

GOVERNMENT OF THE DISTRICT OF COLUMBIA

District Department of the Environment



CHAPTER 2 TECHNICAL MEMORANDUM

TO: File

THROUGH: Stephen S. Ours, P.E. *SSO*
Chief, Permitting Branch

FROM: Gaurav Bansal *SSO For GB*
Environmental Engineer

SUBJECT: **Monumental Concrete LLC
Permit Number 6550-R1
Permit to Operate an Existing Ready Mix Concrete Batch Plant at 3 DC
Village Lane SW**

DATE: February 26, 2015

BACKGROUND INFORMATION

An initial renewal permit application to operate an existing Ready Mix Concrete Batch plant at the Monumental Concrete Corporation, LLC site located at 3 DC Village Lane SW, Washington, DC 20032 was received by the Air Quality Division on October 16, 2014. A revised application was received on December 8, 2014. In support of the application, Monumental Concrete Corporation, LLC (the "Permittee") submitted daily magnehelic gauge recordings and observations dated 1/3/2012 through 10/14/2014; specifications for the baghouse, hot water heater, and other equipment; and drawings of the equipment.

This permit will be published in the DC Register for notice of permit action on March 6, 2015. Public comments for the permit action will be solicited through April 6, 2015.

The Company has not requested that any of the materials submitted with this application be held confidential.

REGULATORY REVIEW

Chapter 2, Section 200: General Permit Requirements:

The concrete mix equipment is a potential air pollution source, especially for particulate matter.



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Thus a Chapter 2 permit is required. The Permittee is requesting a permit renewal to operate the equipment for one shift [8 hours] per day, six (6) days per week, and three hundred (300) days per years for five (5) years.

Chapter 6, Section 603 and Appendix 6-1: Particulate Process Emissions

The discharge of particulate matter into the atmosphere from any process shall not exceed three hundredths (0.03) grains per dry standard cubic foot of the exhaust. To meet the particulate matter emissions standard, the facility is using a baghouse with 99.9% efficiency. For the existing control device, the manufacturer recommends that the differential pressure across the bags read between 4 and 6 inches of water differential pressure across the bags as long as the bags are maintained at 99.9% efficiency.

To monitor the efficiency of the baghouses, magnehelic gauges must be installed to show the differential pressure across the bags and must read between 4 and 6 inches of water when operating the bag house. Per the manufacturers recommendation the facility shall keep the replacement parts (listed on the manufacturer's specification of the baghouse) for the bag house on site. It is contained in Conditions III(c) and (d). The Permittee has submitted daily magnehelic gauge readings for the days 1/3/2012 through 10/14/2014. In an email, the Permittee has stated that the recorded readings were read incorrectly, off by a factor of ten. For example, a reading of 0.42 inches of water should actually be 4.2 inches of water. A photo of the magnetic gauge is provided that shows the instrument has recorded differential pressure across the bags slightly above 4 inches of water.

According to the requirements of Chapter 6 Appendix 6-1, the facility is capable of processing over 60,000 pounds per hour of material. The maximum allowable total particulate matter emissions for this process flow is 40 pounds. According to AP-42 emission factors for controlled emissions from concrete batching, this facility would emit slightly more than 30 pounds of particulate matter per hour if operating at its maximum process rate. Therefore it is in compliance with Appendix 6-1.

Additionally, to ensure the equipment is maintained, differential pressure monitoring, visible emissions monitoring, and records of maintenance are required in the permit.

Chapter 6, Section 605: Particulates

The visible emissions limitations of 20 DCMR 605 are applicable to this concrete mix equipment. Reasonable precautions shall be taken to minimize the emissions of any fugitive dust into the outdoor atmosphere. The reasonable precautions shall include, but not be limited to, in the case of demolition of buildings or structures, use, to the extent possible, of water; in the case of removal of removal of demolition debris which is dusty or likely to become dusty, use of water to thoroughly wet the material before moving or removing the material and keeping it wet or otherwise in a dust-free condition until eventual disposal. These requirements are found in Conditions II(a) and (b) of this permit. The operational requirements are found in Condition

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III(f). The facility must monitor the site for compliance per Condition IV(e) and maintain records of deviations per Condition V(i).

Chapter 6, Section 606: Visible Emissions

The visible emissions limitations of 20 DCMR 606.1 are applicable to this concrete mix plant. Visible emissions shall not be emitted into the outdoor atmosphere from the operation of the concrete mix plant; provided that discharges not exceeding forty percent (40%) opacity (unaveraged) shall be permitted for two minutes in any sixty (60) minute period and for an aggregate of twelve (12) minutes in any twenty-four hour (24 hr.) period during start-up, or malfunction of equipment. This requirement is contained in Condition II(e). Monitoring for compliance is required pursuant to Condition IV(c). Records of any deviation must be kept pursuant to Condition V(g).

Chapter 9, Section 903: Odorous or Other Nuisance Air Pollutants

“An emission into the atmosphere of odorous or other air pollutants from any source in any quantity and of any characteristic, and duration which is, or is likely to be injurious to the public health or welfare, or which interferes with the reasonable enjoyment of life or property is prohibited [20 DCMR 903.1]” is applicable to all sources. This requirement is contained in Condition II(f) of the permit. Monitoring for compliance is required pursuant to Condition IV(d). Records of deviations must be kept pursuant to Condition V(h).

The Monumental Concrete facility maintains an approximately 5,000 gallon diesel storage tank to refuel trucks and machinery at the facility. This diesel storage tank is not subject to 40 CFR 60 Subpart Kb or 20 DCMR 201 because it does not store a petroleum product with a vapor pressure of 1.5 pounds per square inch or greater or have a storage capacity of 40,000 gallons or more.

Subpart JJJJJ: National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

The Monumental Concrete facility maintains a 2.7 MMBtu boiler that heats water during colder times of the year. Though it does not require a separate permit, this boiler is subject to Subpart JJJJJ since it can be classified as an industrial boiler. The regulatory requirements of Subpart JJJJJ have been included in permit Conditions III(j) and V(m), V(n), V(o), V(p), V(q), V(r).

Chapter 7: Volatile Organic Compounds and Hazardous Air Pollutants

The Monumental Concrete facility stores a number of liquid chemical additives often used in concrete batching. Some of these additives contain organic chemicals, specifically triethanolamine, methylenediethanolamine, and diethylene glycol. These chemicals have very low vapor pressures (below 0.008 mmHg), which means they have low volatility. This being the case, no regulatory conditions from Chapter 7 have been included in the permit.

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RECOMMENDATIONS

The renewal application to operate an existing ready mix concrete batch plant and the attached permit comply with all applicable federal and District air pollution control laws and regulations.

Public comments for the permit action will be solicited from March 6, 2015 through April 6, 2015. AQD will resolve any comments received before issuing the permit. If no comments are received, I recommend that permit (#6550-R1) be issued in accordance with 20 DCMR 200.1 and 200.2.

GB

04/27/15