emission limits while maintaining compliance. This is normal permitting practice, however in this particular case, some of the modeled emissions rates (formaldehyde for example) are over the Synthetic Minor permitting thresholds. As this is a Synthetic Minor permit, we cannot issue a permit with such high emission rates. Please advise how you wish for this issue to be resolved.
 - There is no single TAP with an annual emission rate that exceeds 100 TPY. In addition, the sum of the modeled hourly emissions, assuming 8,760 hr/yr operation, from all TAPs is only 4.4 TPY, well below the 10 TPY synthetic minor threshold for HAPs. The TAP with the highest modeled annual emission rate is benzene. The modeled annual benzene emission rate is 7,792 lb/hr or 3.9 TPY. However, Sunrock contends that the limits imposed due to the air toxics regulation and the requirement to maintain total facility emissions less than the synthetic minor thresholds are two separate requirements. Sunrock will comply with both. Had the TAP permit allowed for emissions of a single TAP to exceed synthetic minor rates it would not have negated Sunrock's requirement to maintain total facility emissions to less than synthetic minor rates. In addition, the pollutant cited in the example (formaldehyde) only has a 1-hr averaging period per the TAP regulation. A 1-hr limit imposed by the TAP regulation cannot be expressed on an annual basis and used to compare to an annual standard imposed by another regulation. Otherwise, the agency would only need a single air quality regulation for every pollutant.

Until the above information is received, your application will be considered incomplete and inactive. Your response to this request will become part of your initial permit application received September 17, 2019. Please provide the requested information by October 13, 2019, otherwise the application may be returned.

Should you have any questions, please contact me at your convenience. Thanks for your attention to this matter.

Leo L. Governale, P.E. Environmental Engineer Division of Air Quality, Winston-Salem Regional Office

336.776.9800 (Main) 336.776.9638 (Direct) 336.776.9797 (Fax) 450 West Hanes Mill Road, Suite 300 Winston-Salem, NC 27105 leo.governale@ncdenr.gov



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North Carolina Public Records Law and may be disclosed to third parties.

FORM C1 CONTROL DEVICE (FABRIC FILTER)

REVISED 09/22/16 NCDEQ/Div	ision of Air Quality	Application for	Air Permit to	Construct/Opera	te			C1
CONTROL DEVICE ID NO: RMS-CD2	CONTROLS EMISS	IONS FROM WH	ICH EMISSION	SOURCE ID NO	(S): See	Form A28	A3	
EMISSION POINT (STACK) ID NO(S): EP-2	POSITION IN SERIE	S OF CONTROL	S	, N	0. 1	OF 1	UNITS	
		· .	· ·			· · · ·		
		P.E. SEAL-REQ			YES		NO NO	
DESCRIBE CONTROL SYSTEM: C&W Manufacturing -	- RA-140 - 6500 CI	M to control e	emissions fro	om cement/fly	ash silo	s and agg	regate and f	truck
loading.		. :						,
			•		÷.,			
POLLUTANTS COLLECTED:	· .	PM	PM10					
-					_	1.1	_	
BEFORE CONTROL EMISSION RATE (LB/HR):			·					
CAPTURE EFFICIENCY:		%		%	%		%	
	· · · · ·				_ ^		//	
CONTROL DEVICE EFFICIENCY:		%		%	%		_%	
CORRESPONDING OVERALL EFFICIENCY:		%			0/			
OUNCER UNDING OVERALE EFFICIENCY.		70		-	_%		_%	
EFFICIENCY DETERMINATION CODE:								
	ι,						-	
TOTAL AFTER CONTROL EMISSION RATE (LB/HR):					_	· ·		
PRESSURE DROP (IN H ₂ 0): MIN: MAX:	GAUGE?	YES				· · ·		
BULK PARTICLE DENSITY (LB/FT ³):		INLET TEMPER		MIN	MAX			
	GR/FT ³	OUTLET TEMPE		MIN	MAX			
INLET AIR FLOW RATE (ACFM): 6,500 cfm NO. OF COMPARTMENTS: 2 NO. OF BAGS P	ER COMPARTMENT	FILTER OPERA	TING TEMP ("f	<u> </u>				1
	CE AREA PER CART			LENGTH OF BA				
	AIR TO CLOTH RAT			DAMETEROF	ло (нч.)	/ 		
	FORCED/POSITIVE		FILTER MA		WOVE	N 🗹	FELTED	
DESCRIBE CLEANING PROCEDURES:	· ,				n hard A bege		ka sokarski kraje U rega u regelov o na dokorane do reg	
	SONIC			SIZÈ	. w	EIGHT %	CUMULA	TIVE
	SIMPLE BAG COLLA	PSE		(MICRONS)	0	F TOTAL	%	
	RING BAG COLLAPS	SE		0-1		40	40.2	2
OTHER:			÷.,	1-10		60	,100) -
DESCRIBE INCOMING AIR STREAM: Weighing and Tru	ick Loading of agg	regate, fly as	h, and	10-25				
Cement				25-50	_			
•	·	•		50-100				
				>100				
r., .				1		TOT	AL = 100	
								· .
							•	
ON A SEPARATE PAGE, ATTACH A DIAGRAM SHOWING COMMENTS:	THE RELATIONSHIP	OF THE CONTR	OL DEVICE T	O ITS EMISSION	SOURCE	E(S):		
		-						
				• •				
· · ·	2							

FORM C1 CONTROL DEVICE (FABRIC FILTER)

REVISED 09/22/16	NCDEQ/D	vision of Air Quality	y - Applicatio	n for Air	Permit to	Construct/O	perate			C1
CONTROL DEVICE ID NO: HMA-CD1		CONTROLS EMIS	SIONS FROM	1 WHICH	EMISSION	I SOURCE ID) NO(S): S	e Form A28	1A3	
EMISSION POINT (STACK) ID NO(S):	EP-1	POSITION IN SER	IES OF CON	TROLS			NO. Ý	1 OF 1	UNITS	
							•			
			P.E. SEAL	REQUIR	ED (PER 2	q .0112)?	☐ YE	S	⊡ NO	
DESCRIBE CONTROL SYSTEM: Hot MI	ix Asphalt Pla	ant Bag House Mo								
o 51,111 ACFM			•					• * · *		
o (768) 4-5/8" Ø x 10' long 14oz ara	-									
o 9,299 ft2 cloth area; 5.5 fpm filte o 41-5/8" ID stack; 31'-0" discharge	-	• •								
o integral 9' Ø x 10' long horizontal	-	-					· ·			
								<u> </u>		
POLLUTANTS COLLECTED:			РМ		PM10		· · ·		-	
BEFORE CONTROL EMISSION RATE (LE	3/HR):	•	See	Append	ix A	. —				
CAPTURE EFFICIENCY:			99.99	_% _	99.99	_%	%		%	
CONTROL DEVICE EFFICIENCY:			90	_% _	90	_%	%	· .	_%	
CORRESPONDING OVERALL EFFICIENC	CY:		93	_% _	90	_%	%		_%	
EFFICIENCY DETERMINATION CODE:			1	 • –	1			. <u></u>		÷.,
TOTAL AFTER CONTROL EMISSION RAT	TE (LB/HR):		· · · · ·	Append	ix A					<u> </u>
	MAX:	GAUGE?	✓ YES							
BULK PARTICLE DENSITY (LB/FT ³):	· · · ·	1	INLET TEM		. ,	MIN	MA			
		GR/FT ³				MIN	MA	x		
INLET AIR FLOW RATE (ACFM): 51,111			FILTER OP	ERATING	∍ ſEMP (ºf	Ť				
NO. OF COMPARTMENTS: 3 NO. OF CARTRIDGES: 768		PER COMPARTMEN		1. 49		LENGTH OF				
TOTAL FILTER SURFACE AREA (FT ²): 9	• • • • • • • • • • • • • • • • • • • •	AIR TO CLOTH RA		<u>/</u> . 14.11		DIAMETER	Un DAG (II	···/· + 5/8	<u>.</u>	
DRAFT TYPE: INDUCED/NEG				F	ILTER MA	TERIAL:	· 🗆 . wo	VEN 🗹	FELTED	
DESCRIBE CLEANING PROCEDURES:			·.	•		PARTY CONTRACTOR OF A DESCRIPTION OF A DESCRIPANTE A DESCRIPANTE A DESCRIPANTE A DESCRIPTION OF A DESCRIPTIO	10-10-10-10-10-10-00-00-00-00-00-00-00-0		SNAMPER STATEMENT AND A CONTRACT OF STATE	
		SONIC				SIZE		WEIGHT %	CUMUL	GERGER RUNDEN
REVERSE FLOW		SIMPLE BAG COLL	LAPSE			(MICRON		OF TOTAL	%	
		RING BAG COLLA	PSE			0-1		40	40.	
						1-10		60	10	0
DESCRIBE INCOMING AIR STREAM: Ho	t Air from Dry	ing and Mixing Dr	rums in HM/	A Plant\		10-25			1	
						25-50			-	
•		,			,	50-100		·	<u> </u>	
						>100				
		1997 - A.						ТОТ	AL = 100	
	•				<u>,</u> 2					
	· · ·									
ON A SEPARATE PAGE, ATTACH A DIAG	RAM SHOWING	THE RELATIONSHI	P OF THE CO	ONTROL I	DEVICE TO) ITS EMISS	ION SOUR	CE(S):	<u></u> .	
COMMENTS:				· · · · · · · · · · · · · · · · · · ·				· · ·		
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		1990 -								
		•						-		

From:	Scott Martino <smartino@thesunrockgroup.com></smartino@thesunrockgroup.com>
Sent:	Friday, January 17, 2020 3:49 PM
То: (Governale, Leo
Cc: 1	Murphy, Davis; Edwards, Lisa
Subject:	RE: [External] RE: Carolina Sunrock, LLC - Burlington North - Facility ID No. 1700016
Attachments:	A2-A3 Burlington North Revised xlsx

Leo here is the fixed a2 form.

Sorry that was my fault I did not notice that part on the form.

Again Sorry

Scott

From: Governale, Leo [mailto:Leo.Governale@ncdenr.gov]
Sent: Friday, January 17, 2020 3:29 PM
To: Scott Martino <smartino@thesunrockgroup.com>
Cc: Murphy, Davis <davis.murphy@ncdenr.gov>; Edwards, Lisa <lisa.edwards@ncdenr.gov>
Subject: RE: [External] RE: Carolina Sunrock, LLC - Burlington North - Facility ID No. 1700016

Hi Scott,

Because the size of bagfilter HMA-CD1 has been changed from 9,299 sf to 7,778 sf, could you please provide an updated Form C along with the required PE certification? Thanks,

Leo L. Governale, P.E. Environmental Engineer Division of Air Quality, Winston-Salem Regional Office

 336.776.9800 (Main)
 450 West Hanes Mill Road, Suite 300

 336.776.9638 (Direct)
 Winston-Salem, NC 27105

 336.776.9797 (Fax)
 leo.governale@ncdenr.gov



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From: Scott Martino <<u>smartino@thesunrockgroup.com</u>> Sent: Thursday, January 16, 2020 1:06 PM To: Governale, Leo <<u>Leo.Governale@ncdenr.gov</u>> **Cc:** Murphy, Davis <<u>davis.murphy@ncdenr.gov</u>>; Edwards, Lisa <<u>lisa.edwards@ncdenr.gov</u>> **Subject:** [External] RE: Carolina Sunrock, LLC - Burlington North - Facility ID No. 1700016

Hi Leo,

Below See our responses to your questions. The modeling questions were answered by our consultant whom prepared the submittal for us. Let me know if you need anything further and I'll be happy to help.

Thanks

Scott

From: Governale, Leo [mailto:Leo.Governale@ncdenr.gov]
Sent: Wednesday, January 15, 2020 3:27 PM
To: Scott Martino <smartino@thesunrockgroup.com>
Cc: Murphy, Davis <davis.murphy@ncdenr.gov>; Edwards, Lisa lisa.edwards@ncdenr.gov>
Subject: Carolina Sunrock, LLC - Burlington North - Facility ID No. 1700016

Scott,

The following additional information is needed to complete our review of the referenced air permit application:

 Based on your email dated 12/19/2019, you mentioned that a total annual asphalt production limit of <u>500,000</u> tons would be acceptable. However, the application lists a requested limit of <u>1,488,581</u> tons per year and a fuel sulfur content of 0.5%. Either limit will be sufficient to retain Synthetic Minor permit status. What is the requested production limit?

An annual asphalt production limit of 500,000-tons would be fine for Sunrock

- 2. The above email also provided updated emission source listings (Forms A2 & A3) that indicate relabeling/identification changes for certain sources, as follows:
 - A different bagfilter size is shown for the asphalt plant than that shown on the original submittal (9,299 sf vs.
 7,778 sf). If so, please provide an updated Form C.
 - Some HMA Silos differ in size (2 @ 150 tons, 2 @ 100 tons and 1 @ 200 tons vs. 2 @ 150 tons and 3 @ 200 tons).
 - Originally, two Loadout Operations were listed as Truck Loadout Operation (HMA-LO1) and Truck Loadout Operation as (HMA-LO2). The updated forms list 5 (five) Asphalt Loadout Operations (HMA-LO1 through HMA-LO5).
 - Several differences appear in the listings of the RAP Crushing System.
 - The labeling of the Concrete Batch Plant items has been updated. Please indicate the preferred labeling.
 - The updated forms do not indicate that the Aggregate Weigh Batcher is controlled by the bagfilter.

Attached are each of the above forms for comparison. Please confirm the re-submission is correct.

You can use the updated one as you felt more comfortable with its nomenclature than the original.

- 3. With regard to the air toxics modeling, please provide the following information/clarification:
 - It appears that area source F1 is the Asphalt Silo Loadout (ID No.HMA-LO1). Per the updated equipment list each silo is equipped with its own loadout. Does this source represent the emissions from both the silo and loadout? Is it meant to represent all five silos/loadouts or just one?

F1 is a single volume source that was used in the model to represent the fugitive emissions from all asphalt silos (Emission sources HMA Silos 1-5) and asphalt loading (Emission sources MMA LO1-5).

For F2, "Cement Silo Loadout" what source is this meant to represent? The batch plant bagfitler exhaust? Or fugitive emissions from the truck loadout? Why is Arsenic only being modeled at F2? Shouldn't Cadmium and Nickel also be included?

All emissions from the batch plant and truck loadout (Emission sources RMC-Silo1 & 2, RMC-LO1 and RMC-WB1) occur from the concrete batch plant bagfilter (Modeled emission point CD_2). F2 was erroneously included in the model as an artifact of an earlier plant design and model run. All As, Cd, and Ni emissions from the concrete batch plant will occur from CD_2.

It appears that the modeling was optimized to maximize the emission limits while maintaining compliance. This is normal permitting practice, however in this particular case, some of the modeled emissions rates (formaldehyde for example) are over the Synthetic Minor permitting thresholds. As this is a Synthetic Minor permit, we cannot issue a permit with such high emission rates. Please advise how you wish for this issue to be resolved.

There is no single TAP with an annual emission rate that exceeds 100 TPY. In addition, the sum of the modeled hourly emissions, assuming 8,760 hr/yr operation, from all TAPs is only 4.4 TPY, well below the 10 TPY synthetic minor threshold for HAPs. The TAP with the highest modeled annual emission rate is benzene. The modeled annual benzene emission rate is 7,792 lb/hr or 3.9 TPY. However, Sunrock contends that the limits imposed due to the air toxics regulation and the requirement to maintain total facility emissions less than the synthetic minor thresholds are two separate requirements. Sunrock will comply with both. Had the TAP permit allowed for emissions of a single TAP to exceed synthetic minor rates it would not have negated Sunrock's requirement to maintain total facility emissions to less than synthetic minor rates. In addition, the pollutant cited in the example (formaldehyde) only has a 1-hr averaging period per the TAP regulation. A 1-hr limit imposed by the TAP regulation cannot be expressed on an annual basis and used to compare to an annual standard imposed by another regulation. Otherwise, the agency would only need a single air quality regulation for every pollutant.

Until the above information is received, your application will be considered incomplete and inactive. Your response to this request will become part of your initial permit application received September 17, 2019. Please provide the requested information by October 13, 2019, otherwise the application may be returned.

Should you have any questions, please contact me at your convenience. Thanks for your attention to this matter.

Leo L. Governale, P.E. Environmental Engineer Division of Air Quality, Winston-Salem Regional Office

336.776.9800 (Main) 336.776.9638 (Direct) 336.776.9797 (Fax) 450 West Hanes Mill Road, Suite 300 Winston-Salem, NC 27105 leo.governale@ncdenr.gov



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FORMS A2, A3 EMISSION SOURCE LISTING FOR THIS APPLICATION - A2

112r APPLICABILITY INFO	RMATION - A3	
		Replaced, Deleted
EMISSION SOURCE DESCRIPTION	CONTROL DEVICE ID NO.	CONTROL DEVICE DESCRIPTION
	nan CONTRACTOR	constant de contrata substant substant é:
Frum Mix Asphalt Plant (250 tons per hour ca	pacity) Consi	sting of the Following
Propane/Natural Gas/No. 2 Fuel Oil/Recycled No. 2 Fuel		• •
Oil/Recycled No.4 Fuel Oil-fired drum type hot asphalt plant (80	HMA-CD1	Bagfilter (9,299 square feet of filter area)
MMBtu/hr maximum heat	THINK OF T	Buginter (5)255 Square feet of filter area)
input capacity)		
		NA
		NA
	L	NA
	NA	NA
Hot mix asphalt storage silo (200 tons maximum capacity)	NA ·	NA
Asphait Loadout Operation Silo 1	NA NA	NA
Asphalt Loadout Operation Silo 2	NA	NA
Asphalt Loadout Operation Silo 3	NA	NA
Asphalt Loadout Operation Silo 4	NA	NA
Asphalt Loadout Operation Silo 5	NA	NA
RAP Crushing System Consisti	ng of the Foll	owing
RAP bin and feeder	NA	NA
RAP impact Crusher (65 tons per hour maximum rated capacity)	NA	NA NA
8' X 20' Double Deck Screen	NA	NA
RAP 36" Conveyor (C-1) Feeder to Crusher (RAP-CR1)	NA	NA
RAP 36" Conveyor (C-2) Cursher to Screen	NA	NA
RAP 36" Conveyor (C-3) Screen to Plant	NA	NA
RAP 36" Conveyor (C-4) Screen to Conveyor (C-5)	NA	NA
		NA
		NA
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		1
	NCDEQ/Division of Air Quality - Application for Air EMISSION SOURCE LISTING: New, Modified, Previo EMISSION SOURCE DESCRIPTION Drum Mix Asphalt Plant (250 tons per hour ca Propane/Natural Gas/No. 2 Fuel Oil/Recycled No. 2 Fuel Oil/Recycled No. 4 Fuel Oil-fired drum type hot asphalt plant (80 MMBtu/hr maximum heat input capacity) Hot mix asphalt storage silo (150 tons maximum capacity) Hot mix asphalt storage silo (150 tons maximum capacity) Hot mix asphalt storage silo (200 tons maximum capacity) Hot mix asphalt storage silo (200 tons maximum capacity) Hot mix asphalt storage silo (200 tons maximum capacity) Asphalt Loadout Operation Silo 1 Asphalt Loadout Operation Silo 2 Asphalt Loadout Operation Silo 3 Asphalt Loadout Operation Silo 5 RAP Crushing System Consisti RAP bin and feeder RAP Impact Crusher (65 tons per hour maximum rated capacity) B' X 20' Double Deck Screen RAP 36" Conveyor (C-1) Feeder to Crusher (RAP-CR1) RAP 36" Conveyor (C-2) Cursher to Screen RAP 36" Conveyor (C-3) Screen to Plant RAP 36" Conveyor (C-4) Screen to Conveyor (C-5) RAP 36" Conveyor (C-6) Conveyor (C-6) to Crusher (RAP-CR1) EAP 36" Conveyor (C-6) to Crusher (RAP-CR1) EAP 36" Conveyor (C-6) Conveyor (C-6) to Crusher (RAP-CR1) EAP 36" Conveyor (C-6) Conveyor (C-6) to Crusher (RAP-CR1) EAP 36" Conveyor (C-6) to Crusher (RAP-CR1)	DESCRIPTION ID NO. International and another and another and another and another a

							A 3
Is your facility subject	to 40 CFR Pa	art 68 "Prevention of Acciden	tal Releases" - Section 112(r) of the Fed	eral Clean Air Act?	Yes		No
If No, please specify	in detail how y	our facility avoided applicabi	lity:				
If your facility is Subje	ect to 112(r), p	lease complete the following	.				
A. Have you airea	ady submitted	a Risk Management Plan (Ri	MP) to EPA Pursuant to 40 CFR Part 68.	10 or Part 68.150?			100 A.
🗌 Yes 🗖	No	Specify required RMP su	bmittal date:	If submitted, RMP submittal date:			
B. Are you using	administrative	controls to subject your facil	ity to a lesser 112(r) program standard?				
Yes	No	If yes, please specify:					
C. List the proces	ses subject to	112(r) at your facility:	· · · · · · · · · · · · · · · · · · ·		1.00		
PR	OCESS DESC	RIPTION	PROCESS LEVEL (1, 2, or 3)	HAZARDOUS CHEMICAL	INV	ENTORY ((LBS)
1. Contract (1. Co					-		
			·				
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FORMS A2, A3 EMISSION SOURCE LISTING FOR THIS APPLICATION - A2 112r APPLICABILITY INFORMATION - A3

VISED 09/22/16	NCDEQ/Division of Air Quality - Application			A2
	EMISSION SOURCE LISTING: New, Modi	ified, Previously U	npermitted, Replaced, Deleted	
ISSION SOURCE	EMISSION SOURCE	CONTROL DEVICE	CONTROL DEVICE	
ID NO.	DESCRIPTION	ID NO.	DESCRIPTION	
Truck Mix	x Concrete Batch Plant (120 cubic ya	ards per hour	capacity) Consisting of the	• Following
RMC-Silo1	Cement Storage Silo (200-ton capacity)	RMC-CD2	Bagfilter (1,433 square feet of	filter area)
RMC-Silo2	Flyash Storage Silo (150-ton Capacity)	RMC-CD2	Bagfilter (1,433 square feet of	filter area)
RMC-LO1	Truck Loadout point	RMC-CD2	Bagfilter (1,433 square feet of	filter area)
RMC-WB1	Cement/Flyash Weigh Batcher (5-ton max Capacity)	RMC-CD2	Bagfilter (1,433 square feet of	
RMC-WB2	Aggregate Weigh Batcher (20-ton max Capacity)	NA	NA	
				· .
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	Existing Common Solution States and Solution States and Solution States and Solution States and Solution States		ISynnis Application	
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			A 3
Is your facility subject to 40 CFR Part 68 "Prevention of Accidental	Releases" - Section 112(r) of	f the Federal Clean Air Act?	Yes No
If No, please specify in detail how your facility avoided applicability	·		
If your facility is Subject to 112(r), please complete the following:			
A. Have you already submitted a Risk Management Plan (RMP) to EPA Pursuant to 40 CFR	Part 68.10 or Part 68.150?	
Yes No Specify required RMP subm	ittal date:	If submitted, RMP submittal date:	
B. Are you using administrative controls to subject your facility	o a lesser 112(r) program sta	andard?	
Yes No If yes, please specify:			
C. List the processes subject to 112(r) at your facility:			· · · · · · · · · · · · · · · · · · ·
	PROCESS LEVEL	· ·	MAXIMUM INTENDED INVENTORY
PROCESS DESCRIPTION	(1, 2, or 3)	HAZARDOUS CHEMICAL	(LBS)
		· · · · · · · · · · · · · · · · · · ·	1 (x
			· · · · · · · · · · · · · · · · · · ·

From:		
Sent:		
To:		
Subject:		
Attachm	ients:	

Scott Martino <smartino@thesunrockgroup.com> Tuesday, January 21, 2020 1:44 PM Governale, Leo [External] revised forms A2-A3 prospect hill quarry-Final.xlsx; C1 Sent.xlsx

Hi Leo,

Check the attached to see if these work for you. I kind of merged the two A2 forms a little bit and updated the C1s for both baghouses.

1

Either way let me know and I'll do whatever is needed.

Thanks

Scott

Scott Martino

Environmental Compliance Manager/Mine Engineer Carolina Sunrock 200 Horizon Drive Suite 100 Raleigh, NC 27615 Office Phone:(919) 7476336 Cell (984) 202-4761



FORMS A2, A3 EMISSION SOURCE LISTING FOR THIS APPLICATION - A2 112r APPLICABILITY INFORMATION - A3

	112r APPLICABILITY INFO	RMATION - A3		
EVISED 09/22/16	NCDEQ/Division of Air Quality - Application for Air	Permit to Construct/O	perate	A2
	EMISSION SOURCE LISTING: New, Modified, Previo	ously Unpermitted	, Replaced, Deleted	
MISSION SOURCE	EMISSION SOURCE	CONTROL DEVICE	CONTROL DEVICE	
ID NO.	DESCRIPTION	ID NO.	DESCRIPTION	
D	rum Mix Asphalt Plant (250 tons per hour ca	pacity) Consi	sting of the Following	an ta walandaha ta marin bina ta an
	Propane/Natural Gas/No. 2 Fuel Oil/Recycled No. 2 Fuel	1		
	Oil/Recycled No.4 Fuel Oil-fired drum type hot asphalt plant (80			
HMA-1	MMBtu/hr maximum heat	HMA-CD1	Bagfilter (9,299 square feet of filt	er area)
	input capacity)			
HMA Silo1	Hot mix asphalt storage silo (150 tons maximum capacity)	NA	NA	
HMA Silo2	Hot mix asphalt storage silo (150 tons maximum capacity)	NA	NA	
HMA Silo3	Hot mix asphalt storage silo (200 tons maximum capacity)	NA	NA	
HMA Silo4	Hot mix asphalt storage silo (200 tons maximum capacity)	NA	NA	
HMA Silo5	Hot mix asphalt storage silo (200 tons maximum capacity)	NA	NA	
HMA-LO1	Asphalt Loadout Operation Silo 1	NA	NA	
HMA-LO2				
	Asphalt Loadout Operation Silo 2	NA	NA	
HMA-LO3	Asphalt Loadout Operation Silo 3	NA	NA	
HMA-LO4	Asphalt Loadout Operation Silo 4	NA	NA	
HMA-LO5	Asphalt Loadout Operation Silo 5	NA	NA	
	RAP Crushing System Consist	ing of the Fol	lowing	
RAP-CRSH	RAP impact Crusher (65 tons per hour maximum rated capacity)	NA	NA	
RAP-CNV	(4) Conveyors	NA	NA	
RAP-SCN	8' X 20' Double Deck Screen	NA	NA	
Truck Miz	x Concrete Batch Plant (120 cubic yards per	hour canacit	y) Consisting of the Follow	vina
RM-1	Cement Storage Silo (200-ton capacity)	RMC-CD2	Bagfilter (1,433 square feet of filt	
RM-2				
RM-2	Flyash Storage Silo (150-ton Capacity)	RMC-CD2	Bagfilter (1,433 square feet of filt	er area)
RM-3	Flyash Storage Silo (150-ton Capacity) Truck Loadout point	RMC-CD2 RMC-CD2	Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt	er area) er area)
RM-3 RM-4	Flyash Storage Silo (150-ton Capacity) Truck Loadout point Cement/Flyash Weigh Batcher (25-ton max Capacity)	RMC-CD2 RMC-CD2 RMC-CD2	Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt	er area) er area)
RM-3	Flyash Storage Silo (150-ton Capacity) Truck Loadout point	RMC-CD2 RMC-CD2	Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt	er area) er area)
RM-3 RM-4	Flyash Storage Silo (150-ton Capacity) Truck Loadout point Cement/Flyash Weigh Batcher (25-ton max Capacity) Ággregate Weigh Batcher (50-ton max Capacity)	RMC-CD2 RMC-CD2 RMC-CD2 NA	Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt NA	er area) er area)
RM-3 RM-4	Flyash Storage Silo (150-ton Capacity) Truck Loadout point Cement/Flyash Weigh Batcher (25-ton max Capacity)	RMC-CD2 RMC-CD2 RMC-CD2 NA	Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt NA	er area) er area)
RM-3 RM-4	Flyash Storage Silo (150-ton Capacity) Truck Loadout point Cement/Flyash Weigh Batcher (25-ton max Capacity) Ággregate Weigh Batcher (50-ton max Capacity)	RMC-CD2 RMC-CD2 RMC-CD2 NA	Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt NA	er area) er area)
RM-3 RM-4	Flyash Storage Silo (150-ton Capacity) Truck Loadout point Cement/Flyash Weigh Batcher (25-ton max Capacity) Ággregate Weigh Batcher (50-ton max Capacity)	RMC-CD2 RMC-CD2 RMC-CD2 NA	Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt NA	er area) er area)
RM-3 RM-4	Flyash Storage Silo (150-ton Capacity) Truck Loadout point Cement/Flyash Weigh Batcher (25-ton max Capacity) Ággregate Weigh Batcher (50-ton max Capacity)	RMC-CD2 RMC-CD2 RMC-CD2 NA	Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt NA	er area) er area)
RM-3 RM-4	Flyash Storage Silo (150-ton Capacity) Truck Loadout point Cement/Flyash Weigh Batcher (25-ton max Capacity) Ággregate Weigh Batcher (50-ton max Capacity)	RMC-CD2 RMC-CD2 RMC-CD2 NA	Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt NA	er area) er area)
RM-3 RM-4	Flyash Storage Silo (150-ton Capacity) Truck Loadout point Cement/Flyash Weigh Batcher (25-ton max Capacity) Ággregate Weigh Batcher (50-ton max Capacity)	RMC-CD2 RMC-CD2 RMC-CD2 NA	Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt NA	er area) er area)
RM-3 RM-4	Flyash Storage Silo (150-ton Capacity) Truck Loadout point Cement/Flyash Weigh Batcher (25-ton max Capacity) Ággregate Weigh Batcher (50-ton max Capacity)	RMC-CD2 RMC-CD2 RMC-CD2 NA	Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt NA	er area) er area)
RM-3 RM-4	Flyash Storage Silo (150-ton Capacity) Truck Loadout point Cement/Flyash Weigh Batcher (25-ton max Capacity) Ággregate Weigh Batcher (50-ton max Capacity)	RMC-CD2 RMC-CD2 RMC-CD2 NA	Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt NA	er area) er area)
RM-3 RM-4	Flyash Storage Silo (150-ton Capacity) Truck Loadout point Cement/Flyash Weigh Batcher (25-ton max Capacity) Ággregate Weigh Batcher (50-ton max Capacity)	RMC-CD2 RMC-CD2 RMC-CD2 NA	Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt NA	er area) er area)
RM-3 RM-4	Flyash Storage Silo (150-ton Capacity) Truck Loadout point Cement/Flyash Weigh Batcher (25-ton max Capacity) Ággregate Weigh Batcher (50-ton max Capacity)	RMC-CD2 RMC-CD2 RMC-CD2 NA	Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt NA	er area) er area)
RM-3 RM-4	Flyash Storage Silo (150-ton Capacity) Truck Loadout point Cement/Flyash Weigh Batcher (25-ton max Capacity) Aggregate Weigh Batcher (50-ton max Capacity)	RMC-CD2 RMC-CD2 RMC-CD2 NA	Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt NA	er area) er area)
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RM-3 RM-4	Flyash Storage Silo (150-ton Capacity) Truck Loadout point Cement/Flyash Weigh Batcher (25-ton max Capacity) Aggregate Weigh Batcher (50-ton max Capacity)	RMC-CD2 RMC-CD2 RMC-CD2 NA	Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt NA	er area) er area)
RM-3 RM-4	Flyash Storage Silo (150-ton Capacity) Truck Loadout point Cement/Flyash Weigh Batcher (25-ton max Capacity) Aggregate Weigh Batcher (50-ton max Capacity)	RMC-CD2 RMC-CD2 RMC-CD2 NA	Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt NA	er area) er area)
RM-3 RM-4	Flyash Storage Silo (150-ton Capacity) Truck Loadout point Cement/Flyash Weigh Batcher (25-ton max Capacity) Aggregate Weigh Batcher (50-ton max Capacity)	RMC-CD2 RMC-CD2 RMC-CD2 NA	Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt NA	er area) er area)
RM-3 RM-4	Flyash Storage Silo (150-ton Capacity) Truck Loadout point Cement/Flyash Weigh Batcher (25-ton max Capacity) Aggregate Weigh Batcher (50-ton max Capacity)	RMC-CD2 RMC-CD2 RMC-CD2 NA	Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt NA	er area) er area)
RM-3 RM-4	Flyash Storage Silo (150-ton Capacity) Truck Loadout point Cement/Flyash Weigh Batcher (25-ton max Capacity) Aggregate Weigh Batcher (50-ton max Capacity)	RMC-CD2 RMC-CD2 RMC-CD2 NA	Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt Bagfilter (1,433 square feet of filt NA	er area) er area)

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Is your facility subject to 40 CFR Part 68 "Prevention of Accide	ntal Releases" - Section 112(r) of the Federal (Clean Air Act?	🗆 Yes 🖾 No
If No, please specify in detail how your facility avoided applical	oility:		
If your facility is Subject to 112(r), please complete the followin	g:		
A. Have you already submitted a Risk Management Plan (i	RMP) to EPA Pursuant to 40 CFR Part 68.10 o	Part 68.150?	2
Yes No Specify required RMP s	ubmittal date:	If submitted, RMP submittal date:	
B. Are you using administrative controls to subject your fac	ility to a lesser 112(r) program standard?		
Yes No If yes, please specify:	· · ·		
C. List the processes subject to 112(r) at your facility:			
PROCESS DESCRIPTION	PROCESS LEVEL (1, 2, or 3)	HAZARDOUS CHEMICAL	INVENTORY (LBS)
1			

From:	Scott Martino <smartino@thesunrockgroup.com></smartino@thesunrockgroup.com>
Sent:	Wednesday, January 22, 2020 8:18 PM
То:	Governale, Leo
Cc:	Murphy, Davis; Edwards, Lisa
Subject:	[External] RE: Carolina Sunrock - Burlington North - Caswell County - Facility ID No. 1700016
Attachments:	A2-A3 Burlington North final 01-22-2020.xlsx

Hi Leo,

See attached, all I did was add the two heaters as you stated straight from our existing permit as they are the same units.

Let me know if you have any questions or need anything else and I'll be happy to help.

Thanks

Scott

From: Governale, Leo [mailto:Leo.Governale@ncdenr.gov] **Sent:** Wednesday, January 22, 2020 3:17 PM

To: Scott Martino <smartino@thesunrockgroup.com>

Cc: Murphy, Davis <davis.murphy@ncdenr.gov>; Edwards, Lisa <lisa.edwards@ncdenr.gov> **Subject:** Carolina Sunrock - Burlington North - Caswell County - Facility ID No. 1700016

Hi Scott,

Just to clarify – based on our conversation, you will be providing a revised Form A2/A3 showing the updated nomenclature/ID Nos. for the various emission sources. Thanks,

1

Leo

Leo L. Governale, P.E. Environmental Engineer Division of Air Quality, Winston-Salem Regional Office

336.776.9800 (Main) 336.776.9638 (Direct) 336.776.9797 (Fax) 450 West Hanes Mill Road, Suite 300 Winston-Salem, NC 27105 leo.governale@ncdenr.gov



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North Carolina Public Records Law and may be disclosed to third parties.

FORMs A2, A3

EMISSION SOURCE LISTING FOR THIS APPLICATION - A2

112r APPLICABILITY INFORMATION - A3

SIGN SOURCE ID NO. EMISSION SOURCE DESCRIPTION CONTROL DEVICE ID NO. CONTROL DEVICE ID NO. CONTROL DEVICE DESCRIPTION Drum Mix Asphalt Plant (250 tons per hour capacity) Consisting of the Following DESCRIPTION DESCRIPTION HMA-1 Propane/Natural Gas/No. 2 Fuel OI//Recycled No. 2 Fuel Oil/Recycled No.4 Fuel OI-Ifred drum type hot asphalt plant (80 MMBtu/hr maximum heat HMA-CD1 Bagfilter (9,299 square feet of filter area) IMA Silo1 Hot mix asphalt storage silo (150 tons maximum capacity) NA NA IMA Silo2 Hot mix asphalt storage silo (200 tons maximum capacity) NA NA IMA Silo3 Hot mix asphalt storage silo (200 tons maximum capacity) NA NA IMA Silo5 Hot mix asphalt Loadout Operation Silo 1 NA NA IMA-L02 Asphalt Loadout Operation Silo 2 NA NA IMA-L03 Asphalt Loadout Operation Silo 5 NA NA IMA-L04 Asphalt Loadout Operation Silo 5 NA NA IMA-L03 Asphalt Loadout Operation Silo 5 NA NA IMA-L03 Asphalt Loadout Operation Silo 5 NA NA IMA-L03 Asphalt Loadout Opera	SION BOURCE DI NO. EMISSION SOURCE DESCRIPTION CONTROL DEVICE ID NO. CONTROL DEVICE DI NO. CONTROL DEVICE DESCRIPTION Brunn Mix Asphalt Plant (250 tons per hour capacity) Consisting of the Following Prepanel/Matural Gas/No. 2 Fuel Olifkecycled No. 2 Fuel DI NO. Bagfilter (9,299 aquare feet of filter area) MAA Silo1 OlifRecycled No. 4 Fuel Olifkecycled No. 2 Fuel DI NO. HMA-CD1 Bagfilter (9,299 aquare feet of filter area) MAS Silo1 Hot mix asphalt storage silo (150 tons maximum capacity) NA NA MAS Silo1 Hot mix asphalt storage silo (200 tons maximum capacity) NA NA MAS Silo1 Hot mix asphalt storage silo (200 tons maximum capacity) NA NA MAS Silo3 Hot mix asphalt storage silo (200 tons maximum capacity) NA NA MAS Silo3 Hot mix asphalt storage silo (200 tons maximum capacity) NA NA MAA-LO2 Asphalt Loadout Operation Silo 2 NA NA MAA-LO3 Asphalt Loadout Operation Silo 2 NA NA MAL-LO3 Asphalt Loadout Operation Silo 2 NA NA MAL-LO3 Asphalt Loadout Operation Silo 2 NA NA M	SION BOURCE DI NO. EMISSION SOURCE DESCRIPTION CONTROL DEVICE ID NO. CONTROL DEVICE DI NO. CONTROL DEVICE DESCRIPTION Brunn Mix Asphalt Plant (250 tons per hour capacity) Consisting of the Following Prepanel/Matural Gas/No. 2 Fuel Olifkecycled No. 2 Fuel DI NO. Bagfilter (9,299 aquare feet of filter area) MAA Silo1 OlifRecycled No. 4 Fuel Olifkecycled No. 2 Fuel DI NO. HMA-CD1 Bagfilter (9,299 aquare feet of filter area) MAS Silo1 Hot mix asphalt storage silo (150 tons maximum capacity) NA NA MAS Silo1 Hot mix asphalt storage silo (200 tons maximum capacity) NA NA MAS Silo1 Hot mix asphalt storage silo (200 tons maximum capacity) NA NA MAS Silo3 Hot mix asphalt storage silo (200 tons maximum capacity) NA NA MAS Silo3 Hot mix asphalt storage silo (200 tons maximum capacity) NA NA MAA-LO2 Asphalt Loadout Operation Silo 2 NA NA MAA-LO3 Asphalt Loadout Operation Silo 2 NA NA MAL-LO3 Asphalt Loadout Operation Silo 2 NA NA MAL-LO3 Asphalt Loadout Operation Silo 2 NA NA M	SIGN BOUCE EMBISING SOURCE CONTROL EPVEE DOWN DOWN DOWN DOWN BIND Direct Control Con		NCDEQ/Division of Air Quality - Application for Air EMISSION SOURCE LISTING: New, Modified, Previo		
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HMA-L01 Asphalt Loadout Operation Sile 1 NA NA HMA-L02 Asphalt Loadout Operation Sile 2 NA NA HMA-L03 Asphalt Loadout Operation Sile 3 NA NA HMA-L04 Asphalt Loadout Operation Sile 4 NA NA HMA-L05 Asphalt Loadout Operation Sile 4 NA NA HMA-L05 Asphalt Loadout Operation Sile 4 NA NA HMA-L05 Asphalt Loadout Operation Sile 5 NA NA HMA-L05 Asphalt Loadout Operation Sile 5 NA NA HMA-L07 Matural gasino.2 fuel oil-fired liquid asphalt coment heater (1.2 NA NA million btu per hour maximum heat input) NA NA NA E3-H2 Nstural gasino.2 fuel oil-fired liquid asphalt coment heater (1.1 NA NA million btu per hour maximum meat input) NA NA NA AP-CR3H RAP Crushing System Consisting of the Following NA NA RAP-SCN G'X 20' Double Deck Screen NA NA RM-3 Crusher (65 tons capacity) RM-CD2 Bagfilter (1,433 square feet of filter area) RM-4	HMA-LO1 Asphalt Loadout Operation Silo 1 NA NA HMA-LO2 Asphalt Loadout Operation Silo 2 NA NA HMA-LO3 Asphalt Loadout Operation Silo 3 NA NA HMA-LO3 Asphalt Loadout Operation Silo 3 NA NA HMA-LO3 Asphalt Loadout Operation Silo 3 NA NA HMA-LO3 Asphalt Loadout Operation Silo 4 NA NA HMA-LO4 Asphalt Loadout Operation Silo 5 NA NA HMA-LO3 Asphalt Loadout Operation Silo 5 NA NA HMA-LO4 Asphalt Loadout Operation Silo 5 NA NA HMA-LO3 Asphalt Loadout Operation Silo 5 NA NA HMA-LO4 Asphalt Loadout Operation Silo 5 NA NA HMA-LO3 Matural gas/no.2 fuel oll-fired liquid asphalt cement heater (1.1 NA NA BSH Matural gas/no.2 fuel oll-fired liquid asphalt cement heater (1.1 NA NA NA RAP-CRUSH RAP Impact Grusher (65 tons per hour maximum rated capacity) NA NA NA RAP-SCN COrcrete Batch Plant (120 cubic yards per hour capacity) RM-CD2 Bagfil	HMA-LO1 Asphalt Loadout Operation Silo 1 NA NA HMA-LO2 Asphalt Loadout Operation Silo 2 NA NA HMA-LO3 Asphalt Loadout Operation Silo 3 NA NA HMA-LO3 Asphalt Loadout Operation Silo 3 NA NA HMA-LO3 Asphalt Loadout Operation Silo 3 NA NA HMA-LO3 Asphalt Loadout Operation Silo 4 NA NA HMA-LO4 Asphalt Loadout Operation Silo 5 NA NA HMA-LO3 Asphalt Loadout Operation Silo 5 NA NA HMA-LO4 Asphalt Loadout Operation Silo 5 NA NA HMA-LO3 Asphalt Loadout Operation Silo 5 NA NA HMA-LO4 Asphalt Loadout Operation Silo 5 NA NA HMA-LO3 Matural gas/no.2 fuel oll-fired liquid asphalt cement heater (1.1 NA NA BSH Matural gas/no.2 fuel oll-fired liquid asphalt cement heater (1.1 NA NA NA RAP-CRUSH RAP Impact Grusher (65 tons per hour maximum rated capacity) NA NA NA RAP-SCN COrcrete Batch Plant (120 cubic yards per hour capacity) RM-CD2 Bagfil	NIRA-101 Aphast Loadout Operation Sile 1 NA NA NIRA-L02 Aphast Loadout Operation Sile 2 NA NA NIRA-L03 Aphast Loadout Operation Sile 2 NA NA NIRA-L04 Aphast Loadout Operation Sile 3 NA NA NIRA-L03 Aphast Loadout Operation Sile 3 NA NA NIRA-L04 Aphast Loadout Operation Sile 3 NA NA NIRA-L03 Aphast Loadout Operation Sile 3 NA NA NIRA-L04 Aphast Loadout Operation Sile 5 NA NA Statu Natural service 3 NA NA NA Statu Natural service 3 NA NA NA RAP Crushing System Consisting of the Following NA NA NA RAP-CRSH RAP Concrete Batch Plant (120 cubics parts) NA NA NA RM4 Consent/Plant Majb Batcher (250 on spacity) RMC-CD2 Bagitter (1.433 square feet of filter area) RM4 Censent/Plant Majb Batcher (250 on max Capacity) RNC-CD2 Bagitter (1.433 square feet of filter area) RM5 Agregate Weigh Batcher (250 on max Capacity) RNC	HMA Silo4	Hot mix asphalt storage silo (200 tons maximum capacity)	NA	NA
HNA-L02 Asphalt Loadout Operation Silo 2 NA NA HNA-L03 Asphalt Loadout Operation Silo 3 NA NA HNA-L04 Asphalt Loadout Operation Silo 3 NA NA HNA-L05 Asphalt Loadout Operation Silo 5 NA NA HNA-L05 Asphalt Loadout Operation Silo 5 NA NA HNA-L05 Asphalt Loadout Operation Silo 5 NA NA BS-H1 Matural gas/no.2 fuel oil-fired liquid asphalt cement heater (1.1 NA NA Matural gas/no.2 fuel oil-fired liquid asphalt cement heater (1.1 NA NA Matural gas/no.2 fuel oil-fired liquid asphalt cement heater (1.1 NA NA Matural gas/no.2 fuel oil-fired liquid asphalt cement heater (1.1 NA NA Matural gas/no.2 fuel oil-fired liquid asphalt cement heater (1.1 NA NA RAP Crushing System Consisting of the Following NA NA AP-CRSH RAP Impact Crusher (65 tons per hour maximum rated capacity) NA NA RAP-SCN 8'X 20' Double Deck Screen NA NA NA RM-1 Cement Storage Silo (150-ton Capacity) RM-CCD2 Bagfiliter (1,433 square feet of filter area)	HNA-L02 Asphalt Loadout Operation Sile 2 NA NA HNA-L03 Asphalt Loadout Operation Sile 3 NA NA HNA-L04 Asphalt Loadout Operation Sile 3 NA NA HNA-L05 Asphalt Loadout Operation Sile 5 NA NA HNA-L05 Asphalt Loadout Operation Sile 5 NA NA HNA-L05 Asphalt Loadout Operation Sile 5 NA NA HNA-L05 Matural gas/no.2 fuel oil-fried liquid asphalt cement heater (1.1 NA NA Hutural gas/no.2 fuel oil-fried liquid asphalt cement heater (1.1 NA NA NA HAturaf gas/no.2 fuel oil-fried liquid asphalt cement heater (1.1 NA NA NA RAP Crushing System Consisting of the Following NA NA NA RAP-CR8H RAP impact Crusher (65 tons per hour maximum rated capacity) NA NA NA RAP-CR9 BAP impact Grusher (65 ton capacity) RMC-CD2 Bagfilter (1,433 square feet of filter area) NA RM-2 Fiyash Storage Sile (150-ton Capacity) RMC-CD2 Bagfilter (1,433 square feet of filter area) RM-3 RM-3 Truck Loadout point RMC-CD2 Bagfilter (1,4	HNA-L02 Asphalt Loadout Operation Sile 2 NA NA HNA-L03 Asphalt Loadout Operation Sile 3 NA NA HNA-L04 Asphalt Loadout Operation Sile 3 NA NA HNA-L05 Asphalt Loadout Operation Sile 5 NA NA HNA-L05 Asphalt Loadout Operation Sile 5 NA NA HNA-L05 Asphalt Loadout Operation Sile 5 NA NA HNA-L05 Matural gas/no.2 fuel oil-fried liquid asphalt cement heater (1.1 NA NA Hutural gas/no.2 fuel oil-fried liquid asphalt cement heater (1.1 NA NA NA HAturaf gas/no.2 fuel oil-fried liquid asphalt cement heater (1.1 NA NA NA RAP Crushing System Consisting of the Following NA NA NA RAP-CR8H RAP impact Crusher (65 tons per hour maximum rated capacity) NA NA NA RAP-CR9 BAP impact Grusher (65 ton capacity) RMC-CD2 Bagfilter (1,433 square feet of filter area) NA RM-2 Fiyash Storage Sile (150-ton Capacity) RMC-CD2 Bagfilter (1,433 square feet of filter area) RM-3 RM-3 Truck Loadout point RMC-CD2 Bagfilter (1,4	HMA-L02 Apphalt Loadout Operation Sile 2 NA NA HMA-L03 Apphalt Loadout Operation Sile 3 NA NA HMA-L03 Matural apphalt Loadout Operation Sile 3 NA NA HMA-L04 MA NA NA NA ESH1 Matural sprint Cartural Inglid apphalt commany heat (rg1.7) NA NA ESH2 MAD Inpact Crushing System Consisting of the Following MA NA MACCRW RAP Crushing System Consisting of the Following NA NA MAA Concrete Batch Flant (12 Clouble curves for one appacity) RRC-CD2 Beglifter (r4.33 supars feet of filter area) RM4 Concrete Batch Flant (190 con max Capacity) RRC-CD2 Beglifter (r4.33 supars feet of filter area) RM4 Consentifter aread approacity for the following	HMA Silo5	Hot mix asphalt storage silo (200 tons maximum capacity)	NA	NA
HNA-L03 Asphalt Loadout Operation Sile 3 NA NA HNA-L04 Asphalt Loadout Operation Sile 4 NA NA HNA-L05 Asphalt Loadout Operation Sile 5 NA NA ES-H1 Natural gas/ho.2 fuel of Inferd Fiquid asphalt cament heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/ho.2 fuel of Inferd Fiquid asphalt cament heater (1.1 million btu per hour maximum heat input) NA NA MACRESH RAP Crushing System Consisting of the Following AP-CRSH RAP Impact Crusher (65 tons per hour maximum rated capacity) NA NA MAP-CRSH RAP Impact Crushing System Consisting of the Following AP-CRSH RAP Impact Crusher (65 tons per hour maximum rated capacity) NA NA MAP-CRSH RAP Impact Crusher (65 tons per hour maximum rated capacity) NA NA Truck Mix Concrete Batch Plant (120 cubic yards per hour capacity) Consisting of the Following NA NA RM-1 Gemont Storage Sile (200-ton capacity) RMC-CD2 Bagfilter (1,433 square feet of filter area) RM-2 Flyash Storage Sile (200-ton capacity) RMC-CD2 Bagfilter (1,433 square feet of filter area) RM-3 Cement/Flyash Weigh Bat	HNA-L03 Asphalt Loadout Operation Sile 3 NA NA HNA-L04 Asphalt Loadout Operation Sile 4 NA NA HNA-L05 Asphalt Loadout Operation Sile 4 NA NA HNA-L03 Asphalt Loadout Operation Sile 4 NA NA ES-H1 Natural gas/ho.2 fue of Infred liquid asphalt coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/ho.2 fue of Infred liquid asphalt coment heater (1.1 million btu per hour maximum heat input) NA NA RAP Crushing System Consisting of the Following NA NA NA AP-CRSH RAP Impact Crushing System Consisting of the Following NA NA AP-CRSH RAP Impact Crushing System Consisting of the Following NA NA AP-CRSH RAP Impact Crushing Sile (200-ton capacity) NA NA RAP-SCN 8' X 20' Double Dack Screen NA NA RM-1 Gement Storage Sile (200-ton capacity) RMC-CD2 Bagfilter (1,433 square feet of filter area) RM-2 Flyash Storage Sile (200-ton capacity) RMC-CD2 Bagfilter (1,433 square feet of filter area) RM-3 Truck Loadout point RMC-CD2 <	HNA-L03 Asphalt Loadout Operation Sile 3 NA NA HNA-L04 Asphalt Loadout Operation Sile 4 NA NA HNA-L05 Asphalt Loadout Operation Sile 4 NA NA HNA-L03 Asphalt Loadout Operation Sile 4 NA NA ES-H1 Natural gas/ho.2 fue of Infred liquid asphalt coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/ho.2 fue of Infred liquid asphalt coment heater (1.1 million btu per hour maximum heat input) NA NA RAP Crushing System Consisting of the Following NA NA NA AP-CRSH RAP Impact Crushing System Consisting of the Following NA NA AP-CRSH RAP Impact Crushing System Consisting of the Following NA NA AP-CRSH RAP Impact Crushing Sile (200-ton capacity) NA NA RAP-SCN 8' X 20' Double Dack Screen NA NA RM-1 Gement Storage Sile (200-ton capacity) RMC-CD2 Bagfilter (1,433 square feet of filter area) RM-2 Flyash Storage Sile (200-ton capacity) RMC-CD2 Bagfilter (1,433 square feet of filter area) RM-3 Truck Loadout point RMC-CD2 <	NHA.103 Apphall Loadout Operation Sile 3 NA NA NRA.103 Apphall Loadout Operation Sile 3 NA NA NRA.103 Apphall Loadout Operation Sile 3 NA NA BS.11 Natural gas/back construction Sile 3 NA NA NA BS.11 Natural gas/back construction Sile 3 NA NA NA BS.11 Natural gas/back construction Sile 3 NA NA NA BS.12 Natural gas/back construction Sile 3 NA NA NA BS.12 Natural gas/back construction Sile 3 NA NA NA BS.14 Natural gas/back construction Sile 3 NA NA NA BS.14 Natural gas/back construction Sile 3 NA NA NA BS.14 Natural gas/back construction Sile 3 NA NA NA BAP.CRM Gas assume for sour maximum matic capacity NA NA NA Truck Mix Concervets Batch Plant (120 cubic yards per hour capacity) RMC-DD2 Bag/life (1(433 square fort of filter rans) RM-3 Agressite Weigh Batcher (25 ton max Capacity) RM NA NA	HMA-LO1	Asphalt Loadout Operation Silo 1	NA	NA
HNA-L04 Asphalt Loadout Operation Silo 4 NA NA HMA-L05 Asphalt Loadout Operation Silo 5 NA NA ES-H1 Natural gas/no.2 fuel oll-fired liquid asphalt coment heator (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphalt coment heator (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphalt coment heator (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphalt coment heator (1.1 million btu per hour maximum heat input) NA NA RAP Crusher (65 tons per hour maximum rated capacity) NA NA NA RAP-CRSH RAP Impact Crusher (65 tons per hour maximum rated capacity) NA NA RAP-CRSN 63 X 20' Double Dack Screen NA NA Truck Mix Concrete Batch Plant (120 Cubic yards per hour capacity) RM-CD2 Bagfilter (1,433 square feet of filter area) RM-1 Cement Storage Silo (150-ton Capacity) RMC-CD2 Bagfilter (1,433 square feet of filter area) RM-3 Truck Loadout point RMC-CD2 Bagfilter (1,433 square feet of filter area) RM-5 Aggregate Weigh	HNA-L04 Asphalt Loadout Operation Silo 4 NA NA HMA-L05 Asphalt Loadout Operation Silo 5 NA NA ES-H1 Natural gas/no.2 fuel oll-fired liquid asphalt coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphalt coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphalt coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphalt coment heater (1.1 million btu per hour maximum heat input) NA NA RAP Crusher (65 tons per hour maximum rated capacity) NA NA NA RAP-CRSH RAP Impact Crusher (65 tons per hour maximum rated capacity) NA NA RAP-CRSH RAP Corcete Batch Plant (120 Cubic yards per hour capacity) NA NA RM-1 Cement Storage Silo (150-ton Capacity) RMC-CD2 Bagfilter (1,433 square feet of filter area) RM-2 Flyash Storage Silo (150-ton max Capacity) RMC-CD2 Bagfilter (1,433 square feet of filter area) RM-3 Truck Loadout point RMC-CD2 Bagfilter (1,433 square feet of filter area) NA	HNA-L04 Asphalt Loadout Operation Silo 4 NA NA HMA-L05 Asphalt Loadout Operation Silo 5 NA NA ES-H1 Natural gas/no.2 fuel oll-fired liquid asphalt coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphalt coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphalt coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphalt coment heater (1.1 million btu per hour maximum heat input) NA NA RAP Crusher (65 tons per hour maximum rated capacity) NA NA NA RAP-CRSH RAP Impact Crusher (65 tons per hour maximum rated capacity) NA NA RAP-CRSH RAP Corcete Batch Plant (120 Cubic yards per hour capacity) NA NA RM-1 Cement Storage Silo (150-ton Capacity) RMC-CD2 Bagfilter (1,433 square feet of filter area) RM-2 Flyash Storage Silo (150-ton max Capacity) RMC-CD2 Bagfilter (1,433 square feet of filter area) RM-3 Truck Loadout point RMC-CD2 Bagfilter (1,433 square feet of filter area) NA	NHA-L04 Appheil Loadout Operation Sile 4 NA NA NAL05 Appheil Loadout Operation Sile 5 NA NA ESH1 Natural gambio 2 famil Birth of Sile 10 Sile 5 NA NA ESH1 Natural gambio 2 famil Birth of Sile 5 NA NA ESH1 Natural gambio 2 famil Birth of Sile 6 NA NA RAP Crushing System Consisting of the Following NA NA RAP-CR8M RAP Impact Crusher (05 tone par hour maximum ratid capacity) NA NA RAP-CR8M RAP Impact Crusher (05 tone par hour maximum ratid capacity) NA NA RAP-CR8M Bart Crusher (05 tone par hour maximum ratid capacity) NA NA RAP-CR8M Common Storage Sile (200-ton capacity) RMC-DD2 Bagritter (1,433 aquare fact of filter rates) RM-4 Common Storage Sile (200-ton capacity) RMC-DD2 Bagritter (1,433 aquare fact of filter rates) RM-5 Aggregate Molejii Batcher (24-ton max Capacity) RMC-DD2 Bagritter (1,433 aquare fact of filter rates) RM-5 Aggregate Molejii Batcher (24-ton max Capacity) RMC-DD2 Bagritter (1,433 aquare fact of filter rates) RM-6 Aggregate Molejiii Batcher (24-ton max Cap	HMA-LO2	Asphalt Loadout Operation Silo 2	NA	NA
HNA-L04 Asphalt Loadout Operation Silo 4 NA NA HMA-L05 Asphalt Loadout Operation Silo 5 NA NA ES-H1 Natural gas/no.2 fuel oll-fired liquid asphalt coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphalt coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphalt coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphalt coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphalt coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 NA NA NA NA AP-CRSH RAP Crushing System Consisting of the Following AP-CRSH RAP Impact Crusher (55 tons per hour maximum rated capacity) NA NA AP-SCN (4) Conveyors NA NA NA RAP-SCN Y 20' bouble back Screen NA NA NA RM-1 Cemont Storage Silo (150-ton Capacity) RM-CD2 Bagfilter (1,433 square feet of filter area) </td <td>HNA-L04 Asphait Loadout Operation Silo 4 NA NA HMA-L05 Asphait Loadout Operation Silo 5 NA NA ES-H1 Natural gas/no.2 fuel oll-fired liquid asphait coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphait coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphait coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphait coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphait coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 NATOR Crusher (55 tons per hour maximum rated capacity) NA NA NA ARP-CRSH RAP Impact Crusher (55 tons per hour maximum rated capacity) NA NA NA RAP-SCN (4) Conveyors NA NA NA NA RAP-SCN 10 colle back Screen NA NA NA NA RM-2 Flyash Storage Silo (150-ton Capacity) RM-CcD2 Bagfilter (1,433 square feet of filter area)<</td> <td>HNA-L04 Asphait Loadout Operation Silo 4 NA NA HMA-L05 Asphait Loadout Operation Silo 5 NA NA ES-H1 Natural gas/no.2 fuel oll-fired liquid asphait coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphait coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphait coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphait coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphait coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 NATOR Crusher (55 tons per hour maximum rated capacity) NA NA NA ARP-CRSH RAP Impact Crusher (55 tons per hour maximum rated capacity) NA NA NA RAP-SCN (4) Conveyors NA NA NA NA RAP-SCN 10 colle back Screen NA NA NA NA RM-2 Flyash Storage Silo (150-ton Capacity) RM-CcD2 Bagfilter (1,433 square feet of filter area)<</td> <td>NMA-L04 Apphalt Leadout Operation Sile A NA NA NMA-L05 National section 2 field apphalt Leadout Operation Sile S NA NA MMA-L05 National section 2 field apphalt Leadout Operation Sile S NA NA million Sile park ber maximum heat ingout (1,1) NA NA NA E8-H12 Natural geathora: field apphalt Leadout Operation Meat ingout (1,1) NA NA RAP Crushing System Consisting of the Following NA NA RAP-CR8H RAP Impact Crusher (65 ton par hour maximum rated cagacity) NA NA RAP-CR8H RAP Impact Crusher (65 ton par hour maximum rated cagacity) NA NA RAP-CR8H RAP Impact Storage Sile (200-ton cagacity) RMC-D02 Bagitter (1,433 square field filler res) RM-1 Cement Storage Sile (200-ton cagacity) RMC-D02 Bagitter (1,433 square field filler res) RM-2 Flynch Storage Sile (200-ton cagacity) RMC-D02 Bagitter (1,433 square field filler res) RM-3 Truck Kink Control to paint (1,433 square field filler res) NA NA RM-4 Commut Flynch Weigh Batcher (26-ton max Cagacity) NA NA RM-5 Aggregate Weigh Batcher (26-ton max Cagacity) NA NA RM-6 Aggregate Weigh Batcher (26-ton max Cagacity) NA N</td> <td>HMA-LO3</td> <td>Asphalt Loadout Operation Silo 3</td> <td>NA</td> <td>NA</td>	HNA-L04 Asphait Loadout Operation Silo 4 NA NA HMA-L05 Asphait Loadout Operation Silo 5 NA NA ES-H1 Natural gas/no.2 fuel oll-fired liquid asphait coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphait coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphait coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphait coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphait coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 NATOR Crusher (55 tons per hour maximum rated capacity) NA NA NA ARP-CRSH RAP Impact Crusher (55 tons per hour maximum rated capacity) NA NA NA RAP-SCN (4) Conveyors NA NA NA NA RAP-SCN 10 colle back Screen NA NA NA NA RM-2 Flyash Storage Silo (150-ton Capacity) RM-CcD2 Bagfilter (1,433 square feet of filter area)<	HNA-L04 Asphait Loadout Operation Silo 4 NA NA HMA-L05 Asphait Loadout Operation Silo 5 NA NA ES-H1 Natural gas/no.2 fuel oll-fired liquid asphait coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphait coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphait coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphait coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oll-fired liquid asphait coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 NATOR Crusher (55 tons per hour maximum rated capacity) NA NA NA ARP-CRSH RAP Impact Crusher (55 tons per hour maximum rated capacity) NA NA NA RAP-SCN (4) Conveyors NA NA NA NA RAP-SCN 10 colle back Screen NA NA NA NA RM-2 Flyash Storage Silo (150-ton Capacity) RM-CcD2 Bagfilter (1,433 square feet of filter area)<	NMA-L04 Apphalt Leadout Operation Sile A NA NA NMA-L05 National section 2 field apphalt Leadout Operation Sile S NA NA MMA-L05 National section 2 field apphalt Leadout Operation Sile S NA NA million Sile park ber maximum heat ingout (1,1) NA NA NA E8-H12 Natural geathora: field apphalt Leadout Operation Meat ingout (1,1) NA NA RAP Crushing System Consisting of the Following NA NA RAP-CR8H RAP Impact Crusher (65 ton par hour maximum rated cagacity) NA NA RAP-CR8H RAP Impact Crusher (65 ton par hour maximum rated cagacity) NA NA RAP-CR8H RAP Impact Storage Sile (200-ton cagacity) RMC-D02 Bagitter (1,433 square field filler res) RM-1 Cement Storage Sile (200-ton cagacity) RMC-D02 Bagitter (1,433 square field filler res) RM-2 Flynch Storage Sile 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HNA-L05 Asphalt Loadout Operation Silo 5 NA NA ES-H1 Natural gas/no.2 fuel oil-fired liquid asphalt coment heater (1.2 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oil-fired liquid asphalt coment heater (1.1 million btu per hour maximum heat input) NA NA ES-H2 Natural gas/no.2 fuel oil-fired liquid asphalt coment heater (1.1 million btu per hour maximum heat input) NA NA AP-CRSH RAP Crushing System Consisting of the Following IAP-CRSH RAP Impact Grusher (65 tons per hour maximum rated capacity) NA NA RAP-SN 8'X 20' Double Deck Screen NA NA Truck Mix Concrete Batch Plant (120 cubic yards per hour capacity) RM-6 Eseliter (1,433 square feet of filter area) RM-1 Gement Storage Sile (050-ton capacity) RMc-CD2 Bagfilter (1,433 square feet of filter area) RM-3 Truck Loadout point RMc-CD2 Bagfilter (1,433 square feet of filter area) RM-4 Cement/Flyash Weigh Batcher (25-ton max Capacity) NA NA RM-5 Aggregate Weigh Batcher (50-ton max Capacity) NA NA RM-5 Aggregate 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			please specify in detail how your facility avoided applicability: facility is Subject to 112(r), please complete the following: Have you already submitted a Risk Management Plan (RMP) to EPA Pursuant to 40 CFR Part 68.10 or Part 68.150? Yes No Specify required RMP submitted date: If submitted, RMP submitted date: Are you using administrative controls to subject your facility to a lesser 112(r) program standard? Yes No If yes, please specify: List the processes subject to 112(r) at your facility:			· · · · · · · · · · · · · · · · · · ·	
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From: Sent: To: Subject: Scott Martino <smartino@thesunrockgroup.com> Thursday, January 23, 2020 3:13 PM Governale, Leo [External] follow up

Hi Leo,

I followed up with the modelers. The F2 is nothing it was left over from an initial runs and they forgot to take it out. As for the heaters. I spoke with the modelers they modeled ESH-2 as the bigger unit 1.2-btu and ESH-1 is the 1.1 btu unit. On my a2 form I gave you it would look like this:

1

ESH-1 (1.1 btu) = ES-H2

ESH-2 (1.2 btu) = ES-H1

Let me know if that makes sense and if you need anything else.

Thanks

Scott Martino

Environmental Compliance Manager/Mine Engineer Carolina Sunrock 200 Horizon Drive Suite 100 Raleigh, NC 27615 Office Phone:(919) 7476336 Cell (984) 202-4761



Wright, Dylan A

From: Sent: To: Subject: Attachments: Scott Martino <smartino@thesunrockgroup.com> Thursday, January 30, 2020 9:11 AM Wright, Dylan A; Governale, Leo [External] C1 ASTEC RBH 51-12.pdf; C1 Sent.xlsx

CAUTION:

Hi Guys,

Sorry I am in meeting and tied up most of today. the only things I notice from what I sent Leo earlier in the month is I hit a 6 instead of a 3 on number of cartages, thus messing up the calculations. I fixed up the form and attached is the vender drawling for the baghouse with specs and below is what they provided me on the ratios.

1

 BURLINGTON NORTH
 SER NO
 03-201-3001

 RBH 51-12
 IS A 51000 CFM BAGHOUSE WITH 738
 4-5/8" X 120.5"BAGS

 8968 SF OF CLOTH
 5.68 AIR TO CLOTH

Let me know if you need anything else

Thanks Scott

Scott Martino

Environmental Compliance Manager/Mine Engineer Carolina Sunrock 200 Horizon Drive Suite 100 Raleigh, NC 27615 Office Phone:(919) 7476336 Cell (984) 202-4761



REVISED 09/22/16	NCDEQ/D	ivision of Air Quality	 Application 	for Air Perr	nit to C	onstruct/Operate			
CONTROL DEVICE ID NO: HMA-CD1		CONTROLS EMIS						Form A284	
EMISSION POINT (STACK) ID NO(S):	EP-1	POSITION IN SER				NO		OF 1	UNITS
						•			
			P.E. SEAL R	EQUIRED (PER 2q	.0112)?	YES		J NO
DESCRIBE CONTROL SYSTEM: Hot N	lix Asphalt Pla	nt Bag House Mo							
o 51,111 ACFM	· • • •								
o (768) 4-5/8" Ø x 10' long 14oz ar	-			•					- -
o 8,968 ft2 cloth area; 5.68 fpm fil o 41-5/8" (D stack; 31'-0" discharg	-								· · ·
o Integral 9' Ø x 10' long horizonta		-							
								<u>.</u>	
POLLUTANTS COLLECTED:		.*	PM	P	M10			-	
BEFORE CONTROL EMISSION RATE (L	B/HR):	•	See 4	ppendix /	4		-		-
· · · · · · · · · · · · · · · · · · ·							-		-
CAPTURE EFFICIENCY:			99.99	% <u></u>	9.99	%	%		%
CONTROL DEVICE EFFICIENCY:			90	%	90	%	%		%
CORRESPONDING OVERALL EFFICIEN	ICY:		93		90	%	- %		
			1		1	70 <u></u>	_ 70		-
EFFICIENCY DETERMINATION CODE:			8.25	<u></u>	5.75		-		•
TOTAL AFTER CONTROL EMISSION R/	TE (LB/HR):		0.23		0.70	<u> </u>	-		
PRESSURE DROP (IN H20): MIN:	MAX:	GAUGE?	VES		10	· · · · · · · · · · · · · · · · · · ·			
BULK PARTICLE DENSITY (LB/FT ³)-54			INLET TEMP	ERATURE	<u>(°f):</u>	MIN Amblent	MAX	325	-
POLLUTANT LOADING RATE:		GR/FT ⁸	OUTLET TE			MIN Ambient	MAX .	325	-
INLET AIR FLOW RATE (ACFM): 51,11	· 1	DED 0010101070101	FILTER OPE	RATING TE	EMP ("f):		·	·	
NO. OF COMPARTMENTS: 3 NO. OF CARTRIDGES: 738		PER COMPARTMEN		40.44		LENGTH OF BAG			
TOTAL FILTER SURFACE AREA (FT ²);		AIR TO CLOTH RA	· · · · · · · · · · · · · · · · · · ·			DIAMETER OF B		: 4 5/8	
	-			FILT	ER MA	TERIAL:	WOV		FELTED
DESCRIBE CLEANING PROCEDURES:									
AIR PULSE		SONIC	•		· I	SIZE	W	EIGHT %	CUMULATIV
REVERSE FLOW	🗀	SIMPLE BAG COLI	LAPSE			(MICRONS)	•	F TOTAL	%
MECHANICAL/SHAKER		RING BAG COLLA	PSE			0-1	1	40	40.2
OTHER:					· [1-10		60	100
DESCRIBE INCOMING AIR STREAM: H	ot Air from Dr	ying and Mixing D	rums in HMA	Plant\		10-25	1	<u> </u>	
х -	:					25-50	1		
						50-100	1		
					ŀ	>100	1		
	1.1	•				- 100	<u> </u>	TOTA	= 100
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ON A SEPARATE PAGE, ATTACH A DIA	GRAM SHOWIN	G THE RELATIONSH							L = 100
ON A SEPARATE PAGE, ATTACH A DIA COMMENTS:	GRAM SHOWIN	G THE RELATIONSH	IP OF THE CO					E(S):	
ON A SEPARATE PAGE, ATTACH A DIA COMMENTS:	GRAM SHOWIN	G THE RELATIONSH	IP OF THE CO	NTROL DE				E(S):	
ON A SEPARATE PAGE, ATTACH A DIA COMMENTS:	GRAM SHOWIN	G THE RELATIONSH	IP OF THE CO		VICE TO			E(S):	
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ON A SEPARATE PAGE, ATTACH A DIA COMMENTS:	GRAM SHOWIN	G THE RELATIONSH	IP OF THE CO	NTROL DEV	VICE TO			E(S): NC Dep ivironm Rec JAN	Partment c ental Qua ceived 3 0 2020
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REVIGED



BAGHOUSE GF	ROUP - FOR AP	PROVAL
Ronny L. Funderburk	10:15 am	1/ 7 /2003
(MMMOVED IN)	enver	SATE BARATTER