



NOV 03 2015

Tom Ferrell  
CalMat of Central California  
11599 Old Friant Road  
Fresno, CA 93730

**Re: Notice of Preliminary Decision - Authority to Construct**  
**Facility Number: S-8623**  
**Project Number: S-1153558**

Dear Mr. Ferrell:

Enclosed for your review and comment is the District's analysis of CalMat of Central California's application for an Authority to Construct for an asphalt concrete batch plant, at 16101 Highway 166 near Bakersfield.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. After addressing all comments made during the 30-day public notice period, the District intends to issue the Authority to Construct. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. David Torii of Permit Services at (661) 392-5620.

Sincerely,



Arnaud Marjollet  
Director of Permit Services

AM:dbt/ya

Enclosures

cc: Mike Tollstrup, CARB (w/ enclosure) via email

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Executive Director/Air Pollution Control Officer

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**San Joaquin Valley Air Pollution Control District**  
**Authority to Construct Application Review**  
**Hot Mix Asphaltic Concrete Manufacturing Operation**

Facility Name: CalMat of Central California dba Vulcan Materials Company      Date:  
Mailing Address: 11599 Old Friant Road      Engineer: David Torii  
Fresno, CA 93730      Lead Engineer: Rich Karrs  
Contact Person: Tom Ferrell  
Telephone: 925-580-6690  
Application #(s): S-8623-2-0 and '3-0  
Project #: 1153558  
Deemed Complete: 6/9/15

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**I. Proposal**

CalMat of Central California (CCC) has requested Authority to Construct (ATC) permits for the installation of a hot mix asphaltic concrete batch plant (HMA) and an aggregate unloading system.

The proposed HMA will be located at the same location as the S-1538 stationary source which includes rock crushing and screening equipment. S-1538's rock plant will supply approximately 25% of its aggregate to the proposed HMA. Pursuant to policy SSP 1405, since the rock plant produces rock for purposes other than the HMA and because the rock plant will not be physically tied to the HMA via conveyors, pipes, ducts, etc. it is considered to be a separate stationary source from S-1538's rock plant.

**II. Applicable Rules**

Rule 2201      New and Modified Stationary Source Review Rule (4/21/11)  
Rule 2410      Prevention of Significant Deterioration (6/16/11)  
Rule 2520      Federally Mandated Operating Permits (6/21/01)  
Rule 4001      New Source Performance Standards (4/14/99)  
Rule 4002      National Emissions Standards for Hazardous Air Pollutants (5/20/04)  
Rule 4101      Visible Emissions (2/17/05)  
Rule 4102      Nuisance (12/17/92)  
Rule 4201      Particulate Matter Concentration (12/17/92)  
Rule 4309      Dryers, Dehydrators, and Ovens (12/15/05)  
Rule 4641      Cutback, Slow Cure, Emulsified Asphalt, Paving and Maintenance  
Operations (12/17/92)  
Rule 4801      Sulfur Compounds (12/17/92)  
CH&SC 41700      Health Risk Assessment  
CH&SC 42301.6      School Notice  
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)  
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA  
Guidelines

### III. Project Location

The facility is located at 16101 Highway 166 in Kern County. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

### IV. Process Description

The HMA plant produces asphaltic concrete (AC), which is a mixture of aggregate, reclaimed asphalt pavement (RAP), and liquid asphalt cement, which is heated and mixed in measured quantities to produce hot mix asphalt (HMA).

The basic HMA plant process involves removing oversize aggregate and RAP, removing moisture from the aggregate, heating the aggregate, heating the asphalt cement, mixing the aggregate, RAP, and liquid asphalt cement until the aggregate particles are coated uniformly with liquid asphalt cement. This facility utilizes a drum mix. In a drum mix operation aggregate is not only dried and heated within the drum, but also mixed with the asphalt cement.

Aggregate is transported via front end loader into a grizzly feeder and conveyed to a radial stacker onto stockpiles (permitted under S-8623-2). Aggregate from the stockpiles are loaded into the appropriate cold feed hopper using front-end loaders. The aggregate cold feed system will utilize five cold feed hoppers to meter the required sized aggregate onto a conveyor belt, which transports the aggregate into a vibrating screen. The vibrating screen is utilized to remove oversized aggregate prior to conveying into the rotary drum dryer/mixer.

RAP is received from offsite and unloaded onto open storage piles. RAP from the storage piles are loaded into the RAP feed system, which utilizes two feed hoppers to meter the required RAP onto a conveyor belt and drops the RAP into a vibrating screen. From the vibrating screen the sized RAP is conveyed into the rotary drum dryer/mixer.

The sized aggregate and RAP are dropped into the rotary drum and heated by a 107 MMBtu/hr natural gas or vaporized propane fired burner. Heated liquid asphalt cement is pumped from the storage tanks into the rotary drum mixer. The heated aggregate and RAP are mixed with liquid asphalt cement as it flows through the rotary drum dryer/mixer. The produced hot mixed asphalt concrete is dropped out the discharged chute onto an inclined drag conveyor, which transports the product into the truck loadout storage silo.

The liquid asphalt cement is received and stored in aboveground storage tanks. The storage tanks are heated with an exempt 2.0 MMBtu/hr indirect natural gas or vaporized propane fired burners.<sup>(1)</sup>

VOC and PM<sub>10</sub> emissions are generated from the conveying, drying, and mixing operations. In the Gencor Ultradrums portable drum mix plant, natural gas or vaporized propane will be used to fire a 107 MMBtu/hr low-NO<sub>x</sub> burner used to dry and heat the aggregate. The burner generates NO<sub>x</sub>, VOC, CO, SO<sub>x</sub> and PM<sub>10</sub> emissions. The emissions from the proposed Gencor Ultradrums portable drum mix plant are served by a Gencor Model CFP-182 baghouse.

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<sup>1</sup> Since the process heater is indirect fired and has a firing rate less than 5 MMBtu/hr, it is exempt from permits as per District Rule 2020, section 6.1.1. The 2.0 MMBtu/hr natural gas or propane fired process heater was issued a District Permit Exempt Equipment Registration under N-7672-PEER-1-0 as processed under project number N-1084125.

The hot mix asphalt concrete will be transported from the rotary drum dryer/mixer into the product storage silo by an incline drag conveyor. One 100 ton product storage silo will be located over a truck scale for truck loading. The produced hot mix asphalt concrete is discharged from the storage silos through "clam style" gates into awaiting transport trucks for delivery to paving sites.

VOC, CO, PM<sub>10</sub> emissions are generated from the storage and loadout operations. The emissions will be controlled by venting the silo and truck loadout to the burner of the drum dryer for emissions control.

## V. Equipment Listing

S-8623-2-0: AGGREGATE UNLOADING INCLUDING RECEIVING HOPPER, CONVEYORS AND RADIAL STACKER

S-8623-3-0: HOT MIX ASPHALTIC CONCRETE DRUM MIX PLANT INCLUDING FIVE COLD FEED AGGREGATE BINS EACH WITH A FEED BELT CONVEYOR, TWO RAP BINS EACH WITH A FEED BELT CONVEYOR, ONE AGGREGATE COLLECTING CONVEYOR FEEDING A VIBRATING SCREEN WITH A DRUM MIXER FEED CONVEYOR, ONE RAP COLLECTING CONVEYOR FEEDING A VIBRATING SCREEN WITH A DRUM MIXER FEED CONVEYOR, ONE 107 MMBTU/HR NATURAL GAS OR PROPANE FIRED GENCOR ULTRADRYER MODEL 400 (9'9"X44'L) DRUM DRYER/MIXER WITH A LOW-NOX BURNER VENTED TO A GENCOR MODEL CFP-182 BAGHOUSE, ONE ENCLOSED DRAG SLAT CONVEYOR AND ONE 100-TON ASPHALT CONCRETE STORAGE SILO VENTED TO THE DRUM DRYER BURNER AND A TRUCK LOADOUT VENTED TO THE DRUM DRYER BURNER

## VI. Emission Control Technology Evaluation

The facility will control the PM emissions from the loading and conveying of the cold feed aggregate material with the use of high moisture content material and water fog sprays at conveyor transfer points and other loading operations when needed. The high moisture content of the material being processed will prevent visible emissions in excess of 5% opacity. The inactive stockpiles will be watered on an as needed basis to reduce fugitive dust emissions.

The facility will also utilize precleaned and presized RAP, which is typically sized to 1" minus when utilized in the HMA plant. The inherent asphalt oil content (typically 4.0%) of the RAP functions as a binding medium to minimize fugitive dust emissions.

The drum dryer uses a low NOx burner with maximum NOx emissions of 3.8 ppmvd @ 19% O<sub>2</sub> and maximum CO emissions of 42 ppmvd @ 19% O<sub>2</sub>. The drum dryer will also be fired on natural gas or propane. The particulate matter (PM) emissions from the drum dryer/mixer will be vented to a baghouse with a PM<sub>10</sub> control efficiency of at least 99%.

Gencor Model CFP-182 Baghouse Filtering Velocity = 4.9 fpm

The recommended maximum filtering velocity for rock dust collection in a baghouse or dust collector, served by a reverse air flow cleaning system, is 9 fpm (Reference from Air Pollution Engineering Manual, Air & Waste Management Association –1992 Table 5, page 128). The proposed baghouse will operate within the recommended maximum filtering velocity.

Therefore, the baghouse will be acceptable and permit conditions will be used to ensure compliance with all applicable requirements.

PM<sub>10</sub> and VOC emissions (blue smoke) due to the loading, storage, and unloading of the AC will be vented to the burner of the drum dryer, which is also vented through a baghouse for emissions control.

## VII. General Calculations

### A. Assumptions

#### For aggregate unloading operation S-8623-2-0:

- Particulate matter (PM) is the only pollutant that will be emitted from the aggregate unloading operation
- Throughput: 5640 ton/day and 376,000 tonas/year (applicant)
- Stockpile area: 2 acres (applicant)

#### For HMA Operation S-8623-3-0:

- Particulate matter (PM) is the only pollutant that will be emitted from the storage, loading, conveying and screening of the cold feed aggregate and reclaim asphalt pavement (RAP).
- The cold feed aggregate will have a moisture content of at least 1.5%. Pursuant to AP-42 11.19.1-5, wet suppression has a carryover effect downstream of the point of application of water, as long as the surface moisture content is high enough to cause the fines to adhere to the larger rock particles. Therefore, water sprays are not required at every transfer point to maintain high moisture content.
- The RAP will have an asphalt oil content of 4.0% (applicant)
- The PM<sub>10</sub> control efficiency of water spray equipment for the storage piles is 80%. Pursuant to AP-42 11.19.1-5, spray systems can reduce loading and wind erosion emissions from storage piles of various materials 80 to 90% (80% shall be used as a conservative estimate).
- NO<sub>x</sub>, CO, SO<sub>x</sub>, VOC, and PM<sub>10</sub> will be emitted from the combustion of natural gas or propane and from the mixing of the asphaltic oil with aggregate and RAP in the drum dryer/mixer.
- Heat input to the drum dryer/mixer burner shall not exceed 1,350 MMBtu in any one day and 107,000 MMBtu in any one calendar year (applicant)
- Baghouse control efficiency of at least 99% for PM<sub>10</sub> (typical)
- 100% of the particulate matter emitted from the baghouse will be PM<sub>10</sub>.
- PM<sub>10</sub>, VOC, and CO will be emitted from the filling of the AC storage silo and the truck loadout of the AC.
- Emissions from the asphalt concrete storage silo vent and silo discharge gate will be vented to the burner of the drum dryer. In addition, the drum dryer is vented through a baghouse.
- The VOC control efficiency of ducting the asphalt concrete storage silo vent and silo discharge gate (truck loadout) to the burner of the drum dryer is at least 30%<sup>(2)</sup>.

<sup>2</sup> Worse case control efficiency of 30% will be used to calculate the VOC emissions as estimated under District Project # N-1010128 (Permit N-4473-2-1).

- The PM<sub>10</sub> control efficiency of ducting the asphalt concrete storage silo vent and silo discharge gate (truck loadout) to the burner of the rotary drum drier/mixer and associated baghouse is at least 95%<sup>(3)</sup>.

## B. Emission Factors

### For Aggregate Unloading Operation S-8623-2-0:

Throughput: 5640 ton/day and 376,000 tons/year

#### Grizzly Bin Loading:

An emission factor for truck unloading – fragmented stone from SSP 1610 Table 1 will be used for the aggregate grizzly bin loading.

$$EF_{\text{Aggregate Bin Loading}} = 0.000016 \text{ /ton lb-PM}_{10}$$

#### Screening and Conveyor Transfer Points:

An emission factor for conveyor transfer points (controlled, min. 1.5% moisture content) from SSP 1610 Table 1 will be used for the conveyor transfer points.

$$EF_{\text{Screening/Conveyor Transfer Point}} = 0.000046 \text{ lb-PM}_{10}/\text{ton}$$

#### Storage Pile:

An emission factor for storage piles from SSP 1610 Table 1 will be used for the storage piles.

$$EF_{\text{Storage piles}} = 5.27 \text{ lb/acre/day (uncontrolled)}$$

Per AP-42, Section 11.19.1-5 (11/95) water spray systems can reduce loading and wind erosion emissions from storage piles 80 to 90%. The aggregate will be sufficiently moistened to achieve 80% PM<sub>10</sub> control.

$$EF_{\text{Storage piles}} = 5.27 \text{ lb/acre/day} \times 0.2 = 1.05 \text{ lb/acre/day (controlled)}$$

### For HMA Operation S-8623-3-0:

#### Cold Feed Aggregate & RAP Bin Loading:

An emission factor for truck unloading – fragmented stone from SSP 1610 Table 1 will be used for the aggregate bin loading.

$$EF_{\text{Aggregate Bin Loading}} = 0.000016 \text{ /ton lb-PM}_{10}$$

#### Screening and Conveyor Transfer Points:

<sup>3</sup> The PM<sub>10</sub> emissions from the asphalt storage silos and truck loadout operation will be ducted to the burner of the drum dryer/mixer and the drum dryer/mixer is vented through a fabric filter baghouse. Therefore, it will be assumed that the total control efficiency for PM<sub>10</sub> emissions will be equivalent to that of a blue smoke control unit utilizing a filter pack and a conservative control efficiency of 95% will be used to calculate the PM<sub>10</sub> emissions.

An emission factor for conveyor transfer points (controlled) SSP 1610 Table 1 will be used for the scalping screen and conveyor transfer points.

$$EF_{\text{Screening/Conveyor Transfer Point}} = 0.000046 \text{ lb-PM}_{10}/\text{ton}$$

Aggregate & RAP Stockpiles:

An emission factor for storage piles from SSP 1610 Table 1 will be used for the aggregate & RAP stockpiles.

$$EF_{\text{Storage piles}} = 5.27 \text{ lb/acre/day (uncontrolled)}$$

Per AP-42, Section 11.19.1-5 (11/95) water spray systems can reduce loading and wind erosion emissions from storage piles 80 to 90%. The aggregate will be sufficiently moistened to achieve 80% PM10 control.

$$EF_{\text{Storage piles}} = 5.27 \text{ lb/acre/day} \times 0.2 = 1.05 \text{ lb/acre/day (controlled)}$$

Drum Dryer:

NO<sub>x</sub>, CO, VOC, and PM<sub>10</sub> emission factors (EF) for the 107 MMBtu/hr Gencor Ultradrums Model 400 rotary drum dryer/mixer emissions will be based on the emission factors proposed by the equipment manufacturer. These emission factors include both emissions from the combustion of the fuel and from combustion of emissions from the mixing of the AC. The proposed EFs will be verified by source testing. The EF for SO<sub>x</sub> from natural gas combustion is based on a mass balance with 1.0 gr-S/100 scf per District Policy APR 1720. The EF for SO<sub>x</sub> emissions from the combustion of propane is based on the emission factor from AP-42, Table 1.5-1 (Updated 10/96) with a maximum sulfur content of 15 gr/100 scf.

Pollutant	EF <sub>Natural Gas</sub>	EF <sub>Propane</sub>
NO <sub>x</sub>	0.044 lb/MMBtu or 3.8 ppmv @ 19% O <sub>2</sub> (Manufacturer Proposed)	0.011 lb/ton or 0.044 lb/MMBtu or 3.8 ppmv @ 19% O <sub>2</sub> (Manufacturer Proposed)
CO	0.293 lb/MMBtu or 42 ppmv @ 19% O <sub>2</sub> (Manufacturer Proposed)	0.076 lb/ton or 0.293 lb/MMBtu or 42 ppmv @ 19% O <sub>2</sub> (Manufacturer Proposed)
VOC	0.001 lb/ton <sup>(4)</sup>	0.001 lb/ton
PM <sub>10</sub>	0.00086 lb/ton <sup>(6)</sup>	0.00086 lb/ton
SO <sub>x</sub>	0.00285 lb/MMBtu (District Policy APR 1720)	0.016 lb/MMBtu <sup>(5)</sup> (AP-42, Table 1.5-1 (10/96))

<sup>4</sup> Pursuant to APR 1110, the applicant proposes to use a source test performed on the equipment in 2010 to establish a new emission factor. To include a margin of compliance over the source test results, the applicant proposes to double the source tested amounts for VOC and PM10 of 0.0005 lb/ton and 0.0043 lb/ton respectively.

<sup>5</sup> Based on a maximum sulfur content for propane of 15 gr/100 scf (CRC Handbook of Tables for Applied Engineering Science, 2<sup>nd</sup> Edition, page 390):

SO<sub>x</sub> (Propane) = 0.1(S), where S = sulfur content in gr/100 scf = 0.1(15) = 1.5 lb/1,000 gal

Based on the heating value for vaporized propane of 94,000 Btu (Per Applicant):

EF (SO<sub>x</sub>) = 1.5 lb/1,000 gal × 1 gal/94,000 Btu × 10<sup>6</sup> Btu/MMBtu = 0.016 lb/MMBtu

AC Storage Silos and Truck Loadout:

Emission factors (EF) for the filling of the AC storage silos and the truck loadout of the AC for VOC, CO, and PM<sub>10</sub> emissions are based on the emission factors from AP-42, Table 11.1-14 (Updated 3/04). According to the equipment manufacturer, the Asphalt Volatility (V) is -0.5 and the Hot Mix Asphalt mix temperature (T) is 325 °F. Therefore:

Silo Filling Emission Factors (EF):

$$\begin{aligned}
 EF_{\text{VOC/Silo Filling}} &= 0.0504(-V)e^{((0.0251)(T + 460) - 20.43)} \\
 &= 0.0504(0.5)e^{((0.0251)(325 + 460) - 20.43)} \\
 &= 0.0122 \text{ lb-VOC/ton} \\
 \\
 EF_{\text{CO/Silo Filling}} &= 0.00488(-V)e^{((0.0251)(T + 460) - 20.43)} \\
 &= 0.00488(0.5)e^{((0.0251)(325 + 460) - 20.43)} \\
 &= 0.00118 \text{ lb-CO/ton} \\
 \\
 EF_{\text{PM}_{10}\text{/Silo Filling}} &= 0.000332 + 0.00105(-V)e^{((0.0251)(T + 460) - 20.43)} \\
 &= 0.000332 + 0.00105(0.5)e^{((0.0251)(325 + 460) - 20.43)} \\
 &= 0.000586 \text{ lb-PM}_{10}\text{/ton}
 \end{aligned}$$

The applicant is proposing to control the VOC and PM<sub>10</sub> emissions by ducting the emissions to the burner of the rotary drum dryer/mixer with a control efficiency of at least 30% and 95%, respectively. The proposed controlled EF is the following for silo filling:

$$\begin{aligned}
 EF_{\text{VOC/Silo Filling (Controlled)}} &= 0.0122 \text{ lb-VOC/ton} \times (1 - 0.30) = 0.0085 \text{ lb-VOC/ton} \\
 \\
 EF_{\text{PM}_{10}\text{/Silo Filling (Controlled)}} &= 0.000586 \text{ lb-PM}_{10}\text{/ton} \times (1 - 0.95) \\
 &= 0.000029 \text{ lb-PM}_{10}\text{/ton}
 \end{aligned}$$

Silo Loadout Emission Factors (EF):

$$\begin{aligned}
 EF_{\text{VOC/Loadout}} &= 0.0172(-V)e^{((0.0251)(T + 460) - 20.43)} \\
 &= 0.0172(0.5)e^{((0.0251)(325 + 460) - 20.43)} \\
 &= 0.00416 \text{ lb-VOC/ton} \\
 \\
 EF_{\text{CO/Loadout}} &= 0.00558(-V)e^{((0.0251)(T + 460) - 20.43)} \\
 &= 0.00558(0.5)e^{((0.0251)(325 + 460) - 20.43)} \\
 &= 0.00135 \text{ lb-CO/ton} \\
 \\
 EF_{\text{PM}_{10}\text{/Loadout}} &= 0.000181 + 0.00141(-V)e^{((0.0251)(T + 460) - 20.43)} \\
 &= 0.000181 + 0.00141(0.5)e^{((0.0251)(325 + 460) - 20.43)} \\
 &= 0.000522 \text{ lb-PM}_{10}\text{/ton}
 \end{aligned}$$

The applicant is proposing to control the VOC and PM<sub>10</sub> emissions by ducting the emissions to the burner of the rotary drum dryer/mixer with a control efficiency of at least 30% and 95%, respectively. The proposed controlled EF is the following for silo loadout:

$$\begin{aligned}
 EF_{\text{VOC/Loadout (Controlled)}} &= 0.00416 \text{ lb-VOC/ton} \times (1 - 0.30) = 0.0029 \text{ lb-VOC/ton} \\
 \\
 EF_{\text{PM}_{10}\text{/Loadout (Controlled)}} &= 0.000522 \text{ lb-PM}_{10}\text{/ton} \times (1 - 0.95) \\
 &= 0.000026 \text{ lb-PM}_{10}\text{/ton}
 \end{aligned}$$



**C. Calculations**

**1. Pre-Project Potential to Emit (PE1)**

Since this is considered to be new equipment, PE1 = 0 for all pollutants.

**2. Post Project Potential to Emit (PE2)**

**Aggregate Unloading Operation S-8623-2-0:**

Daily PE2				
Equipment Description	# of Transfer Points	Processing Rate (ton/day)	EF (lb-PM <sub>10</sub> /ton)	Daily PE2 <sub>Aggregate &amp; RAP</sub> (lb-PM <sub>10</sub> /day)
Aggregate Bin Loading	1	5,640	0.000016	0.090
Aggregate conveying	4	5,640	0.000046	1.038
Stockpiles		2 acres	1.05 lb/acre/day	2.10

**HMA Operation S-8623-3-0:**

**1. Daily Post-Project Potential to Emit (Daily PE2):**

PM<sub>10</sub> Emissions from the Handling of the Cold Feed Aggregate & RAP:

$$\text{Daily PE2}_{\text{PM}_{10}/\text{Aggregate \& RAP}} = \# \text{ of Transfer Points} \times \text{Processing Rate (ton/day)} \times \text{EF (lb-PM}_{10}\text{/ton)}$$

Equipment Description	# of Transfer Points	Processing Rate (ton/day)	EF (lb-PM <sub>10</sub> /ton)	Daily PE2 <sub>Aggregate &amp; RAP</sub> (lb-PM <sub>10</sub> /day)
Aggregate Receiving	1	5,640	0.000016	0.090
Aggregate conveying to the Stockpiles	3	5,640	0.000046	0.778
Aggregate Bin Loading	1	5,640	0.000016	0.090
Conveying to Scalping Screen	2	5,640	0.000046	0.519
Scalping Screen	1	5,640	0.000046	0.259
Conveying into the Drum Mixer	2	5,640	0.000046	0.519
RAP Receiving	1	1,500	0.000016	0.024
RAP Conveying to Stockpile	3	1,500	0.000046	0.207
RAP Bin Loading	1	1,500	0.000016	0.024
RAP Conveying to Scalping Screen	2	1,500	0.000046	0.138

Equipment Description	# of Transfer Points	Processing Rate (ton/day)	EF (lb-PM <sub>10</sub> /ton)	Daily PE <sub>2</sub> Aggregate & RAP (lb-PM <sub>10</sub> /day)
RAP Scalping Screen	1	1,500	0.000046	0.069
RAP Conveying into the Drum Mixer	2	1,500	0.000046	0.138
Cold Feed Aggregate Stockpile	1	0.8 acres	0.21 lb/day/acre	0.17
RAP Stockpiles	1	0.2 acres	0.21 lb/day/acre	0.042
Total Emissions from Aggregate & RAP Handling				3.1

Emissions from Hot Mix Asphalt (HMA) Drum Dryer/Mixer:

$$\text{Daily PE}_{2\text{Drum Dryer/Mixer}} = \text{Processing Rate (ton/day) or Fuel Heat Input (MMBtu/day)} \times \text{EF (lb/ton) or (lb/MMBtu)}$$

Pollutant	Processing Rate or Fuel Heat Input	EF <sub>Natural Gas</sub>	Daily PE <sub>2</sub> Natural Gas
NOx	1,380 MMBtu/day	0.044 lb/MMBtu	60.7 lb-NOx/day
CO	1,380 MMBtu/day	0.293 lb/MMBtu	404.3 lb-CO/day
VOC	6,000 ton/day	0.001 lb/ton	6.0 lb-VOC/year
PM <sub>10</sub>	6,000 ton/day	0.00086 lb/ton	5.2 lb-PM <sub>10</sub> /day
SOx	1,380 MMBtu/day	0.00285 lb/MMBtu	3.9 lb-SOx/day

Pollutant	Processing Rate or Fuel Heat Input	EF <sub>Propane</sub>	Daily PE <sub>2</sub> Propane
NOx	1,380 MMBtu/day	0.044 lb/MMBtu	60.7 lb-NOx/day
CO	1,380 MMBtu/day	0.293 lb/MMBtu	404.3 lb-CO/day
VOC	6,000 ton/day	0.001 lb/ton	6.0 lb-VOC/year
PM <sub>10</sub>	6,000 ton/day	0.00086 lb/ton	5.2 lb-PM <sub>10</sub> /day
SOx	1,380 MMBtu/day	0.016 lb/MMBtu	22.1 lb-SOx/day

Emissions from the Filling and Loadout of the AC Storage Silo:

$$\text{Daily PE}_{2\text{Silo Filling \& Loadout}} = \text{Processing Rate (ton/day)} \times [\text{EF}_{\text{Silo Filling}} \text{ (lb/ton)} + \text{EF}_{\text{Loadout}} \text{ (lb/ton)}]$$

Pollutant	Processing Rate (ton/day)	EF <sub>Silo Filling</sub> (lb/ton)	EF <sub>Loadout</sub> (lb/ton)	Daily PE <sub>2</sub> Silo Filling & Loadout
CO	6,000 ton/day	0.00118	0.00135	15.8 lb-CO/day
VOC	6,000 ton/day	0.0085	0.0029	68.4 lb-VOC/day
PM <sub>10</sub>	6,000 ton/day	0.000029	0.000026	0.3 lb-PM <sub>10</sub> /day

Total Daily PE2:

Total daily PE2 will be based on the worst case of combusting propane in the drum dryer/mixer, emissions from the handling of aggregate/RAP, and emissions from the filling and loadout of the storage silo. Therefore:

$$\text{Total Daily PE2} = \text{Daily PE2}_{\text{Aggregate \& RAP}} + \text{Daily PE2}_{\text{Propane}} + \text{Daily PE2}_{\text{Silo Filling \& Loadout}}$$

Pollutant	Daily PE2 <sub>Agg &amp; RAP</sub> (lb/day)	Daily PE2 <sub>Propane</sub> (lb/day)	Daily PE2 <sub>Silo</sub> (lb/day)	Daily PE2
NOx	0	60.7	0	60.7
CO	0	404.3	15.8	420.1
VOC	0	6.0	68.4	74.4
PM <sub>10</sub>	3.1	5.2	0.3	8.6
SOx	0	22.1	0	22.1

**2. Annual Post-Project Potential to Emit (Annual PE2):**

**Aggregate Unloading Operation S-8623-2-0:**

Annual PE2				
Equipment Description	# of Transfer Points	Processing Rate (ton/year)	EF (lb-PM <sub>10</sub> /ton)	Annual PE2 <sub>Aggregate &amp; RAP</sub> (lb-PM <sub>10</sub> /year)
Aggregate Bin Loading	1	376,000	0.000016	6
Aggregate conveying	4	376,000	0.000046	69
Stockpiles	365 day/year	2 acres	1.05 lb/acre/day	767
Total:				842

**HMA Operation S-8623-3-0:**

Annual emissions are based on the applicants proposed production rate limit of 400,000 tons/year. According to the applicant aggregate usage is 376,000 tons/year. RAP usage will be assumed to be 15% of the aggregate usage or 56,400 tons/year. Therefore:

PM<sub>10</sub> Emissions from the Handling of the Cold Feed Aggregate & RAP:

$$\text{Annual PE2}_{\text{PM10/Aggregate \& RAP}} = \# \text{ of Transfer Points} \times \text{Processing Rate (ton/year)} \times \text{EF (lb-PM}_{10}\text{/ton)}$$

Equipment Description	# of Transfer Points	Processing Rate (ton/year)	EF (lb-PM <sub>10</sub> /ton)	Annual PE <sub>2</sub> Aggregate & RAP (lb-PM <sub>10</sub> /year)
Aggregate Receiving	1	376,000	0.000016	6
Aggregate conveying to the Stockpiles	3	376,000	0.000046	52
Aggregate Bin Loading	1	376,000	0.000016	6
Conveying to Scalping Screen	2	376,000	0.000046	35
Scalping Screen	1	376,000	0.000046	17
Conveying into the Drum Mixer	2	376,000	0.000046	35
RAP Receiving	1	56,400	0.000016	1
RAP Conveying to Stockpile	3	56,400	0.000046	8
RAP Bin Loading	1	56,400	0.000016	1
RAP Conveying to Scalping Screen	2	56,400	0.000046	5
RAP Scalping Screen	1	56,400	0.000046	3
RAP Conveying into the Drum Mixer	2	56,400	0.000046	5
Cold Feed Aggregate Stockpile	365 day/year <sup>(6)</sup>	0.8 acres	0.21 lb/day/acre	61
RAP Stockpiles	365 day/year <sup>(7)</sup>	0.2 acres	0.21 lb/day/acre	15
Total Emissions from Aggregate & RAP Handling				250

Emissions from Hot Mix Asphalt (HMA) Drum Dryer/Mixer:

Annual PE<sub>2</sub>Drum Dryer/Mixer = Processing Rate (ton/year) or Heat Input (MMBtu/year) × EF

Pollutant	Processing Rate or Fuel Heat Input	EF <sub>Natural Gas</sub>	Annual PE <sub>2</sub> Natural Gas
NOx	107,000 MMBtu/yr	0.044 lb/MMBtu	4708 lb-NOx/year
CO	107,000 MMBtu/yr	0.293 lb/MMBtu	31,351 lb-CO/year
VOC	400,000 ton/year	0.001 lb/ton	400 lb-VOC/year
PM <sub>10</sub>	400,000 ton/year	0.00086 lb/ton	344 lb-PM <sub>10</sub> /year
SOx	107,000 MMBtu/year <sup>(7)</sup>	0.00285 lb/MMBtu	305 lb-SOx/year

<sup>6</sup> Assuming a worse case of material storage onsite for 365 days/year.

<sup>7</sup> Annual heat input will be based on operating 1,000 hr/year at 107 MMBtu/hr, therefore:  
Annual Heat Input = 107 MMBtu/hr × 1,000 hr/year = 107,000 MMBtu/year

Pollutant	Processing Rate or Fuel Heat Input	EF <sub>Propane</sub>	Annual PE2 <sub>Propane</sub>
NOx	107,000 MMBtu/yr	0.044 lb/MMBtu	4708 lb-NOx/year
CO	107,000 MMBtu/yr	0.293 lb/MMBtu	31,351 lb-CO/year
VOC	400,000 ton/year	0.001 lb/ton	400 lb-VOC/year
PM <sub>10</sub>	400,000 ton/year	0.00086 lb/ton	344 lb-PM <sub>10</sub> /year
SOx	107,000 MMBtu/year <sup>(8)</sup>	0.016 lb/MMBtu	1,712 lb-SOx/year

Emissions from the Filling and Loadout of the AC Storage Silos:

$$\text{Annual PE2}_{\text{Silo Filling \& Loadout}} = \text{Processing Rate (ton/year)} \times [\text{EF}_{\text{Silo Filling}} (\text{lb/ton}) + \text{EF}_{\text{Loadout}} (\text{lb/ton})]$$

Pollutant	Processing Rate (ton/year)	EF <sub>Silo Filling</sub> (lb/ton)	EF <sub>Loadout</sub> (lb/ton)	Annual PE2 <sub>Silo Filling \&amp; Loadout</sub>
CO	400,000	0.00118	0.00135	1,012 lb-CO/year
VOC	400,000	0.0085	0.0029	4,560 lb-VOC/year
PM <sub>10</sub>	400,000	0.000029	0.000026	22 lb-PM <sub>10</sub> /year

Total Annual PE2:

Total annual PE2 will be based on the worst case of combusting propane in the drum dryer/mixer, emissions from the handling of aggregate/RAP, and emissions from the filling and loadout of the storage silo. Therefore:

$$\text{Total Annual PE2} = \text{Annual PE2}_{\text{Aggregate \& RAP}} + \text{Annual PE2}_{\text{Propane}} + \text{Annual PE2}_{\text{Silo Filling \& Loadout}}$$

Pollutant	Annual PE2 <sub>Agg \&amp; RAP</sub> (lb/year)	Annual PE2 <sub>Propane</sub> (lb/year)	Annual PE2 <sub>Silo</sub> (lb/year)	Annual PE2
NOx	0	4708	0	4708 lb-NOx/year
CO	0	31,351	1,012	32,363 lb-CO/year
VOC	0	400	4,560	4,960 lb-VOC/year
PM <sub>10</sub>	250	344	22	616 lb-PM <sub>10</sub> /year
SOx	0	1,712	0	1,712 lb-SOx/year

**3. Pre-Project Stationary Source Potential to Emit (SSPE1)**

Since this is a new facility, there are no valid ATCs, PTOs, or ERCs at the Stationary Source; therefore, the SSPE1 is equal to zero.

**4. Post Project Stationary Source Potential to Emit (SSPE2)**

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since

September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

SSPE2 (lb/year)					
Permit Unit	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
S-8623-2-0	0	0	842	0	0
S-8623-3-0	4708	1712	616	32,363	4960
SSPE2	4708	1712	1458	32,363	4960

## 5. Major Source Determination

### Rule 2201 Major Source Determination:

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. For the purposes of determining major source status the following shall not be included:

- any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

Rule 2201 Major Source Determination (lb/year)						
	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO	VOC
SSPE1	0	0	0	0	0	0
SSPE2	4708	1712	1458	1458	32,363	4960
Major Source Threshold	20,000	140,000	140,000	200,000	200,000	20,000
Major Source?	No	No	No	No	No	No

Note: PM2.5 assumed to be equal to PM10

As seen in the table above, the facility is not an existing Major Source and is not becoming a Major Source as a result of this project.

### Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). Therefore the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Estimated Facility PE before Project Increase	0	0	0	0	0	0
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)	n	n	n	n	n	n

As shown above, the facility is not an existing PSD major source for any regulated NSR pollutant expected to be emitted at this facility.

## 6. Baseline Emissions (BE)

The BE calculation (in lb/year) is performed pollutant-by-pollutant for each unit within the project to determine the amount of offsets required.

Pursuant to District Rule 2201, BE = PE1 for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201. Since these are new emissions units, BE = PE1 = 0 for all pollutants.

## 7. SB 288 Major Modification

SB 288 Major Modification is defined in 40 CFR Part 51.165 as "any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act."

Since this facility is not a major source for any of the pollutants addressed in this project, this project does not constitute an SB 288 major modification.

## 8. Federal Major Modification

District Rule 2201 states that a Federal Major Modification is the same as a "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

Since this facility is not a Major Source for any pollutants, this project does not constitute a Federal Major Modification. Additionally, since the facility is not a major source for PM<sub>10</sub> (140,000 lb/year), it is not a major source for PM<sub>2.5</sub> (200,000 lb/year).

**9. Rule 2410 – Prevention of Significant Deterioration (PSD) Applicability Determination**

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are: (See 52.21 (b) (23) definition of significant)

**I. Project Emissions Increase - New Major Source Determination**

The post-project potentials to emit from all new and modified units are compared to the PSD major source thresholds to determine if the project constitutes a new major source subject to PSD requirements.

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). The PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

<b>PSD Major Source Determination: Potential to Emit (tons/year)</b>						
	NO2	VOC	SO2	CO	PM	PM10
Total PE from New and Modified Units	2.2	2.5	0.3	15.7	0.7	0.7
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	n	n	n	n	n	n

As shown in the table above, the potential to emit for the project, by itself, does not exceed any PSD major source threshold. Therefore Rule 2410 is not applicable and no further analysis is required.

**VIII. Compliance**

**Rule 2201 New and Modified Stationary Source Review Rule**

**A. Best Available Control Technology (BACT)**

**1. BACT Applicability**

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions\*:

- a. Any new emissions unit with a potential to emit exceeding two pounds per day,
- b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,



- c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIFE exceeding two pounds per day, and/or
- d. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

\*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

**a. New emissions units – PE > 2.0 lb/day**

<b>Aggregate Unloading S-8623-2-0</b>			
<b>Equipment Description</b>	<b>Daily PE<sub>2</sub>Aggregate &amp; RAP (lb-PM<sub>10</sub>/day)</b>	<b>BACT Threshold</b>	<b>BACT Required?</b>
Aggregate Bin Loading	0.090	2.0 lb/day	n
Aggregate conveying	1.038	2.0 lb/day	n
Stockpiles	<b>2.10</b>	<b>2.0 lb/day</b>	<b>y</b>

<b>For HMA Operation S-8623-3-0</b>			
<b>Equipment Description</b>	<b>Daily PE<sub>2</sub>Aggregate &amp; RAP (lb-PM<sub>10</sub>/day)</b>	<b>BACT Threshold</b>	<b>BACT Required?</b>
Aggregate Receiving	0.090	2.0 lb/day	n
Aggregate conveying to the Stockpiles	0.778	2.0 lb/day	n
Aggregate Bin Loading	0.090	2.0 lb/day	n
Conveying to Scalping Screen	0.519	2.0 lb/day	n
Scalping Screen	0.259	2.0 lb/day	n
Conveying into the Drum Mixer	0.519	2.0 lb/day	n
RAP Receiving	0.024	2.0 lb/day	n
RAP Conveying to Stockpile	0.207	2.0 lb/day	n
RAP Bin Loading	0.024	2.0 lb/day	n
RAP Conveying to Scalping Screen	0.138	2.0 lb/day	n
RAP Scalping Screen	0.069	2.0 lb/day	n
RAP Conveying into the Drum Mixer	0.138	2.0 lb/day	n
Cold Feed Aggregate Stockpile	0.17	2.0 lb/day	n
RAP Stockpiles	0.042	2.0 lb/day	n
RAP Scalping Screen	0.069	2.0 lb/day	n
RAP Conveying into the Drum Mixer	0.138	2.0 lb/day	n
Cold Feed Aggregate Stockpile	0.17	2.0 lb/day	n
RAP Stockpiles	0.042	2.0 lb/day	n

<b>Drum Mixer S-8623-3-0</b>			
<b>Pollutant</b>	<b>Daily PE2</b>	<b>BACT Threshold</b>	<b>BACT Required?</b>
NOx	60.7 lb-NOx/day	2.0 lb/day	Y
CO	404.3 lb-CO/day	2.0 lb/day	Y
VOC	6.0 lb-VOC/year	2.0 lb/day	Y
PM <sub>10</sub>	5.2 lb-PM <sub>10</sub> /day	2.0 lb/day	Y
SOx	22.1 lb-SOx/day	2.0 lb/day	Y

<b>Asphaltic Concrete Storage Silo S-8623-3-0</b>			
<b>Pollutant</b>	<b>Daily PE2<sub>Silo Filling &amp; Loadout</sub></b>	<b>BACT Threshold</b>	<b>BACT Required?</b>
CO	15.8 lb-CO/day	2.0 lb/day	Y
VOC	68.4 lb-VOC/day	2.0 lb/day	Y
PM <sub>10</sub>	0.3 lb-PM <sub>10</sub> /day	2.0 lb/day	N

As seen above, the project triggers BACT for the aggregate unloading stockpiles (PM<sub>10</sub>), drum mixer (NOx, SOx, PM<sub>10</sub>, CO and VOC) and AC storage silo (CO and VOC). However BACT is not triggered for CO since the SSPE2 for CO is not greater than 200,000 lb/year, as demonstrated in Section VII.C.5 above.

**b. Relocation of emissions units – PE > 2 lb/day**

As discussed in Section I above, HMP is being relocated from one stationary source to another and as shown above the PEs are greater than 2.0 lb/day for the drum mixer (NOx, SOx, PM<sub>10</sub>, CO and VOC) and AC storage silo (CO and VOC). However BACT is not triggered for CO since the SSPE2 for CO is not greater than 200,000 lb/year, as demonstrated in Section VII.C.5 above.

**c. Modification of emissions units – AIPE > 2 lb/day**

As discussed in Section I above, there are no modified emissions units associated with this project. Therefore BACT is not triggered.

**d. SB 288/Federal Major Modification**

As discussed in Sections VII.C.7 and VII.C.8 above, this project does not constitute an SB 288 and/or Federal Major Modification for NO<sub>x</sub> emissions. Therefore BACT is not triggered for any pollutant.

**2. BACT Guideline**

BACT Guideline 6.1.1, applies to the Aggregate Stockpiles [Aggregate Crushing, Screening & Storage Operation - = or > 5,850 tons/day] (See Appendix B)

BACT Guideline 6.3.1, applies to the Drum Mixer and AC Silo [**Asphaltic Concrete - Drum Mix Plant, = or > 2,000 ton/day or = or > 75.6 MMBtu/hr burner**] (See Appendix B)

### 3. Top-Down BACT Analysis

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District's NSR Rule.

Pursuant to the attached Top-Down BACT Analysis (see **Appendix B**), BACT has been satisfied with the following:

#### Aggregate Unloading Stockpile

PM10: moistened aggregate and less than 5% opacity

#### Drum Mixer

NOx: low-NOx burner and either natural gas or LPG as the primary fuel

SOx: PUC quality natural gas or LPG as a primary fuel

PM10: to vent the drum dryer into a baghouse, use an enclosed drag slat conveyor, hot mix storage silo and truck loadout (enclosed on two sides) are vented to the burner of the rotary drum dryer burner, which is vented through a fabric filter baghouse, and use either natural gas or propane fuel

VOC: natural gas as a primary fuel and venting the hot mix silo and loadout operation to the rotary drum dryer burner

## B. Offsets

### 1. Offset Applicability

Offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The SSPE2 is compared to the offset thresholds in the following table.

Offset Determination (lb/year)					
	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
SSPE2	4708	1712	1458	32,363	4960
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	No	No	No	No	No

**2. Quantity of Offsets Required**

As seen above, the SSPE2 is not greater than the offset thresholds for all the pollutants; therefore offset calculations are not necessary and offsets will not be required for this project.

**C. Public Notification**

**1. Applicability**

Public noticing is required for:

- a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
- b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- c. Any project which results in the offset thresholds being surpassed, and/or
- d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.
- e. Any project which results in a Title V significant permit modification

**a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications**

New Major Sources are new facilities, which are also Major Sources. As shown in Section VII.C.5 above, the SSPE2 is not greater than the Major Source threshold for any pollutant. Therefore, public noticing is not required for this project for new Major Source purposes.

**b. PE > 100 lb/day**

The PE2 for the drum dryer is compared to the daily PE Public Notice thresholds in the following table:

<b>PE &gt; 100 lb/day Public Notice Thresholds</b>			
<b>Pollutant</b>	<b>PE2 (lb/day)</b>	<b>Public Notice Threshold</b>	<b>Public Notice Triggered?</b>
NO <sub>x</sub>	60.7	100 lb/day	N
SO <sub>x</sub>	3.9	100 lb/day	N
PM <sub>10</sub>	5.2	100 lb/day	N
CO	404.3	100 lb/day	Y
VOC	6.0	100 lb/day	N

Therefore, public noticing for PE > 100 lb/day purposes is required.

**c. Offset Threshold**

The SSPE1 and SSPE2 are compared to the offset thresholds in the following table.

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO <sub>x</sub>	0	4708	20,000 lb/year	No
SO <sub>x</sub>	0	1712	54,750 lb/year	No
PM <sub>10</sub>	0	1458	29,200 lb/year	No
CO	0	32,363	200,000 lb/year	No
VOC	0	4960	20,000 lb/year	No

As detailed above, there were no thresholds surpassed with this project; therefore public noticing is not required for offset purposes.

**d. SSIPE > 20,000 lb/year**

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

SSIPE Public Notice Thresholds					
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO <sub>x</sub>	0	4708	4708	20,000 lb/year	No
SO <sub>x</sub>	0	1712	1712	20,000 lb/year	No
PM <sub>10</sub>	0	1458	1458	20,000 lb/year	No
CO	0	32,363	32,363	20,000 lb/year	Yes
VOC	0	4960	4960	20,000 lb/year	No

As demonstrated above, the SSIPE for CO was greater than 20,000 lb/year; therefore public noticing for SSIPE purposes is required.

**e. Title V Significant Permit Modification**

Since this facility does not have a Title V operating, this change is not a Title V significant Modification, and therefore public noticing is not required.

**2. Public Notice Action**

As discussed above, public noticing is required for this project for CO emissions in excess of 100 lb/day and 20,000 lb/year. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

**D. Daily Emission Limits (DELs)**

DELs and other enforceable conditions are required by Rule 2201 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. The DEL must be contained in the latest ATC and contained in

or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

**Proposed Rule 2201 (DEL) Conditions:**

**S-8623-2-0:**

*The area of active and inactive stockpiles for the asphaltic concrete manufacturing plant shall not exceed 2.0 acres. [District Rule 2201] N*

*Process weight rate introduced to entire permit unit shall not exceed 5,640 tons per day nor 376,000 ton/year. [District Rule 2201] N*

*PM10 emission rate shall not exceed 0.000016 lb/ton from loading the grizzly bin, 0.000046 lb/ton from any conveyor transfer point nor 1.05 lb/acre/day from the stockpiled material. [District Rule 2201] N*

**S-8623-3-0:**

*Heat input to the drum dryer/mixer burner shall not exceed 1,350 MMBtu in any one day and 107,000 MMBtu in any one calendar year. [District Rule 2201] N*

*The quantity of aggregate received or processed shall not exceed 5,640 tons in any one day. [District Rule 2201] N*

*PM10 emissions from the receiving and processing of the aggregate shall not exceed 0.0004 lb/ton of aggregate received and processed. [District Rule 2201] N*

*The quantity of reclaimed asphalt pavement (RAP) received or processed shall not exceed 1,500 tons in any one day. [District Rule 2201] N*

*PM10 emissions from the processing of the reclaimed asphalt pavement (RAP) shall not exceed 0.0004 lb/ton of RAP received and processed. [District Rule 2201] N*

*The area of active and inactive stockpiles for the asphaltic concrete manufacturing plant shall not exceed 2.0 acres. [District Rule 2201] N*

*PM10 emissions from the stockpiles for the asphaltic concrete manufacturing plant shall not exceed 1.05 pounds per acre of storage area per day. [District Rule 2201] N*

*The quantity of asphaltic concrete produced shall not exceed 6,000 tons in any one day and 400,000 tons in any one calendar year. [District Rule 2201] N*

*NOx emissions from the drum dryer/mixer shall not exceed 3.8 ppmvd @ 19% O<sub>2</sub> (referenced as NO<sub>2</sub>). [District Rule 2201] N*

*CO emissions from the drum dryer/mixer shall not exceed 42.0 ppmvd @ 19% O<sub>2</sub>. [District Rule 2201] N*

*VOC emissions from the drum dryer/mixer shall not exceed 0.001 pounds per ton of asphaltic concrete produced. [District Rule 2201] N*

*PM10 emissions (measured at the baghouse outlet) shall not exceed 0.00086 pounds per ton of asphaltic concrete produced. [District Rule 2201] N*

*SOx emissions from the combustion of propane shall not exceed 0.016 lb/MMBtu. [District Rule 2201] N*

*SOx emissions from the combustion of natural gas shall not exceed 0.00285 lb/MMBtu. [District Rule 2201] N*

*The quantity of produced asphaltic concrete transferred into the storage silo and loaded out into trucks shall not exceed 6,000 tons in any one day and 400,000 tons in any one calendar year. [District Rule 2201] N*

## **E. Compliance Assurance**

### **1. Source Testing**

Pursuant to District Policy APR 1705, source testing is not for required for S-8623-2-0 to demonstrate compliance with Rule 2201.

S-8623-3-0:

Source testing to measure NOx and CO emissions from this unit shall be conducted at lease once every 24 months thereafter. [District Rules 2201 & 4309] N

### **2. Monitoring**

No monitoring is not for required for S-8623-2-0 to demonstrate compliance with Rule 2201.

S-8623-3-0:

*The asphalt batch plant permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month in which asphalt is produced on at least five days or for at least 32 hours, whichever comes first (and in which a source test is not performed), using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 production days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309]*

*{3742} If either the NOx or CO concentrations corrected to 19% O2 (or no correction if measured above 19% O2), as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of*

*the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4309] N*

*{3743} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4309] N*

*{3744} The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 19% O<sub>2</sub> (or no correction if measured above 19% O<sub>2</sub>), (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4309] N*

### **3. Recordkeeping**

S-8623-2-0:

*Permittee shall keep accurate records of aggregate throughput on a daily basis and make such records readily available for District inspection for a period of at least 5 years. [District Rule 2201] N*

S-8623-3-0:

*{3744} The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 19% O<sub>2</sub> (or no correction if measured above 19% O<sub>2</sub>), (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4309] N*

*A daily log shall be maintained and shall include the following: (a). Total quantity of aggregate received (in tons); (b). Total quantity of aggregate processed (in tons); (c). Total quantity of RAP received (in tons); (d). Total quantity of RAP processed (in tons); (e). Total storage area (in acres) of the aggregate stockpiles; (f). Total storage area (in acres) of the RAP stockpiles; (g). Total quantity of asphaltic concrete produced (in tons); (h). Total quantity of asphaltic concrete transferred into the storage silo (in tons); (i). Total quantity of asphaltic concrete loaded into trucks (in tons); (j). Type and quantity of fuel consumed in the drum dryer/mixer (in scf of natural gas or gallons of propane); (k). Total hours the HMA batch plant was operated in any one rolling 24 hour period. [District Rules 1070 & 2201] N*



*The permittee shall maintain a record of the cumulative annual amount of asphaltic concrete produced, transferred into the storage silo, and loaded into trucks. The cumulative total shall be updated at least monthly. [District Rule 1070 & 2201] N*

*The permittee shall maintain a record of the cumulative annual heat input to the drum dryer/mixer. The cumulative total shall be updated at least monthly. The heat input can be determined by multiplying the amount of fuel burned by its corresponding heating value (natural gas = 1,000 Btu/scf or propane = 94,000 Btu/gallon). [District Rules 1070 & 2201] N*

*{3246} All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] N*

#### **4. Reporting**

No reporting is required to demonstrate compliance with Rule 2201.

#### **F. Ambient Air Quality Analysis (AAQA)**

An AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The District's Technical Services Division conducted the required analysis. Refer to **Appendix C** of this document for the AAQA summary sheet.

The proposed location is in an attainment area for NO<sub>x</sub>, CO, and SO<sub>x</sub>. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO<sub>x</sub>, CO, or SO<sub>x</sub>.

The proposed location is in a non-attainment area for the state's PM<sub>10</sub> as well as federal and state PM<sub>2.5</sub> thresholds. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for PM<sub>10</sub> and PM<sub>2.5</sub>.

#### **Rule 2410 Prevention of Significant Deterioration**

As shown in Section VII. C. 9. above, this project does not result in a new PSD major source or PSD major modification. No further discussion is required.

#### **Rule 2520 Federally Mandated Operating Permits**

Since this facility's potential emissions do not exceed any major source thresholds of Rule 2201, this facility is not a major source, and Rule 2520 does not apply.

#### **Rule 4001 New Source Performance Standards (NSPS)**

The requirements of the Code of Federal Regulations, Chapter 40 (40 CFR), Part 60, Subpart OOO (Standards of Performance for Nonmetallic Mineral Processing Plants) apply to any fixed or portable, aboveground Nonmetallic Mineral Processing Plants with a capacity, as defined in 60.671, greater than 23 megagrams per hour (25 tons per hour).

Pursuant to section 60.671, nonmetallic mineral processing plant means any combination of equipment that is used to crush or grind any nonmetallic mineral wherever located, including lime plants, power plants, steel mills, asphalt concrete plants, portland cement plants, or any other facility processing nonmetallic minerals. The plant does not include crushing or grinding equipment; therefore, this subpart does not apply. No further discussion is required.

#### **Rule 4101 Visible Emissions**

No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour, which is as dark or darker than Ringelmann 1 or equivalent to 20% opacity. Opacity is expected to be less than 20% provided that all of the equipment is maintained and operated properly.

The PM emissions from the rotary drum drier/mixer will be controlled with a baghouse. Pursuant to District Policy SSP 1005, the visible emissions from a baghouse shall be limited by permit conditions to not equal or exceed 5% opacity for a period or periods aggregating more than three (3) minutes in any one (1) hour. If the equipment is properly maintained this condition should not be exceeded. Conditions will be placed on the Authority to Construct permit and Permit to Operate to ensure compliance with the visible emission requirements.

#### **Rule 4102 Nuisance**

Rule 4102 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected.

#### **California Health & Safety Code 41700 (Health Risk Assessment)**

District Policy APR 1905 – *Risk Management Policy for Permitting New and Modified Sources* specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

An HRA is not required for a project with a total facility prioritization score of less than or equal to one. According to the Technical Services Memo for this project (**Appendix C**), the total facility prioritization score including this project was less than or equal to one. Therefore, no future analysis is required to determine the impact from this project and compliance with the District's Risk Management Policy is expected.

#### **Discussion of T-BACT**

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million. As demonstrated above, T-BACT is not required for this project because the HRA indicates that the risk is not above the District's thresholds for triggering T-BACT requirements; therefore, compliance with the District's Risk Management Policy is expected.

### **Rule 4201 Particulate Matter Concentration**

Section 3.0 of this Rule prohibits the release or discharge into the atmosphere from any single source operation, dust, fumes, or total suspended particulate matter emissions in excess of 0.1 grain per cubic foot of gas at dry standard conditions, as determined by the test methods in section 4.0 of this Rule.

As long as the new equipment is properly maintained and operated it is expected that the particulate matter concentration from the exhaust of the baghouse will be:

From the Baghouse serving the Hot Mix Asphalt Drum Dryer:

Max. Quantity of PM: 8.6 lb-PM/day<sup>8</sup>  
Max. Operating Hours: 24 hr/day (1,440 min/day)  
Air Flow Rate: 89,217 dscfm

$$\begin{aligned} \text{PM Concentration} &= (8.6 \text{ lb-PM/day} \times 7,000 \text{ grains/lb.}) \\ &\div (89,217 \text{ dscfm} \times 1,440 \text{ min/day}) \\ &= 0.00047 \text{ grains/scf} \end{aligned}$$

Therefore it can be assumed that under dry conditions that the emission units will not exceed the maximum allowable 0.1 grains/dscf and compliance with this rule is expected.

### **Rule 4309 Dryers, Dehydrators, and Ovens**

The HMA plant associated with this project is natural gas or propane fired with a maximum heat input of 107 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4309, the unit is subject to the requirements of this Rule.

Section 5.2, NOx and VOC Emissions Limits

The proposed HMA plant falls under Asphalt Plants of Table 1 in section 5.0 of this Rule, which lists the following requirements for gaseous fuels:

NOx: 4.3 ppmvd @ 19% O<sub>2</sub>  
CO: 42 ppmvd @ 19% O<sub>2</sub>

The applicant is proposing the following emission concentrations limits for the proposed HMA plant for natural gas and propane:

NOx: 3.8 ppmvd @ 19% O<sub>2</sub>  
CO: 42 ppmvd @ 19% O<sub>2</sub>

Therefore, compliance with Section 5.2 of District Rule 4309 is expected.

### **Section 5.4, Monitoring Provisions**

Section 5.4.1 requires each unit subject to section 5.2 to either install a continuous emissions monitoring system (CEMS) for NOx, CO, and oxygen or implement an APCO-approved Alternate Monitoring System. The applicant chooses the latter option, and proposes to use

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<sup>8</sup> Assuming all of the PM emitted from the baghouse is emitted as PM<sub>10</sub>, the total PM emission rate from the baghouse is 8.6 lb-PM<sub>10</sub>/day ÷ 1.0 lb PM<sub>10</sub>/lb PM = 2.6 lb-PM/day.

Option A (periodic monitoring using District-approved portable analyzer) from the District's pre-approved Alternate Monitoring Schemes contained in District Policy SSP 3005 (2/2/09). The following conditions will be incorporated into the permit in order to ensure compliance with the requirements of the proposed alternate monitoring plan:

*The asphalt batch plant permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month in which asphalt is produced on at least five days or for at least 32 hours, whichever comes first (and in which a source test is not performed), using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 production days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309]*

*{3742} If either the NO<sub>x</sub> or CO concentrations corrected to 19% O<sub>2</sub> (or no correction if measured above 19% O<sub>2</sub>), as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4309]*

*{3743} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4309]*

*{3744} The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 19% O<sub>2</sub> (or no correction if measured above 19% O<sub>2</sub>), (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range [District Rule 4309]*

## Section 5.5, Compliance Determination

Section 5.5.1 requires that all emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Section 5.5.2 requires that no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0. Therefore, the following permit condition will be listed on the permit as follows:

*{3713} All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4309. [District Rules 4309]*

Section 5.5.5 requires that for emissions monitoring pursuant to Sections 5.4.1.2.2.1, emission readings shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15-consecutive-minute sample reading or by taking at least five (5) readings evenly spaced out over the 15-consecutive-minute period.

Therefore, since the applicant proposed to use a portable analyzer to satisfy the monitoring requirements of District Rule 4309, the following permit condition will be listed on the permit as follows:

*{3743} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4309]*

Section 5.5.6 requires that for emissions source testing performed pursuant to Section 6.3.1 for the purpose of determining compliance with an applicable standard or numerical limitation of this rule, the arithmetic average of three (3) 30-consecutive-minute test runs shall apply. If two (2) of three (3) runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. Therefore, the following permit condition will be listed on the permit as follows:

*{3715} For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4309]*

#### Section 6.1, Recordkeeping

Section 6.1.6 requires that the records required by Sections 6.1.1 through 6.1.5 shall be maintained for five calendar years and shall be made available to the APCO upon request. Failure to maintain records or information contained in the records that demonstrate noncompliance with the applicable requirements of this rule shall constitute a violation of this rule. A permit condition will be listed on the permit as follows:

*{Modified 2983} All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and 4309]*

#### Section 6.2, Test Methods

Section 6.2 identifies the following test methods as District-approved source testing methods for the pollutants listed:

Pollutant	Units	Test Method Required
Fuel hhv	Fuel hhv shall be certified by third party fuel supplier or:	
	Liquid fuels	ASTM D 240-87 or D 2382-88
	Gaseous fuels	ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89
NOX	ppmv	EPA Method 7E or ARB Method 100
CO	ppmv	EPA Method 10 or ARB Method 100
Stack Gas O2	%	EPA Method 3 or 3A, or ARB Method 100
Stack Gas Velocities	ft/min	EPA Method 2
Stack Gas Moisture Content	%	EPA Method 4

The following permit conditions will be listed on the permit as follows:

*{109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]*

*{3718} NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis. [District Rule 4309]*

*{3719} CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rule 4309]*

*{3720} Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rule 4309]*

### Section 6.3, Compliance Demonstration

Section 6.3.2 requires the permittee to perform initial source test to determine compliance with NOx and CO emission limits. Furthermore, the unit is required to be tested every 24 months. The applicant will be required to perform a source test to satisfy the requirements of this section.

The following conditions will be included in the permit to verify compliance with the proposed NOx and CO emission limits:

*Source testing to measure NOx and CO emissions from this unit shall be conducted at least once every twenty four (24) months thereafter. [District Rules 2201 and 4309]*

*{3722} All test results for NOx and CO shall be reported in ppmv @ 19% O2 (or no correction if measured above 19% O2), corrected to dry stack conditions. [District Rule 4309]*

*{110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]*

In addition to the provisions of Section 6.3, Section 6.4 allows asphalt/concrete plants to choose one of the following options for source testing:

- Test the unit using locally mined aggregate in the dryer. If the source test using locally mined aggregate fails, the operator may re-run the source test using aggregate from a different source.
- Test the unit using aggregate from a source different from the source used during normal operations.
- Test the unit using a heat-absorbing material in the dryer, but no aggregate.
- Test the unit with no material in the dryer.

The following permit conditions will be listed on the permit as follows:

*Source testing to measure NOx and CO emissions from the asphalt/concrete plant shall be conducted utilizing one of the following options: (a). Test the unit using locally mined aggregate in the dryer. If the source test using locally mined aggregate fails, the operator may re-run the source test using aggregate from a different source.; (b). Test the unit using aggregate from a source different from the source used during normal operations.; (c). Test the unit using a heat-absorbing material in the dryer, but no aggregate.; (d). Test the unit with no material in the dryer. [District Rule 4309]*

#### Section 7.0, Compliance Schedule

For an operator of an asphalt/concrete unit subject to this rule, Section 7.3.2 requires the permittee to demonstrate full compliance with this Rule by December 1, 2009. The applicant is expected to test this dryer before this date. Therefore, compliance is expected with this section.

#### Conclusion

Conditions will be incorporated into the permit in order to ensure compliance with each section of this rule. Therefore, compliance with District Rule 4309 requirements is expected.

#### **Rule 4641 Cutback, Slow Cure, Emulsified Asphalt, Paving and Maintenance Operations**

The proposed asphaltic manufacturing facility will not be utilizing or producing cutback, slow cure, or emulsified asphaltic concrete products. Therefore, compliance with this rule is expected. The following condition will be included in their permits to enforce the requirements of this rule.

*Neither cutback, slow cure, or emulsified asphaltic concrete products (as defined in District Rule 4641, Sections 3.2, 3.4, 3.10, and 5.1) shall be utilized or produced at this facility. [District Rule 4641]*

#### **Rule 4801 Sulfur Compounds**

Section 3.1 prohibits emissions of sulfur compounds as SO<sub>2</sub> in excess of 0.2% by volume (2,000 ppmv) averaged over 15 minutes.

From Section VII.B.2. of this document, the worst case SO<sub>2</sub> emissions are calculated based on an emission factor of 0.016 lb-SO<sub>x</sub>/MMBtu due to the combustion of propane. Therefore:

$$\begin{aligned} \text{lb-SO}_2/\text{exhaust vol.} &= (\text{lb-SO}_2/\text{MMBtu}) \div (\text{F factor}) \\ (0.016 \text{ lb-SO}_2/\text{MMBtu}) &\div (8,578 \text{ dscf/MMBtu}^{(9)}) \\ 1.87 \times 10^{-6} \text{ lb-SO}_2/\text{dscf} \end{aligned}$$

$$\text{Volume SO}_2/\text{exhaust vol.} = nRT/P$$

$$\begin{aligned} \text{Where, } n &= \text{ moles SO}_x = (1.87 \times 10^{-6} \text{ lb-SO}_2/\text{dscf}) \div (64 \text{ lb-SO}_2/\text{lb-mol}) \\ &= 2.9 \times 10^{-8} \text{ lb-mol/dscf} \\ R &= \text{ Universal gas constant} = 10.73 \text{ psi-ft}^3/\text{lb-mol-}^\circ\text{R} \\ T &= 60^\circ\text{F standard temperature} = 520^\circ \text{R} \\ P &= \text{ Standard atmospheric pressure} = 14.7 \text{ psi} \end{aligned}$$

$$\begin{aligned} \text{Volume SO}_2/\text{exhaust vol.} &= [(2.9 \times 10^{-8} \text{ lb-mol/dscf}) \times (10.73 \text{ psi-ft}^3/\text{lb-mol-}^\circ\text{R}) \\ &\quad \times (520^\circ \text{R})] \div 14.7 \text{ psi} \\ &= 1.11 \times 10^{-5} \text{ dscf-SO}_2/\text{dscf-exhaust} \\ &= 11.1 \text{ ppmv} \ll 2,000 \text{ ppmv} \end{aligned}$$

Compliance with this rule is expected.

#### **California Health & Safety Code 42301.6 (School Notice)**

The District has verified that this site is not located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

#### **California Environmental Quality Act (CEQA)**

CEQA requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The District adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;
- Identify the ways that environmental damage can be avoided or significantly reduced;
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

#### **Greenhouse Gas (GHG) Significance Determination**

It is determined that no other agency has prepared or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project.

<sup>9</sup> Assumed to be equal to the F-Factor for natural gas.



On December 17, 2009, the District's Governing Board adopted a policy, APR 2005, *Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*, for addressing GHG emission impacts when the District is Lead Agency under CEQA and approved the District's guidance document for use by other agencies when addressing GHG impacts as lead agencies under CEQA. Under this policy, the District's determination of significance of project-specific GHG emissions is founded on the principal that projects with GHG emission reductions consistent with AB 32 emission reduction targets are considered to have a less than significant impact on global climate change. Consistent with District Policy 2005, projects complying with an approved GHG emission reduction plan or GHG mitigation program, which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, would be determined to have a less than significant individual and cumulative impact for GHG emission.

The California Air Resources Board (ARB) adopted a Cap-and-Trade regulation as part one of the strategies identified for AB 32. This Cap-and-Trade regulation is a statewide plan, supported by a CEQA compliant environmental review document, aimed at reducing or mitigating GHG emissions from targeted industries. Facilities subject to the Cap-and-Trade regulation are subject to an industry-wide cap on overall GHG emissions. Any growth in emissions must be accounted for under that cap such that a corresponding and equivalent reduction in emissions must occur to allow any increase. Further, the cap decreases over time, resulting in an overall decrease in GHG emissions.

Under District policy APR 2025, *CEQA Determinations of Significance for Projects Subject to ARB's GHG Cap-and-Trade Regulation*, the District finds that the Cap-and-Trade is a regulation plan approved by ARB, consistent with AB32 emission reduction targets, and supported by a CEQA compliant environmental review document. As such, consistent with District Policy 2005, projects complying with Cap-and-Trade requirements are determined to have a less than significant individual and cumulative impact for GHG emissions.

The GHG emissions increases associated with this project result from the combustion of fossil fuel(s), other than jet fuel, delivered from suppliers subject to the Cap-and-Trade regulation. Therefore, as discussed above, consistent with District Policies APR 2005 and APR 2025, the District concludes that the GHG emissions increases associated with this project would have a less than significant individual and cumulative impact on global climate change.

### **District CEQA Findings**

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15301 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to

projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

**IX. Recommendation**

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATC S-8623-2-0 and '3-0 subject to the permit conditions on the attached draft ATC in **Appendix D**.

**X. Billing Information**

<b>Annual Permit Fees</b>			
<b>Permit Number</b>	<b>Fee Schedule</b>	<b>Fee Description</b>	<b>Annual Fee</b>
S-8623-2-0	3020-01D	167 hp	\$330
S-8623-3-0	3020-02H	107 MMBtu/hr	\$1080

**Appendixes**

- A: BACT Guidelines and Analysis
- B: HRA and AAQA
- C: Draft ATC

**APPENDIX A**  
**BACT Guidelines and Analysis**

**Best Available Control Technology (BACT ) Guideline 6.1.1**  
**Last Update: 1/27/1994**

**Aggregate Crushing, Screening & Storage Operation - = or > 5,850 tons/day**

<b>Pollutant</b>	<b>Achieved in Practice or in the SIP</b>	<b>Technologically Feasible</b>	<b>Alternate Basic Equipment</b>
PM10	Screens served by fabric filter baghouse, all other emission points less than 5% opacity utilizing water spray with chemical additive		

## **Top Down BACT Analysis for the Aggregate Stockpile (S-8623-2-0)**

BACT Guideline 6.1.1 applies to the aggregate unloading stockpiles. In accordance with the District BACT policy, information from that guideline will be utilized without further analysis.

### **1. BACT Analysis for PM10**

#### **a. Step 1 - Identify all control technologies**

BACT Guideline 6.1.1 identifies the following options:

...emission points less than 5% opacity utilizing water spray with chemical additive

#### **b. Step 2 - Eliminate technologically infeasible options**

aggregate coated with chemical additive is not suitable for AC manufacturing; therefore this option is eliminated

#### **c. Step 3 - Rank remaining options by control effectiveness**

emission points less than 5% opacity utilizing water spray

#### **d. Step 4 - Cost Effectiveness Analysis**

The applicant has proposed the only control option remaining under consideration. Therefore, a cost effectiveness analysis is not required.

#### **e. Step 5 - Select BACT**

BACT for will be the use of moistened aggregate and less than 5% opacity. Therefore, BACT is satisfied.

**Best Available Control Technology (BACT ) Guideline 6.3.1**  
**Last Update: 5/21/2001**

**Asphaltic Concrete - Drum Mix Plant, = or > 2,000 ton/day or = or > 75.6  
MMBtu/hr burner**

<b>Pollutant</b>	<b>Achieved in Practice or in the SIP</b>	<b>Technologically Feasible</b>	<b>Alternate Basic Equipment</b>
CO	Natural gas or LPG as a primary fuel.		
NOx	0.088 lb/MMBtu Low-NOx burner and either natural gas or LPG as the primary fuel.		
PM10	99% control efficiency (Rotary drum vents to fabric collector or Venturi scrubber with centrifugal separator) and enclosed conveyors; hot mix storage silos enclosed all vent to oil mist collectors; and natural gas or LPG as a primary fuel.	99% control efficiency (Rotary drum vents to fabric collector or Venturi scrubber with centrifugal separator) and enclosed drag slat conveyor; hot mix storage silos and truck loadout enclosed on two sides; all vent to blue smoke control comprised of electrostatic precipitator or filter pack; and natural gas or LPG as a primary fuel.	
SOx	PUC quality natural gas or LPG as a primary fuel.		
VOC	Natural gas or LPG as a primary fuel; and enclosed hot mix silos and loadout operation vented to the rotary-dryer burner.	Enclosed hot mix silos and loadout operation vented to an afterburner.	

## **Top Down BACT Analysis for the Drum Mixer (S-8623-3-0)**

BACT Guideline 6.3.1 applies to the **drum mixer**. In accordance with the District BACT policy, information from that guideline will be utilized without further analysis.

### **1. BACT Analysis for NOx**

#### **a. Step 1 - Identify all control technologies**

BACT Guideline 6.1.1 identifies the following options:

0.088 lb/MMBtu Low-NOx burner and either natural gas or LPG as the primary fuel.

#### **b. Step 2 - Eliminate technologically infeasible options**

the control technology is technologically feasible

#### **c. Step 3 - Rank remaining options by control effectiveness**

0.088 lb/MMBtu Low-NOx burner and either natural gas or LPG as the primary fuel.

#### **d. Step 4 - Cost Effectiveness Analysis**

The applicant has proposed the listed control option. Therefore, a cost effectiveness analysis is not required.

#### **e. Step 5 - Select BACT**

BACT for will be the use of a low-NOx burner (the proposed burner has a NOx EF of 0.044 lb/MMBtu) and natural gas or LPG as the primary fuel. The applicant is proposing such a control. Therefore, BACT is satisfied.

## **2. BACT Analysis for SOx**

### **a. Step 1 - Identify all control technologies**

BACT Guideline 6.1.1 identifies the following options:

PUC quality natural gas or LPG as a primary fuel.

### **b. Step 2 - Eliminate technologically infeasible options**

the control technology is technologically feasible

### **c. Step 3 - Rank remaining options by control effectiveness**

PUC quality natural gas or LPG as a primary fuel.

### **d. Step 4 - Cost Effectiveness Analysis**

The applicant has proposed the listed control option. Therefore, a cost effectiveness analysis is not required.

### **e. Step 5 - Select BACT**

BACT for will be the use PUC quality natural gas or LPG as a primary fuel. The applicant is proposing such a control. Therefore, BACT is satisfied.



### **3. BACT Analysis for PM10**

#### **a. Step 1 - Identify all control technologies**

BACT Guideline 6.1.1 identifies the following options:

99% control efficiency (Rotary drum vents to fabric collector or Venturi scrubber with centrifugal separator) vented to blue smoke control comprised of electrostatic precipitator or filter pack; and natural gas or LPG as a primary fuel. (Technologically Feasible)

99% control efficiency (Rotary drum vents to fabric collector or Venturi scrubber with centrifugal separator) and enclosed conveyors; and natural gas or LPG as a primary fuel. (Achieved in Practice)

#### **b. Step 2 - Eliminate technologically infeasible options**

All of the listed control technologies are technologically feasible

#### **c. Step 3 - Rank remaining options by control effectiveness**

99% control efficiency (Rotary drum vents to fabric collector or Venturi scrubber with centrifugal separator) vented to blue smoke control comprised of electrostatic precipitator or filter pack; and natural gas or LPG as a primary fuel. (Technologically Feasible)

99% control efficiency (Rotary drum vents to fabric collector or Venturi scrubber with centrifugal separator) and enclosed conveyors; and natural gas or LPG as a primary fuel. (Achieved in Practice)

#### **d. Step 4 - Cost Effectiveness Analysis**

The applicant has proposed a control equivalent to the most effective option. Therefore, a cost effectiveness analysis is not required.

#### **e. Step 5 - Select BACT**

Pursuant to the referenced BACT Guideline 6.3.1, the most stringent control technique for PM<sub>10</sub> emissions is the following: (a). Vent the rotary drum dryer to a fabric collector or venturi scrubber with a centrifugal separator (99% control efficiency); (b). Enclosed drag slat conveyor; (c). Hot mix storage silos and truck loadout enclosed on two sides all vented to a blue smoke control device comprised of an electrostatic precipitator or filter pack; (d). Natural gas or LPG as a primary fuel. The applicant is proposing to vent the drum dryer into a baghouse, use an enclosed drag slat conveyor, hot mix storage silo and truck loadout (enclosed on two sides) are vented to the burner of the rotary drum dryer burner, which is vented through a fabric filter baghouse, and use either natural gas or propane fuel. For the hot mix storage silos and truck loadout, the applicant is not proposing the use a blue smoke control device comprised of an electrostatic precipitator or filter pack. However, the applicant is proposing to vent the

storage silo and truck loadout into the rotary drum dryer/mixer, which is vented through a fabric filter baghouse with a control efficiency equivalent to that of a blue smoke control device utilizing a filter pack. Therefore, the applicant is proposing an equivalent control method for the hot mix storage silo and truck loadout. The applicant is proposing the use of the most stringent control technique and BACT for PM<sub>10</sub> is being proposed. No further analysis is required for PM<sub>10</sub> emissions.

#### 4. BACT Analysis for VOC

##### a. Step 1 - Identify all control technologies

BACT Guideline 6.1.1 identifies the following options:

Enclosed hot mix silos and loadout operation vented to an afterburner. (Technologically Feasible)

Natural gas or LPG as a primary fuel; and enclosed hot mix silos and loadout operation vented to the rotary-dryer burner. (Achieved in Practice)

##### b. Step 2 - Eliminate technologically infeasible options

All of the listed control technologies are technologically feasible

##### c. Step 3 - Rank remaining options by control effectiveness

Enclosed hot mix silos and loadout operation vented to an afterburner. (Technologically Feasible)

Natural gas or LPG as a primary fuel; and enclosed hot mix silos and loadout operation vented to the rotary-dryer burner. (Achieved in Practice)

##### d. Step 4 - Cost Effectiveness Analysis

###### Cost Effective Threshold:

The District's BACT Policy establishes annual cost thresholds for imposed control based upon the amount of pollutants abated by the controls. If the cost of control is at or below the threshold, the control is considered cost effective. If the cost exceeds the threshold, it is not cost effective and the control is not required. The cost effective threshold for VOC is \$17,500/ton (Revised BACT Cost Effectiveness Thresholds, dated May 14, 2008).

###### Industry Standard Emissions:

Industry standard emissions are considered to be what is available to the industry as standard equipment. For asphaltic concrete manufacturing plants, the industry standard is to not use any type of VOC capture and control equipment. The uncontrolled Industry Standard Emissions (ISE) will be calculated based on the applicant's proposed annual processing rate limit and the uncontrolled emission factors for silo filling and truck loadout as indicated in Section VII.B. of this document. Therefore:

Processing Rate: 400,000 ton/year  
EF<sub>VOC/Silo Filling (Uncontrolled)</sub>: 0.0122 lb-VOC/ton  
EF<sub>VOC/Loadout (Uncontrolled)</sub>: 0.00416 lb-VOC/ton

$$\text{Annual ISE}_{\text{VOC}} = \text{Processing Rate (ton/year)} \times [\text{EF}_{\text{VOC/Silo Filling (Uncontrolled)}} \text{ (lb/ton)} + \text{EF}_{\text{VOC/Loadout (Uncontrolled)}} \text{ (lb/ton)}]$$

$$\begin{aligned} &= 400,000 \text{ ton/year} \times [0.0122 \text{ lb-VOC/ton} + 0.00416 \text{ lb-VOC/ton}] \\ &= 6,544 \text{ lb-VOC/year} \end{aligned}$$

### **1<sup>st</sup> Most Effective Control Option:**

Use of natural gas or LPG as a primary fuel and enclosed hot mix silos and loadout operation vented to an afterburner. – 98% Control Efficiency.

#### (A). Emission Reduction:

Based on the above determined industry standard emissions and assuming a VOC capture efficiency of 100% and incinerator destruction efficiency of 98%, the amount of VOC emissions reduced is calculated below.

$$\begin{aligned} \text{VOC Emission Reductions} &= \text{Annual ISE}_{\text{VOC}} \times 1 \text{ tons}/2,000 \text{ lb} \times \text{Overall Control Eff.} \\ &= 6,544 \text{ lb/year} \times 1 \text{ tons}/2,000 \text{ lb} \times 0.98 \\ &= 3.2 \text{ ton/year} \end{aligned}$$

#### (B). Annualized Capital Investment to Purchase and Install an Afterburner:

The following capital cost estimate for an afterburner serving the proposed asphaltic concrete storage silos and truck loadout is from project C1150592 (6/25/15).

Equipment Cost = \$540,987

Taxes (8% of equipment cost) = \$43,278.96

Installation Cost = \$50,000

Shipping Costs = \$14,000

$$\begin{aligned} \text{Total Capital Investment} &= \text{Equipment Cost} + \text{Taxes} + \text{Installation Cost} \\ &\quad + \text{Shipping Costs} \\ &= \$540,987 + \$43,278.96 + \$50,000 + \$14,000 \\ &= \$648,266 \end{aligned}$$

Pursuant to District Policy APR 1305, Section X. (11/09/99), the annual cost of the afterburner system will be calculated as follows. The cost will be spread over the expected life of the incineration system, which is estimated at 10 years and using the capital recovery equation (Equation 1). A 10% interest rate is assumed in the equation and the assumption will be made that the equation has no salvage value at the end of the ten-year cycle.

$$\text{Equation 1: } ACI = [P \times i(1+i)^n] / [(1+i)^n - 1]$$

Where: ACI = Annualized Capital Investment  
P = Present Value  
I = Interest Rate (10%)  
N = Equipment Life (10 years)

$$ACI_{\text{Afterburner}} = [\$648,266 \times 0.1(1.1)^{10}] / [(1.1)^{10} - 1] = \$105,502/\text{year}$$

(C). Cost Effectiveness of an Afterburner:

Cost Effectiveness<sub>Afterburner</sub>

$$\begin{aligned} &= \text{Annualized Capital Investment (\$/year)} \div \text{Annual Emission Reduction (ton/year)} \\ &= \$105,502/\text{year} \div 3.2 \text{ ton VOC/year} \\ &= \$32,969/\text{ton} \end{aligned}$$

The cost effectiveness of utilizing an afterburner to capture and control VOC emissions is greater than the VOC cost effectiveness threshold of \$17,500/ton. Therefore, this VOC control option is not cost effective and is being removed from consideration at this time.

**2<sup>nd</sup> Most Effective Control Option:**

Use of natural gas or LPG as a primary fuel and enclosed hot mix silos and loadout operation vented to the rotary drum dryer burner. – 30% Control Efficiency.

The applicant is proposing to utilize natural gas as a primary fuel and enclosed hot mix silos and loadout operation vented to the rotary drum dryer burner. Therefore, the applicant is proposing this control option and a cost effectiveness analysis is not required.

**Step 5 - Select BACT**

The applicant will meet the remaining 2<sup>nd</sup> most effective control option (Achieved-In-Practice) BACT by using natural gas as a primary fuel and venting the hot mix silo and loadout operation to the rotary drum dryer burner for VOC emissions control.

**APPENDIX B**  
**HRA and AAQA**

# San Joaquin Valley Air Pollution Control District

## Risk Management Review

To: David Torii – Permit Services  
 From: Cheryl Lawler – Technical Services  
 Date: September 2, 2015  
 Facility Name: Calmat of Central CA, dba Vulcan  
 Location: 16101 Highway 166, Bakersfield  
 Application #(s): S-8623-2-0 & 3-0  
 Project #: S-1153558

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### A. RMR SUMMARY

RMR Summary				
Categories	Aggregate Unloading (Unit 2-0)	Hot Mix Asphalt Concrete Plant (Unit 3-0)	Project Totals	Facility Totals
<b>Prioritization Score</b>	<b>0.00<sup>1</sup></b>	<b>0.37<sup>1</sup></b>	0.38	0.38
Acute Hazard Index	N/A	N/A	N/A	N/A
Chronic Hazard Index	N/A	N/A	N/A	N/A
Maximum Individual Cancer Risk	N/A	N/A	N/A	N/A
T-BACT Required?	No	No		
Special Permit Conditions?	No	Yes		

<sup>1</sup>The unit passed on prioritization with a score of less than 1; therefore, no further analysis was required.

### Proposed Permit Conditions

To ensure that human health risks will not exceed District allowable levels; the following permit conditions must be included for:

#### Unit 3-0

1. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]

### B. RMR REPORT

#### I. Project Description

Technical Services received a request on August 27, 2015, to perform a Risk Management Review (RMR) and an Ambient Air Quality Analysis (AAQA) for an aggregate unloading

operation (Unit 2-0), and a hot mix drum asphalt concrete plant (Unit 3-0). Project 1151402 (S-1538) will be canceled and replaced with this project.

**II. Analysis**

For the hot mix asphalt operation, toxic emissions were calculated using emission factors from Tables 11.1-10 (pg. 21) and 11.1-12 (pg. 30) in March, 2004, *AP 42 Chapter 11 Mineral Products Industry, Section 1, Hot Mix Asphalt Plants*, along with process rates calculated and supplied by the processing engineer. For the aggregate unloading, toxic emissions were calculated using emission factors from the Table, "DEFAULT VALUES - Material Storage" in the December, 1998, San Diego Air Pollution Control District document, *Open Material Storage Areas*. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905-1, March 2, 2001), risks were prioritized using the procedures in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's SHARP database. The project's prioritization score was less than 1.0. No further analysis was required for the Risk Management Review.

The following parameters were used for the review:

<b>Analysis Parameters</b>			
<b>Unit 3-0 Hot Mix Asphalt</b>		<b>Unit 2-0 Aggregate Unloading</b>	
<b>Source Type</b>	Point	<b>Source Type</b>	Area
<b>Stack Height (m)</b>	9.9	<b>Release Height (m)</b>	5
<b>Stack Diameter (m)</b>	1.55	<b>Area Size (m)</b>	91 x 91
<b>Gas Exit Temperature (K)</b>	436		
<b>Gas Exit Velocity (m/s)</b>	22.33		
<b>Receptor Distance (m)</b>	2009	<b>Project Location</b>	Rural
<b>Receptor Type</b>	Business	<b>Unit 2-0 PM10 Emission Rates (lb)</b>	0.13 hr 790 yr
		<b>Unit 3-0 Asphalt Produced Rates (tons)</b>	250 hr 400,000 yr

Technical Services also performed modeling for criteria pollutants CO, NO<sub>x</sub>, SO<sub>x</sub>, and PM<sub>10</sub>; as well as the RMR for the engine. The emission rates used for criteria pollutant modeling were calculated and provided by the processing engineer.

The results from the Criteria Pollutant Modeling are as follows:

**Criteria Pollutant Modeling Results\***

	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO <sub>x</sub>	Pass	X	X	X	Pass
SO <sub>x</sub>	Pass	Pass	X	Pass	Pass
PM <sub>10</sub>	X	X	X	Pass <sup>1</sup>	Pass <sup>1</sup>

\*Results were taken from the attached PSD spreadsheet.

<sup>1</sup>The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).



### **III. Conclusions**

The emissions from the proposed equipment will not cause or contribute significantly to a violation of the State and National AAQS.

The prioritization score is less than 1.0. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

To ensure that human health risks will not exceed District allowable levels; the permit conditions listed on Page 1 of this report must be included for the indicated unit.

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

**APPENDIX C**  
**Draft ATCs**

San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: S-8623-2-0

LEGAL OWNER OR OPERATOR: CALMAT OF CENTRAL CALIFORNIA  
MAILING ADDRESS: 11599 OLD FRIANT ROAD  
FRESNO, CA 93730

LOCATION: 16101 HIGHWAY 166  
BAKERSFIELD, CA

EQUIPMENT DESCRIPTION:  
AGGREGATE UNLOADING INCLUDING RECEIVING HOPPER, CONVEYORS AND RADIAL STACKER

**CONDITIONS**

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. No air contaminant shall be discharged which is dark or darker than 5% opacity from all crushing and conveying equipment associated with this permit. [District Rule 2201]
3. All haul roads and other roadways traversed by mobile equipment and/or motor vehicles shall be adequately moistened with water at such a frequency as required to prevent visible emissions equal to or in excess of 20% opacity from such roads. [District Rule 4101]
4. All stockpiled sand, gravel aggregate, rock and other materials shall be maintained adequately moist to prevent visible emissions in excess of 5% opacity. [District Rule 4101]
5. Aggregate material processed throughout the facility shall have a moisture content of at least 1.5% by weight. The percent moisture shall be determined by weighing an approximately 2-lb sample of aggregate from any point of the operation, bringing the sample to dryness in a drying oven, then weighing the dried sample; the weight difference is the moisture content. [District Rule 2201]
6. The area of active and inactive stockpiles for the asphaltic concrete manufacturing plant shall not exceed 2.0 acres. [District Rule 2201]
7. Process weight rate introduced to entire permit unit shall not exceed 5,640 tons per day nor 376,000 ton/year. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

**DRAFT**  
Arnaud Marjollet, Director of Permit Services

S-8623-2-0 : Oct 13 2015 9:42AM - TORID : Joint Inspection NOT Required

8. PM10 emission rate shall not exceed 0.000016 lb/ton from loading the grizzly bin, 0.000046 lb/ton from any conveyor transfer point nor 1.05 lb/acre/day from the stockpiled material. [District Rule 2201]
9. Permittee shall keep accurate records of aggregate throughput on a daily basis and make such records readily available for District inspection for a period of at least 5 years. [District Rule 2201]

DRAFT

San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** S-8623-3-0

**LEGAL OWNER OR OPERATOR:** CALMAT OF CENTRAL CALIFORNIA  
**MAILING ADDRESS:** 11599 OLD FRIANT ROAD  
FRESNO, CA 93730

**LOCATION:** 16101 HIGHWAY 166  
BAKERSFIELD, CA

**EQUIPMENT DESCRIPTION:**

HOT MIX ASPHALTIC CONCRETE DRUM MIX PLANT INCLUDING FIVE COLD FEED AGGREGATE BINS EACH WITH A FEED BELT CONVEYOR, TWO RAP BINS EACH WITH A FEED BELT CONVEYOR, ONE AGGREGATE COLLECTING CONVEYOR FEEDING A VIBRATING SCREEN WITH A DRUM MIXER FEED CONVEYOR, ONE RAP COLLECTING CONVEYOR FEEDING A VIBRATING SCREEN WITH A DRUM MIXER FEED CONVEYOR, ONE 107 MMBTU/HR NATURAL GAS OR PROPANE FIRED GENCOR ULTRADRUM MODEL 400 (9'9"X44'L) DRUM DRYER/MIXER WITH A LOW-NOX BURNER VENTED TO A GENCOR MODEL CFP-182 BAGHOUSE, ONE ENCLOSED DRAG SLAT CONVEYOR AND ONE 100-TON ASPHALT CONCRETE STORAGE SILO VENTED TO THE DRUM DRYER BURNER AND A TRUCK LOADOUT VENTED TO THE DRUM DRYER BURNER

**CONDITIONS**

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
3. All haul roads and other roadways traversed by mobile equipment and/or motor vehicles shall be adequately moistened with water at such a frequency as required to prevent visible emissions equal to or in excess of 20% opacity from such roads. [District Rule 4101]
4. All stockpiled aggregate, reclaimed asphalt pavement, and other materials shall be maintained adequately moist to prevent visible emissions in excess of 20% opacity. [District Rule 2201]
5. This emission unit shall not be physically connected to S-1538 equipment via conveyors, pipes, or ducts, etc. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

**Arnaud Marjoret, Director of Permit Services**

S-8623-3-0 - Oct 22 2015 9:54AM - TORID Joint Inspection NOT Required

6. Except for units S-1538-1 and '2 (as operated in above condition), units permitted under S-8623, and equipment operating under a District permit exempt equipment registration (PEER), this permit unit shall not be operated in conjunction with any other permit unit, including equipment operating under a portable equipment registration. [District Rule 2201]
7. {271} All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]
8. Neither cutback, slow cure, or emulsified concrete products (as defined in District Rule 4641, Sections 3.2, 3.4, 3.10, and 5.1) shall be utilized or produced at this facility. [District Rule 4641]
9. Visible emissions from the baghouse serving the asphaltic concrete rotary drum dryer/mixer shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201]
10. The exhaust stack of the baghouse shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (a flapper type rain cap is acceptable), roof overhang, or any other obstruction. [District Rule 4102]
11. The baghouse shall be equipped with a pressure differential gauge to indicate the pressure drop across the bags. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rule 2201]
12. Replacement bags numbering at least 10% of the total number of bags in the largest baghouse using each type of bag shall be maintained on the premises. [District Rule 2201]
13. Material removed from the baghouse shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201]
14. The baghouse cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201]
15. This unit is subject to the requirements of 40 CFR Part 60, Subpart I: Standards of Performance for Asphalt Concrete Plants. [District Rule 4001 and 40 CFR §60.90]
16. Particulate matter emissions from the exhaust stack of the baghouse shall not exceed 0.04 grains/dscf. [District Rule 4001 and 40 CFR §60.92(a)(1)]
17. The drum dryer/mixer burner shall be fired only on natural gas or propane. [District Rule 2201]
18. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted by the drum dryer/mixer burner shall be installed, utilized, and properly maintained. [District Rule 2201]
19. Heat input to the drum dryer/mixer burner shall not exceed 1,350 MMBtu in any one day and 107,000 MMBtu in any one calendar year. [District Rule 2201]
20. The quantity of aggregate received or processed shall not exceed 5,640 tons in any one day. [District Rule 2201]
21. PM10 emissions from the receiving and processing of the aggregate shall not exceed 0.0004 lb/ton of aggregate received and processed. [District Rule 2201]
22. The quantity of reclaimed asphalt pavement (RAP) received or processed shall not exceed 1,500 tons in any one day. [District Rule 2201]
23. PM10 emissions from the processing of the reclaimed asphalt pavement (RAP) shall not exceed 0.0004 lb/ton of RAP received and processed. [District Rule 2201]
24. The area of active and inactive stockpiles for the asphaltic concrete manufacturing plant shall not exceed 2.0 acres. [District Rule 2201]
25. PM10 emissions from the stockpiles for the asphaltic concrete manufacturing plant shall not exceed 1.05 pounds per acre of storage area per day. [District Rule 2201]
26. The quantity of asphaltic concrete produced shall not exceed 6,000 tons in any one day and 400,000 tons in any one calendar year. [District Rule 2201]
27. NOx emissions from the drum dryer/mixer shall not exceed 3.8 ppmvd @ 19% O2 (referenced as NO2). [District Rule 2201]

DRAFT  
CONDITIONS CONTINUE ON NEXT PAGE

28. CO emissions from the drum dryer/mixer shall not exceed 42.0 ppmvd @ 19% O<sub>2</sub>. [District Rule 2201]
29. VOC emissions from the drum dryer/mixer shall not exceed 0.001 pounds per ton of asphaltic concrete produced. [District Rule 2201]
30. PM<sub>10</sub> emissions (measured at the baghouse outlet) shall not exceed 0.00086 pounds per ton of asphaltic concrete produced. [District Rule 2201]
31. SO<sub>x</sub> emissions from the combustion of propane shall not exceed 0.016 lb/MMBtu. [District Rule 2201]
32. SO<sub>x</sub> emissions from the combustion of natural gas shall not exceed 0.00285 lb/MMBtu. [District Rule 2201]
33. The quantity of produced asphaltic concrete transferred into the storage silo and loaded out into trucks shall not exceed 6,000 tons in any one day and 400,000 tons in any one calendar year. [District Rule 2201]
34. Emissions from the transfer of the produced asphaltic concrete into the storage silo shall not exceed any of the following limits: 0.00118 pounds of CO per ton of asphaltic concrete silo transferred, 0.0085 pounds of VOC per ton of asphaltic concrete transferred, or 0.000029 pounds of PM<sub>10</sub> per ton of asphaltic concrete transferred. [District Rule 2201]
35. Emissions from truck loading of asphaltic concrete shall not exceed any of the following limits: 0.00135 pounds of CO per ton of asphaltic concrete loaded, 0.0029 pounds of VOC per ton of asphaltic concrete loaded, or 0.000026 pounds of PM<sub>10</sub> per ton of asphaltic concrete loaded. [District Rule 2201]
36. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every 24 months thereafter. [District Rules 2201 & 4309]
37. {3722} All test results for NO<sub>x</sub> and CO shall be reported in ppmv @ 19% O<sub>2</sub> (or no correction if measured above 19% O<sub>2</sub>), corrected to dry stack conditions. [District Rule 4309]
38. {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
39. Source testing to measure NO<sub>x</sub> and CO emissions from the asphaltic concrete batch plant shall be conducted utilizing one of the following options: (a). Test the unit using locally mined aggregate in the dryer. If the source test using locally minded aggregate fails, the operator may re-run the source test using aggregate from a different source.; (b). Test the unit using aggregate from a source different from the source used during normal operations.; (c). Test the unit using a heat-absorbing material in the dryer, but no aggregate.; (d). Test the unit with no material in the dryer. [District Rule 4309]
40. {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
41. {3718} NO<sub>x</sub> emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis. [District Rule 4309]
42. {3719} CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rule 4309]
43. {3720} Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rule 4309]
44. Source testing to measure PM<sub>10</sub> emissions shall be conducted using EPA method 201 and 202, or EPA method 201A and 202, or CARB method 501 and 5. [District Rule 1081]
45. In lieu of performing a source test for PM<sub>10</sub>, the results of the total particulate test may be used for compliance with the PM<sub>10</sub> emission limit provided the results include both the filterable and condensable (back half) particulates, and that all particulate matter is assumed to be PM<sub>10</sub>. If this option is exercised, source testing shall be conducted using CARB Method 5 or EPA Method 5 (including condensable (back half) particulates). [District Rule 1081]
46. {3713} All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4309. [District Rule 4309]

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47. {3715} For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rule 4309]
48. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month in which asphalt is produced on at least five days or for at least 32 hours, whichever comes first (and in which a source test is not performed), using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 production days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309]
49. The asphalt batch plant permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month in which asphalt is produced on at least five days or for at least 32 hours, whichever comes first (and in which a source test is not performed), using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 production days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309]
50. {3742} If either the NO<sub>x</sub> or CO concentrations corrected to 19% O<sub>2</sub> (or no correction if measured above 19% O<sub>2</sub>), as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4309]
51. {3743} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4309]
52. {3744} The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 19% O<sub>2</sub> (or no correction if measured above 19% O<sub>2</sub>), (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4309]
53. A daily log shall be maintained and shall include the following: (a). Total quantity of aggregate received (in tons); (b). Total quantity of aggregate processed (in tons); (c). Total quantity of RAP received (in tons); (d). Total quantity of RAP processed (in tons); (e). Total storage area (in acres) of the aggregate stockpiles; (f). Total storage area (in acres) of the RAP stockpiles; (g). Total quantity of asphaltic concrete produced (in tons); (h). Total quantity of asphaltic concrete transferred into the storage silo (in tons); (i). Total quantity of asphaltic concrete loaded into trucks (in tons); (j). Type and quantity of fuel consumed in the drum dryer/mixer (in scf of natural gas or gallons of propane); (k). Total hours the HMA batch plant was operated in any one rolling 24 hour period. [District Rules 1070 & 2201]
54. The permittee shall maintain a record of the cumulative annual amount of asphaltic concrete produced, transferred into the storage silo, and loaded into trucks. The cumulative total shall be updated at least monthly. [District Rule 1070 & 2201]
55. The permittee shall maintain a record of the cumulative annual heat input to the drum dryer/mixer. The cumulative total shall be updated at least monthly. The heat input can be determined by multiplying the amount of fuel burned by its corresponding heating value (natural gas = 1,000 Btu/scf or propane = 94,000 Btu/gallon). [District Rules 1070 & 2201]

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56. {3246} All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]

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