

**TECHNICAL REVIEW AND EVALUATION
OF THE HOT MIX ASPHALT PLANT GENERAL PERMIT**

I. INTRODUCTION

The Hot Mix Asphalt General Permit is a permit for a facility class (Hot Mix Asphalt Plants) that contains 10 or more facilities that are similar in nature, have substantially similar emissions, and would be subject to the same or substantially similar requirements. The General Permit will last for 5 years from the date of its issuance. Equipment that is covered under the general permit will be required to have an “Authorization to Operate” (ATO). The ATO will identify the piece of equipment by having the name of manufacturer, date of manufacture, maximum capacity, and serial number and /or equipment number, limiting pollutant along with the hours of operation limitation depending on the equipment and the county it is operating in. This General Permit allows for portable Hot Mix Asphalt Plants to move to other locations statewide. This general permit also allows the Permittee to co-locate a Crushing and Screening Plant, a Concrete Batch plant with the Hot Mix Asphalt Plant Statewide including Maricopa County.

The Permittee that applies for an ATO under the General Permit shall pay to the Department an application fee of \$500. The Permittee must also pay, for each calendar year, the applicable administrative or inspection fees as described in the Arizona Administrative Code Title 18, Chapter 2, Article 5, section 511 (A.A.C. R18-2-511).

Due the fact that this is a statewide general permit there is the potential that the Permittee may operate in a non-attainment areas in the state of Arizona. The non-attainment areas are listed in Table 1 below.

TABLE 1: NON-ATTAINMENT AREA SUMMARY AND CLASSIFICATION

	SO₂ Areas		PM₁₀ Areas		CO Areas	
A C L I F Y D E S	Ajo	Maintenance	Ajo	Moderate	Phoenix	Serious
	Douglas	Non-Attainment	Bullhead City	Maintenance	Tucson	Maintenance
	Hayden	Non-Attainment	Douglas	Moderate		
	Miami	Non-Attainment	Hayden/Miami	Moderate	8 Hour Ozone Area	
	Morenci	Maintenance	Nogales	Moderate	Phoenix	Basic
	San Manuel	Non-Attainment	Paul Spur	Moderate		
			Payson	Maintenance		
			Phoenix	Serious		
			Rillito	Moderate		
			Yuma	Moderate		

II. FACILITY DESCRIPTION

A. Process Description

1. Hot Mix Asphalt Plant

Hot mix asphalt (HMA) paving materials are a mixture of size-graded, high quality aggregate (including reclaimed asphalt pavement (RAP), and liquid asphalt cement, which is heated and mixed in measured quantities to produce HMA. Aside from the amount and grade of asphalt cement used, mix characteristics are determined by the relative amounts and types of aggregate and RAP used.

Hot mix asphalt paving materials can be manufactured by:

- a. Batch mix plants,
- b. Continuous mix (mix outside dryer drum) plants,
- c. Parallel flow drum mix plants, and
- d. Counter flow drum mix plants.

2. Crushing and Screening Plant

Rock and crushed stone products generally are loosened by drilling and blasting and then are loaded by power shovel or front-end loader into large haul trucks that transport the material to the processing operations. Techniques used for extraction vary with the nature and location of the deposit. Processing operations may include crushing, screening, size classification, material handling and storage operations. All of these processes can be significant sources of PM and PM₁₀ emissions if uncontrolled.

3. Concrete Batch Plants

At most of these plants, sand, aggregate, cement and water are all gravity fed from the weigh hopper into the mixer trucks. The cement is transferred to elevated storage silos pneumatically or by bucket elevator. The sand and coarse aggregate are transferred to elevated bins by front end loader, clam shell crane, belt conveyor, or bucket elevator. From these elevated bins, the constituents are fed by gravity or screw conveyor to weigh hoppers, which combine the proper amounts of each material.

The concrete is mixed on the way to the site where the concrete is to be poured. At some of these plants, the concrete may also be manufactured in a central mix drum and transferred to a transport truck.

B. Air Pollution Control Equipment

1 Hot Mix Asphalt Plant

Emissions from HMA plants may be divided into ducted production emissions, pre-production fugitive dust emissions, and other production-related fugitive emissions. Pre-production fugitive dust sources associated with HMA plants include vehicular

traffic generating fugitive dust on paved and unpaved roads, aggregate material handling, and other aggregate processing operations. The most significant ducted source of emissions of most pollutants from HMA plants is the drum dryer. The dryer emissions consist of water (as steam evaporated from the aggregate); PM; products of combustion {carbon monoxide (CO), nitrogen oxides (NO_x), sulfur oxides (SO_x)}, and small amounts of organic compounds of various species including volatile organic compounds (VOC), methane (CH₄), and hazardous air pollutants (HAP). Most plants use either a fabric filter or a venturi scrubber for emissions control.

2. Crushing and Screening Plants

Emissions of PM, PM₁₀, and PM_{2.5} occur from a number of operations in stone quarrying and processing. A substantial portion of these emissions consists of heavy particles that may settle out within the plant. As in other operations, crushed stone emission sources may be categorized as either process sources or fugitive dust sources. Process sources include those for which emissions are amenable to capture and subsequent control. Fugitive dust sources generally involve the re-entrainment of settled dust by wind or machine movement. Emissions from process sources should be considered fugitive unless the sources are vented to a baghouse or are contained in an enclosure with a forced-air vent or stack.

The moisture content of the material processed can have a substantial effect on emissions. Plants that use wet suppression systems (spray nozzles) to maintain relatively high material moisture contents can effectively control PM emissions throughout the process.

3. Concrete Batch Plants

Particulate matter, consisting primarily of cement and pozzolan dust but including some aggregate and sand dust emissions, is the primary pollutant of concern. In addition, there are emissions of metals that are associated with this particulate matter. All but one of the emission points is fugitive in nature. The only point sources are the transfer of cement and pozzolan material to silos, and these are usually vented to a fabric filter or "sock". Fugitive sources include the transfer of sand and aggregate, truck loading, mixer loading, vehicle traffic, and wind erosion from sand and aggregate storage piles. The amount of fugitive emissions generated during the transfer of sand and aggregate depends primarily on the surface moisture content of these materials. The extent of fugitive emission control varies widely from plant to plant.

Types of controls used may include water sprays, enclosures, hoods, curtains, shrouds, movable and telescoping chutes, and the like. A major source of potential emissions, the movement of heavy trucks over unpaved or dusty surfaces in and around the plant, can be controlled by good maintenance and wetting of the road surface.

III. APPLICABLE REGULATIONS

The Department has identified the applicable regulations that apply to each unit at a Hot Mix

Asphalt facility. Table 2 below summarizes the findings of the Department with respect to the regulations that are applicable to each emissions unit. Previous permit conditions are discussed under Section VI of this technical review document.

Table 2: Applicable Regulations Statewide excluding Maricopa, Pima, and Pinal County

Unit	Applicability date	Control Equipment	Applicable Regulations	Verification
Hot Mix Asphalt Plants (NSPS)	After June 11, 1983	.	40 CFR Subpart I	New Source Performance Standards Subpart I – Standards of Performance for Hot Mix Asphalt Plants. Affected facilities include dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler, system for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.
Hot Mix Asphalt Plants (Non-NSPS)	Before June 11, 1983	Baghouse, Venturi scrubber, Dust Collector, Spray bars	A.A.C. R18-2-702.B A.A.C. R18-2-708.	Standards of Performance for Hot Mix Asphalt Plants.
Asphalt Heater	Not Applicable	None	A.A.C. R18-2-702.B A.A.C. R18-2-724	Standards of Performance for Fossil-fuel fired Industrial and Commercial Equipment
Internal Combustion Engines	Not Applicable	None	A.A.C. R18-2-719	Standards of Performance for Existing Stationary Rotating Machinery.
Crushing and Screening Plants (NSPS)	After August 31, 1983	Wet Scrubbers, Spray Bars, wet suppressant, and enclosures.	40 CFR Subpart OOO	New Source Performance Standards Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants. Affected facilities include crushers, grinding mill, screening operation, bucket elevators, belt conveyors, bagging operations, storage bins, and enclosed truck or railcar loading stations.

Unit	Applicability date	Control Equipment	Applicable Regulations	Verification
Crushing and Screening Plants (Non-NSPS)	Before August 31, 1983	Wet Scrubbers, Spray Bars, wet suppressant, and enclosures	A.A.C. R18-2-722	Standards of Performance for Existing or Crushed Stone Processing Plants.
Concrete Batch Plants	Not Applicable	Baghouses and wet suppressants	A.A.C. R18-2-702.B A.A.C. R18-2-723	The conditions stated here are the opacity limitations.
Fugitive Dust	Not Applicable	Control Measures	<u>A.A.C.</u> A.A.C. R18-2-602 A.A.C. R18-2-604. A.A.C. R18-2-605. A.A.C. R18-2-606 A.A.C. R18-2-607. A.A.C. R18-2-612 A.A.C. R18-2-804.B	Emissions from Fugitive Dust Sources.
Mobile Sources	Not Applicable	None	A.A.C. R18-2-801 A.A.C. R18-2-802 A.A.C. R18-2-804.A	Emissions from Mobile Source

Table 3: Applicable Regulations for Maricopa County

Unit ID	Start-up date	Control Equipment	Applicable Regulations	Verification
Facility Wide Requirements	Not Applicable	None	Maricopa County Rule 100 §200.63.a.3.c Maricopa County Rule 220 §302.5 Maricopa County Rule 300 §301 Maricopa County Rule 300 §502 Maricopa County Rule 310 Maricopa County Rule 320 §300 Maricopa County Rule 300 §302 Maricopa County Rule 300 §303 Maricopa County Rule 316 §305 Maricopa County Rule 316 §501 Maricopa County Rule 316 §502	General Provisions and Definitions Non-Title V Permit Provisions Visible Emissions Fugitive Dust Odors And Gaseous Air Contaminants Nonmetallic Mineral Processing

Unit ID	Start-up date	Control Equipment	Applicable Regulations	Verification
Hot Mix Asphalt Plants	Not Applicable	Fabric filter baghouse, overflow warning system/device	Maricopa County Rule 316 §302	Asphaltic Concrete Plants located in Maricopa County
Crushing and Screening Operation	Not Applicable	Wet Scrubbers, Spray Bars, wet suppressants and enclosures	Maricopa County Rule 316 §301 Maricopa County Rule 316 §501	Nonmetallic Mineral Processing located in Maricopa County
Internal Combustion Engines	Not Applicable	None	Maricopa County Rule 324 §208 Maricopa County Rule 324 §215 Maricopa County Rule 324 §104 Maricopa County Rule 324 §302 Maricopa County Rule 324 §303 Maricopa County Rule 324 §304 Maricopa County Rule 324 §305 Maricopa County Rule 324 §306 Maricopa County Rule 324 §500 Maricopa County Rule 324 §501 Maricopa County Rule 324 §502 Maricopa County Rule 324 §503	Stationary Rotating Machinery subject to State rules located in Maricopa County.
Concrete Batch Plant Requirements		Spray Bars, wet suppressants, baghouses and enclosures	Maricopa County Rule 316 §303 Maricopa County Rule 316 §501	The regulations listed are applicable to Concrete Batch Plants located in Maricopa County.
Fugitive Dust	Not Applicable	Water trucks, and wet suppressants	Maricopa County Rule 316 §306 Maricopa County Rule 316 §307 Maricopa County Rule 316 §308 Maricopa County Rule 316 §309 Maricopa County Rule 316 §503 Maricopa County Rule 316 §504	The regulations listed are applicable to fugitive dust sources located in Maricopa County

Table 4. Regulations for Pima County

Unit	Start-up date	Control Equipment	Applicable Regulations	Verification
Hot Mix Asphalt Plants	Not Applicable	Fabric filter baghouse, overflow warning system/device	P.C.C. §§17.16.210	The regulations listed are applicable to Hot Mix Asphalt Plants located in Pima County.
Crushing and Screening Plant	Not Applicable	Spray Bars	P.C.C. §§17.16.010.C P.C.C. §§17.16.040 P.C.C. §§17.16.050 P.C.C. §§17.16.060 P.C.C. §§17.16.070 P.C.C. §§17.16.080 P.C.C. §§17.16.090 P.C.C. §§17.16.100 P.C.C. §§17.16.110 P.C.C. §§17.16.370 P.C.C. §§17.16.380	The regulations listed are applicable to Crushing and Screening Plants located in Pima County.
Concrete Batch Plants	Not Applicable		P.C.C. §§17.16.060 P.C.C. §§17.16.070 P.C.C. §§17.16.080 P.C.C. §§17.16.090 P.C.C. §§17.16.100 P.C.C. §§17.16.110 P.C.C. §§17.16.380	The regulations listed are applicable to Concrete Batch Plants located in Pima County.

Table 4. Regulations for Pinal County

Unit	Start-up date	Control Equipment	Applicable Regulations	Verification
Hot Mix Asphalt Plants	Not Applicable		Pinal Code §5-2-050.A Pinal Code §5-2-050.B Pinal Code §5-2-050.D Pinal Code §5-2-050.F	The regulations listed are applicable to Hot Mix Asphalt Plants located in Pinal County.
Crushing and Screening Plant	Not Applicable		Pinal Code §5-5-180 Pinal Code §5-5-190 Pinal Code §5-5-200	The regulations listed are applicable to Crushing and Screening Plants located in Pinal County.

Unit	Start-up date	Control Equipment	Applicable Regulations	Verification
Concrete Batch Plants	Not Applicable			The regulations listed are applicable to Concrete Batch Plants located in Pinal County.

IV. PREVIOUS PERMITS AND CONDITIONS

A. Previous Permits

Table 4 below lists the previous Crushing and Screening General Permits

Table 4: Previous Permits

Date Permit Issued	Permit #	Application Basis
11/17/2000	109	Hot Mix Asphalt General Permit issued

B. Previous Permit Conditions

The following are discussions on the previous General Permit. This revised General Permit differs from the earlier General Permit in the following main areas:

- Allows co-location of Crushing & Screening plant and Concrete Batch Plant in Maricopa County as well
- This permit revision allows use of RAP and crumb rubber

The new General Permit has been restructured. The new Attachments are as under:

- Attachment “A” has been revised to the latest version.
- Attachment “B” has been written for conditions specific to “Facility wide Requirements”
- Attachment “C” for “Hot Mix Asphalt Plants”
- Attachment “D” for “Internal Combustion Engines”
- Attachment “E” for “Crushing & Screening Plants”
- Attachment “F” for “Concrete Batch Plants”
- Attachment “G” lists out the additional requirements for sources operating in Maricopa County. **This is a new attachment for Maricopa County.**
- Attachment “H” lists out the additional requirements for sources operating in Pima County
- Attachment “I” lists out the additional requirements for sources operating in Pinal County

Hot Mix Asphalt General Permit

This permit was issued on 11/17/2000 to operate a Hot Mix Asphalt Facility

Hot Mix Asphalt General Permit, References	Determination				Comments
	Revise	Keep	Delete	Stream-line	
Introduction	x				The initial introduction includes language describing the equipment that requires an ATO and qualifying parameters for getting a general permit for hot mix asphalt plants. The new introduction will discuss the option of allowing co-location of crushing and screening plant and concrete batch plants and fugitive emissions in Maricopa County as well.
Attachment "A"	x				General provisions - revised to represent most recent language.
Attachment "B" I		x			This condition states that this permit is issued pursuant to the provisions of Arizona Revised Statutes and constitutes an Installation Permit for the purpose of the applicable State Implementation Plan.
Attachment "B" II.A				x	The condition for Operational Limitation has been streamlined.
Attachment "B" II.B	x				Record Keeping Requirements have been revised for adding requirements for Maricopa County.
Attachment "B" III.A and B.1	x				Operational Limitation and Smoke point requirements have been revised and moved to Attachment "C" as Condition I.A.1.
Attachment "B" III.B.2				x	This condition for 'Air Pollution Control Requirements' streamlined and moved to Attachment "C" as Condition I.A.2.a.
Attachment "B" III.B.3 & 4	x				These conditions for 'Testing Requirements' and 'Periodic Monitoring and Record keeping Requirements' are revised and moved to Attachment "C" as I.A.2.b & c. Performance test requirement changed from once in permit term to annual testing.

Hot Mix Asphalt General Permit, References	Determination				Comments
	Revise	Keep	Delete	Stream-line	
Attachment "B" III.B.5			x		This condition for Maintenance Requirements for Hot Mix Asphalt Plant has been deleted since a new condition II.C in Attachment "B" covers this under facility wide requirements.
Attachment "B" III.C				x	This condition for Fuel Limitation is streamlined and moved to Attachment "C", as Condition I.A.1.d
Attachment "B" III.D	x				This condition is for Recycle Asphalt requirement and is moved to Attachment "C" as Condition 1.A.1.e. Requirement for records of hot aggregate mixture temperature has been added.
Attachment "B" III.E.1 & 2		x			This condition for applicability of NSPS and particulate matter emissions is moved to Attachment "C" as Conditions I.B.1 & 2.
Attachment "B" III.E.3		x			This condition for testing requirements states the methods to be used for testing purposes. This has been moved to Attachment "B" as Condition II.D.
Attachment "B" III.E.4	x				This condition for notification to the Director for start up of facility revised and relocated in Attachment "C" as Condition I.B.3.
Attachment "B" III.F.1 and 2.a. (1) & (2)		x			This condition for applicability of non-NSPS and particulate matter emissions is moved to Attachment "C" as Conditions I.C.1 & I.C.2.a.
Attachment "B" III.F.2.a. (3)	x				This condition for opacity revised as per A.A.C.R 18-2-702.B and is moved to Attachment "C" as Condition I.C.2.b.
Attachment "B" III.F.3		x			Requirement of use of EPA Method 5 for PM testing is moved to Attachment "C" Condition I.A.2.c.ii.
Attachment "B" IV.A.1			x		This Condition for maximum fuel consumption in Asphalt Heater is deleted as this is covered in the application form.
Attachment "B" IV.A.2		x			This condition for Operating limitation for Asphalt heater has been moved to Attachment "C" as Condition II.B.1.
Attachment "B" IV.B.1		x			This condition for Particulate Matter and Opacity for Asphalt heater is moved to Attachment "C" as Condition II.C.1.

Hot Mix Asphalt General Permit, References	Determination				Comments
	Revise	Keep	Delete	Stream-line	
Attachment "B" IV.B.2	x				Language for this condition for Test Methods for Asphalt heater has been revised and the condition is moved to Attachment "B" as Condition II.D.2.
Attachment "B" IV.B.3			x		This condition for Maintenance Requirements for Asphalt heater has been deleted since a new condition II.C in Attachment "B" covers this under facility wide requirements.
Attachment "B" IV.C		x			This condition for fuel limitation is moved to Attachment "C" as Condition II.B.2 and II.D.1.
Attachment "B" V	x				Non-Point Source requirements have been revised to most recent language and moved to Attachment "B" as Condition III, Fugitive Dust Requirements.
Attachment "B" VI		x			This condition specific to Portable Sources has been moved to Attachment "B" as Condition V.
Attachment "C" I.A			x		This condition for maximum capacity of Internal Combustion Engine deleted since this forms a part of allowable capacity in the permit application.
Attachment "C" I.B		x			This condition for Internal Combustion Engine stack height relocated in Attachment "D" as Condition II.A.
Attachment "C" II.A		x			This condition for PM Emission standards is moved to Attachment "D", Condition III.A.
Attachment "C" II.B	x				The language of this condition for Test Methods for ICE has been revised and is relocated in Attachment "B" as Condition II.D.2.
Attachment "C" II.C			x		This condition for Maintenance Requirements for ICEs has been deleted since a new condition II.C in Attachment "B" covers this under facility wide requirements.
Attachment "C" III.A		x			This condition for fuel limitation for ICE is moved to Attachment "D" as Condition II.B.
Attachment "C" III.B			x		The Conditions for record keeping for ICE is moved to Attachment "D" as Condition IV.B.1.

Hot Mix Asphalt General Permit, References	Determination				Comments
	Revise	Keep	Delete	Stream-line	
Attachment "D" I		x			The Conditions for Applicability of the collocated C & S plants is moved to Attachment "E" as Condition I.
Attachment "D" II.A			x		This condition for maximum capacity for C & S plant has been deleted since this forms a part of allowable capacity in the permit application.
Attachment "D" II.B		x			This condition for operating hours is moved to Attachment "B" as Condition II.A.2
Attachment "D" II.C			x		This condition for Maintenance Requirements for C & S plant has been deleted since a new condition II.C in Attachment "B" covers these requirements.
Attachment "D" II.D		x			This Condition for operational limitation requirements is moved to Attachment "E" II.A.
Attachment "D" III.A		x			This Air pollution Control requirement for spray bars is moved to Attachment "E" as condition II.B.1.
Attachment "D" III.B		x			This Air pollution Control requirement is moved to Attachment "E" as condition IV.B.2.a.
Attachment "D" IV.A		x			This monitoring requirement for process weights is moved to Attachment "E" as condition II.C.1
Attachment "D" IV.B	x				This Method 9 monitoring requirement is moved to Attachment "E" as condition II.C.2 & 3.
Attachment "D" V.A		x			This record keeping requirement for operating hours is moved to Attachment "B" as Condition II.B.1.
Attachment "D" V.B		x			This record keeping requirement for amount of crushed material produced is moved to Attachment "E" as Condition II.C.5.
Attachment "D" V.C		x			This record keeping requirement for any changes to equipment is moved to Attachment "E" as Condition II.C.4.
Attachment "D" V.D			x		This record keeping requirement for maintaining manufacturers' data is deleted as this is covered by Condition II.C of Attachment "B" as a facility wide requirement.

Hot Mix Asphalt General Permit, References	Determination				Comments
	Revise	Keep	Delete	Stream-line	
Attachment "D" V.E			x		This recordkeeping requirement is not necessary because the permit does not contain alternate operating scenario.
Attachment "D" V.F			x		This requirement of maintaining records in electronic format is deleted as it is covered under Attachment "A" Condition XII.C.
Attachment "D" VI.A	x				This condition for Applicability of New Source Performance Standards for C & S equipment has been revised and re-located in Attachment "E" as Condition III.A.1
Attachment "D" VI.B	x				This condition for particulate matter and opacity for NSPS equipment has been revised and moved to Attachment "E" as Condition III.C.1.
Attachment "D" VI.C, D, E, & F	x				This condition for Monitoring Requirements, Test Methods and Procedures, Record Keeping Requirements, & Reporting Requirements have been consolidated for all the equipment of C & S plants and re-located in Attachment "E" as Condition III.C.
Attachment "D" VII.A		x			This condition for Applicability of Non-New Source Performance Standards for C & S equipment is moved to Attachment "E" as Condition IV.A.
Attachment "D" VII.B.1		x			This condition for particulate matter and opacity for non-NSPS equipment is moved to Attachment "E" as Condition IV.B.1.a.
Attachment "D" VII.B.2	x				This condition for opacity revised as per A.A.C.R 18-2-702.B and relocated in Attachment "E" as Condition IV.B.1.b.
Attachment "D" VII.B.3	x				This Method 9 monitoring requirement is moved to Attachment "E" as condition II.C.3.
Attachment "D" VII.C		x			Requirement of use of EPA Method 5 for PM testing is moved to Attachment "B" Condition II.D.2.

Hot Mix Asphalt General Permit, References	Determination				Comments
	Revise	Keep	Delete	Stream-line	
Attachment "E" I		x			The condition for Applicability of the collocated Concrete batch plant is moved to Attachment "F" as Condition I.
Attachment "E" II.A			x		This condition for maximum capacity and operating hours for Concrete batch plant has been deleted since this forms a part of allowable capacity and hours of operation in the permit application.
Attachment "E" II.B		x			This condition for operating hours is moved to Attachment "B" as Condition II.A.2.
Attachment "E" II.C			x		This condition for Maintenance Requirements for Concrete batch plant has been deleted since a new condition II.C in Attachment "B" covers these requirements.
Attachment "E" II.D		x			The condition for Operational Limitation has been moved to Attachment "F" as Condition II.
Attachment "E" III		x			The condition for Air Pollution Control Requirements is moved to Attachment "F" as Condition III.B.
Attachment "E" IV & V	x				The conditions for monitoring and record keeping requirements have been consolidated and re-located in Attachment "F" as Condition III.C.
Attachment "E" VI		x			This condition for opacity revised as per A.A.C.R 18-2-702.B and relocated in Attachment "F" as Condition III.A
Attachment "F" I.A		x			This Pima County Condition for Particulate Matter Emissions from HMA Plant is moved to Attachment "H" Condition II.A.
Attachment "F" I.B			x		This Pima County Condition for Fuel Limitations is deleted as it is covered under Attachment "C", Condition I.A.1.d.
Attachment "F" I.C			x		This Pima County Condition for Test Methods and Procedures for HMA Plant is deleted since already covered in Attachment "B", Condition II.D.2.

Hot Mix Asphalt General Permit, References	Determination				Comments
	Revise	Keep	Delete	Stream-line	
Attachment "F" II.A		x			This Pima County Condition for Particulate Matter Emissions from Crushing and Screening Plant is moved to Attachment H Condition III.B.1.a.
Attachment "F" II.B			x		This Condition is deleted as it is covered under Attachment "E", Condition IV.B.2.a.
Attachment "F" II.C			x		This Condition is deleted as it is covered under Attachment "E", Condition IV.B.3.
Attachment "F" II.D			x		This Pima County Condition for Test Methods and Procedures for C & S Plant is deleted since already covered in Attachment "B", Condition II.D.2.
Attachment "F" III			x		This Pima County Condition for Fugitive Emissions for C & S Plant is deleted since already covered in Attachment "B", Condition III.
Attachment "F" III.B		x			Pima County - Fugitive Dust Producing Activities –This condition is moved to Attachment "H" as Condition V.A.
Attachment "F" III.C		x			Pima County Condition for Fugitive Dust emissions from Motor Vehicles moved to Attachment "H" as Condition V.E.
Attachment "F" III.D		x			Pima County – Vacant Lots and Open Spaces – This condition is moved to Attachment : "H" as Condition V.B.
Attachment "F" III.E		x			Pima County – Roads and Streets – This condition is moved to Attachment "H" as Condition V.C.
Attachment "F" III.F		x			Pima County – Particulate Matter – This condition is moved to Attachment "H" as Condition V.D.
Attachment "F" III.G		x			Pima County – Storage Piles – This condition is moved to Attachment "H" as Condition V.F.
Attachment "F" III.H		x			Pima County – Mineral Tailing – This condition is moved to Attachment "H" as Condition V.G.
Attachment "G" I.A			x		This Pinal County Condition for PM emission has been deleted since it is covered under Attachment "C", Condition I.C.2.

Hot Mix Asphalt General Permit, References	Determination				Comments
	Revise	Keep	Delete	Stream-line	
Attachment "G" I.B			x		This Pinal County Condition for Fuel Limitation has been deleted since it is covered under Attachment "C", Condition I.A.1.d.
Attachment "G" I.C			x		This Pinal County Condition for Test Methods and Procedures for HMA Plant is deleted since already covered in Attachment "B", Condition II.D.2.
Attachment "G" II.A			x		This Pinal County Condition for PM emissions from Crushing and Screening Plant has been deleted since it is covered under Attachment "E" as Condition IV.B.1.a.
Attachment "G" II.B			x		This Pinal County Condition for Air Pollution Control requirement for Crushing and Screening Plant has been deleted since it is covered under Attachment "E" as Condition IV.B.2.
Attachment "G" II.C.1 and 2			x		This Pinal County Condition for Monitoring and Recordkeeping for Crushing and Screening Plant is deleted as it is covered under Attachment "E" as Condition IV.B.3.
Attachment "G" II.C.3 and 4			x		This Pinal County Condition for Test Methods and Procedures for C & S Plant is deleted as it is covered in Attachment "B", Condition II.D.2.
Attachment "G" III.A			x		This Pinal County Condition for Fugitive Dust requirement deleted since it is covered under Attachment "B" as Condition III.B.1.
Attachment "G" III.B			x		This Pinal County Monitoring & Record Keeping Requirements for Fugitive Dust has been deleted since it is covered in Attachment "B" as Condition III.B.2.

V. PERIODIC MONITORING (STATEWIDE)

A. Hot Mix Asphalt Plant

1. Opacity

The general permit specifies opacity limitations for the various point sources located within the facility. The source is required to conduct a monthly visible emission

survey and a quarterly EPA Reference Method 9 observation of visual emissions from the drum dryer, silo baghouse, and asphalt heater stacks.

2. Drum Dryer Baghouse

The general permit specifies black light inspection of the drum dryer baghouse within 180 days of the performance test.

3. Venturi Scrubber

The general permit specifies continuous monitoring of the pressure differential of the gas stream and scrubbing liquid flow rate through the wet scrubber.

4. Sulfur Dioxide

The Permittee is required to maintain records of daily sulfur content and lower heating value of the fuel fired in the drum dryer and asphalt heater, along with a copy of the fuel supplier certification specifying the sulfur content and lower heating value.

B. Crushing and Screening Operation

1. Opacity

The source is required to conduct a monthly visible emission survey and a quarterly EPA Reference Method 9 observation of visual emissions on all crushing and screening operations which include crusher operations. The source is also required to conduct a monthly visible emission survey and a quarterly EPA Reference Method 9 observation of visual emissions on all fugitive emissions from buildings that house any equipment.

2. Process Weight Rate

A monitoring device which can be used to determine the daily process weight of sand, gravel, or crushed stone produced, is required. The weighing device must have an accuracy of plus or minus 5% over their operating range.

C. Internal Combustion Engines

1. Opacity

The generators or internal combustion engines are subject to a 40% opacity limitation. The source is required to conduct a monthly visible emission survey and a quarterly EPA Reference Method 9 observation of visual emissions on all internal combustion engines. The Permittee will be required to keep records of any EPA Reference Method 9 observations performed. These records will include the emission point observed, location of observer, name of observer, date and time of observation, and the results of the observation. If the observation shows a Method 9 opacity reading in excess of 40%, the Permittee will be required to initiate appropriate corrective action to reduce the opacity below the standard. The

Permittee will keep a record of the corrective action performed.

2. Particulate Matter

The Permittee is required to monitor the lower heating value of the fuel being combusted in the internal combustion engines. Compliance with this requirement may be demonstrated by maintaining copy of the fuel supplier certification specifying the lower heating value.

3. Sulfur Dioxide

The Permittee is required to maintain records of daily sulfur content and lower heating value of the fuel fired in the internal combustion engines, along with a copy of the fuel supplier certification specifying the sulfur content and lower heating value.

D. Concrete Batch Plants

1. Opacity

Concrete batch plants are subject to a 40% opacity limitation when located in an attainment area until April 23, 2006, than they will be subject to a 20% opacity limitation. If the concrete batch plant is located in a non-attainment area than it is subject to a 20% opacity limitation. The source is required to a monthly visible emission survey and a quarterly EPA Reference Method 9 observation of visual emissions on all process equipment. The Permittee will be required to keep records of any EPA Reference Method 9 observations performed. These records will include the emission point observed, location of observer, name of observer, date and time of observation, and the results of the observation. If the observation shows a Method 9 opacity reading in excess of the opacity limit, the Permittee will be required to initiate appropriate corrective action to reduce the opacity below the standard. The Permittee will keep a record of the corrective action performed.

2. Baghouses

The Permittee is required to maintain logs of all maintenance activities performed on any baghouses. Included in these logs are the types of maintenance activity being performed, the duration of each maintenance activity, the date, start time and the end time of the activity. If the baghouse is equipped with a pressure drop measuring device than the Permittee will monitor and record twice per shift pressure drop across the baghouse.

E. Fugitive Emissions

The Permittee is required to The source is required to conduct a monthly visible emission survey and a quarterly EPA Reference Method 9 observation of visual emissions from all fugitive dust sources. The Permittee is required to keep a record of the date on which the survey was taken, the name of the observer, and the results of the survey.

If this observation indicates opacity in excess of the standard, then the Permittee is required

to report it as excess emissions. In addition, the Permittee is required to adjust the process equipment or process control equipment to bring the opacity below the standard. Monitoring and recordkeeping requirements for the fugitive dust sources include a record of the date and type of activity performed, and the type of controls used.

VI. PERFORMANCE TESTING

A. Particulate Matter

Performance test for particulate matter and the opacity on the drum dryer (equipment subject to NSPS) shall be conducted within 180 days of issuance of the permit. Subsequent test shall be conducted once every year.

- B.** If any equipment has emission limits specified for any criteria pollutants in the ATO, the Permittee shall conduct performance test on each such equipment within 180 days of issuance of the ATOs under this General Permit to demonstrate compliance with the specified emission limit. Subsequent test shall be conducted once every year.

VII. PERIODIC MONITORING (MARICOPA, PIMA, AND PINAL COUNTY)

A. Facility wide Operation

1. Odor Log

While in Maricopa County, the Permittee is required to maintain a log of complaints of odors detected off-site. The log will contain a description of the complaint, date and time that the complaint was received, and if given, name and phone number of the complainant. The logbook will also describe what actions were performed to investigate the complaint, the results of the investigation, and any corrective actions that were taken.

2. Operating and Maintenance Plan

The Permittee is required to submit an operating and maintenance plan for all control equipment located at the facility. Included in the O &M plan is that the Permittee must monitor the flow rate, the pressure drop, and any other criteria that show the control equipments is operating properly.

B. Crushing and Screening Operations

Operational

The Permittee is required to monitor the throughput of raw materials processed in the plant in tons/day, the hours of operation, the amount of each raw material delivered to the plant in tons/day, and the amount of water used to control fugitive emissions from process equipment.

C. Concrete Batch Plants

Baghouses

The Permittee is required to maintain logs of all maintenance activities performed on any baghouses. Included in these logs are the types of maintenance activity being performed, the duration of each maintenance activity, the date, start time and the end time of the activity. If the baghouse is equipped with a pressure drop measuring device than the Permittee will monitor and record twice per shift pressure drop across the baghouse.

VII. TESTING REQUIREMENTS (MARICOPA PIMA, AND PINAL COUNTY)

A. Grain Loading

Particulate matter and associated moisture content will be determined using the applicable EPA Reference Methods 1 through 5, 40 CFR Part 60, Appendix A.

B. Fugitive Emissions

The Permittee shall conduct performance tests for soil stabilization and moisture content as required by the Director.

VIII. LIST OF ABBREVIATIONS

A.A.C.	Arizona Administrative Code
ADEQ	Arizona Department of Environmental Quality
ATO	Authorization to Operate
MMBtu/hr	Million British Thermal Units per Cubic Foot
CBP	Concrete Batch Plant
CFR	Code of Federal Regulations
CO	Carbon Monoxide
C & S	Crushing & Screening
EPA	Environmental Protection Agency
HAP	Hazardous Air Pollutant
HMAP	Hot Mix Asphalt Plant
lb/hr	Pound per Hour
NO _x	Nitrogen Oxides
NSPS	New Source Performance Standards
P.C.C.	Pima County Code
PM	Particulate Matter
PM ₁₀	Particulate Matter Nominally less than 10 Micrometers
PTE	Permanent Total Enclosure
SO ₂	Sulfur Dioxide
VOC	Volatile Organic Compound