SC DEPARTMENT *of*
ENVIRONMENTAL
SERVICES

Bureau of Air Quality
Response to Comments on Air Quality

River Bend Aggregates, LLC
Pacolet, Spartanburg County, South Carolina
Permit No. CP-50000137 v1.0

The following is the South Carolina Department of Environmental Services, Bureau of Air Quality's (SCDES or Department) response to the comments made during the formal comment period held December 7, 2023, through January 26, 2024, regarding the draft synthetic minor air quality construction permit for River Bend Aggregates, LLC (River Bend). A public meeting and hearing were held by the Department on January 11, 2024.

The Department Decision, permit, statement of basis, this response document, and a letter of notification are located for viewing at the SCDES Columbia office located at 2600 Bull Street, Columbia SC 29201, and on our webpage at https://des.sc.gov/programs/bureau-air-quality/air-quality-department-decisions.

Hardcopies of all the above-listed documents, as well as the written comments received can be requested by contacting our Freedom of Information Office at (803) 898-3882.

Air Pollution Impacts - Comments were received regarding concerns about the impact of the proposed facility on air quality, the environment, and public health, including but not limited to particulate matter impacts to asthmatics. A comment was also received with concerns about the particulate matter (dust) emissions released during aggregate operations.

Response: The Environmental Protection Agency (EPA) is required by the Clean Air Act (CAA) to establish National Ambient Air Quality Standards (NAAQS) for six principal pollutants ("criteria pollutants") which can be harmful to public health and the environment. Particulate matter is one of the six criteria pollutants subject to the NAAQS. The EPA regularly reviews all available scientific data to set concentration limits to be protective of

public health and welfare, including the health of sensitive populations such as asthmatics, children, and the elderly.

Per S.C. Regulation 61-62.1, "no permit to construct or modify a source will be issued if emissions interfere with attainment or maintenance of any state or federal standard." River Bend's proposed operations were evaluated to determine if the emissions from the proposed project would interfere with attainment of the NAAQS. In this case, although the facility's emissions were shown to be below threshold levels requiring an air quality analysis, modeling was performed anyway. An EPA-approved air dispersion computer model was used to conduct an air quality analysis that simulated the dispersion of the facility's maximum emissions into the atmosphere surrounding the proposed site. This model used official National Weather Service Meteorological data from the Greenville-Spartanburg International Airport that was reviewed by Department staff meteorologists. This meteorological data was deemed representative of the weather conditions that would be observed at the proposed site, including weather conditions that would result in the worst-case pollutant concentrations in the area surrounding the proposed facility location. The maximum facility PM_{10} and $PM_{2.5}$ concentrations were added to background (monitored) pollutant concentrations to determine compliance with the NAAQS. The EPA-approved model demonstrated compliance with the NAAQS at the property boundary and offsite without including trees or other vegetation as a buffer (a worst-case scenario).

Additional permit requirements and underlying federal and state regulations further address particulate matter emissions from the project and impose emission limits, controls (wet suppression), and monitoring. For further discussion, please see response under "Sources of Dust and Fugitive Dust".

Portable Air Monitors – A comment was received that the concerns of the major health effects of fine particulate matter are well-documented at levels well below the current national air quality standards and that the Department should acknowledge these concerns and require the facility to incorporate portable air monitors with real time data and that the data would verify compliance with permit and provide transparency regarding the effectiveness of dust mitigation efforts.

Response: There is no applicable requirement for the use of portable air monitors. The Department relies on its stationary network of ambient air monitors to continuously monitor air quality throughout the state and determine compliance with the NAAQS and state ambient air quality standards as outlined by federal regulations. South Carolina's ambient air monitoring network monitoring stations are strategically located in a diverse set of geographical locations to represent ambient pollution levels. Per 40 Code of Federal Regulations (CFR) Part 58, Appendix D, ambient air monitors are required to be placed in areas with the highest population, or where the highest pollutant concentrations are expected to occur. If the ambient network monitors demonstrate that air pollutant concentrations are below the national standards, it is reasonable to expect that the air

pollutant concentrations in the surrounding areas are also lower than the national standards. The monitoring network is reviewed annually to ensure that the requirements and the needs of the air program are met. The Department has operated an air quality monitoring network in South Carolina since 1959. The monitoring network currently includes eighteen (18) $PM_{2.5}$ monitors and samplers and two (2) PM_{10} monitors and samplers at ten (10) sites across the state. The EPA is also required to designate areas of the country as nonattainment when monitoring information shows pollutant concentrations exceed (or violate) a set standard. All monitors in South Carolina show attainment with all current air quality standards, including for PM_{10} or $PM_{2.5}$.

The nearest PM10 ambient monitor to the proposed site is located at the Greenville ESC monitor in Greenville, SC. The nearest PM2.5 monitor to the site is located at the T.K. Gregg monitor in Spartanburg, SC. These monitors represent the highest expected concentrations and population exposure in the area that includes (but is not limited to) the proposed facility. Nearby property owners, community members, or others may visit the Department's website for further information on the Department's ambient air monitoring.

In addition, there is historical PM_{10} monitoring data available for granite quarries. The monitoring was contracted and conducted for a Columbia area quarry between 2003 and 2008. The performance and accuracy of the monitors were periodically reviewed by SCDES technical staff. This monitoring data showed that ambient air quality standards were being met. The maximum permitted production rate at the Columbia area quarry is higher than that of the proposed River Bend quarry. Furthermore, due to concerns about PM_{10} concentrations in adjacent communities, the SCDES conducted ambient PM_{10} monitoring near two granite quarries in Columbia from 1991 to 2012 and from 1991 to 2010, respectively. At the time the monitoring was discontinued, the results of that monitoring showed ambient concentrations were less than half of the health-based standards for PM_{10} in the area around both quarries.

Based on air dispersion modeling showing compliance with the PM standards, permit requirements to control PM emissions, and the historical information indicating compliance with the PM ambient standards at other mining sites, River Bend's operations are not expected to cause or contribute to a violation of State or Federal ambient air quality requirements.

Furthermore, portable air monitors give a general look at whether certain pollutants are present or not but cannot determine the exact origin of the pollutants. The portable air monitors do not take samples that can be tested for specific pollutants that a facility may emit. Federal and state regulations do not require the installation of portable ambient air monitors or reporting of such monitoring data to the public. Also, such monitoring data cannot be used to demonstrate compliance with permit limits or the NAAQS. Permit and regulatory compliance will be reviewed during the Department's unannounced air inspections, during which inspectors review all required records, observe the facility's

processes while in operation, make visual emission observations, verify that equipment onsite matches that listed in the permit, and review other pertinent information.

Facility's Minor Source Status – A comment was received that this facility has uncontrolled PM emissions above the major source threshold of 250.0 tons per year for Prevention of Significant Deterioration (PSD) and stating concerns regarding SCDES's classification of the proposed facility as a minor source of air pollutants.

Response: As indicated in the construction permit application, the proposed facility has uncontrolled emissions rates for PM above the PSD major source threshold of 250.0 tons per year. However, the facility has requested a synthetic minor construction permit with federally enforceable limits to restrict its potential to emit (PTE) to less than 250.0 tons per year, thus avoiding classification as a major source for PSD. Such application of a synthetic minor limit is consistent with regulatory requirements as set forth in S.C. Regulation 61-62.1, Section II(E). The draft synthetic minor construction permit requires operation of a control device (wet suppression via spray bars and water trucks) and requires recordkeeping and reporting of its actual PM emissions. The facility's controlled emissions calculations based on use of control equipment have been reviewed, and these emissions estimates, in combination with the federally enforceable limits, adequately demonstrate a PTE below major source thresholds.

To ensure compliance with the federally enforceable limits, the air construction permit requires the facility to conduct weekly inspections on the wet suppression equipment to ensure they are operating properly. This data is required to be recorded in a logbook. During the Department's unannounced air inspections, the inspectors review all required records, observe the facility's processes while in operation, make visual emission observations, verify that the equipment onsite matches those listed in the current permit, and review any other pertinent information and detail these findings in the inspection report. In addition to the unannounced inspections, Department staff will investigate community complaints. The draft air construction permit also requires the facility to record actual production levels and PM emissions for each month, as well as 12 month rolling sums of its actual PM emissions for each month, and to report all emissions calculations and rolling sums annually. Any alleged violations are referred to the Department's Enforcement Section for resolution.

AP-42 Emission Factors – A comment was received that the facility should be subject to major source permit requirements because PM emissions calculation relied predominantly on EPA's AP-42 document and its factors are approximate average emission rates and not the maximum emission rate necessary to calculate PTE.

Response: The Department reviews the emission factors used for evaluating PTE on a permit-by-permit basis. As the commenter stated, emissions for loading and processing plant activities were generally estimated using emission factors and engineering judgment

based on Section 11.19.2, Table 2 of the EPA-developed document, *AP-42: Compilation of Air Emission Factors* (AP-42). Consistent with other mining operations, for instances where emission factors for PM, PM_{10}, and/or $PM_{2.5}$ were directly unavailable in Table 2, conservative estimates and engineering judgment were used to determine a representative factor. As described in the introduction to AP-42, AP-42 emission factors are generally intended to reflect a representative value for relating the quantity of a pollutant with an activity associated with the release of the pollutant. AP-42 emission factors for Construction Aggregate Processing are widely used for estimating emissions from granite quarries, and the Department (as well as permitting authorities in other states) have generally accepted its use. As discussed above, the application of the AP-42 emission factors for uncontrolled operations yielded an emission rate above the major source threshold. However, the facility has requested synthetic minor limits and is controlling its emissions using wet suppression. The use of applicable AP-42 emission factors for controlled emissions yields facility-wide PTE figures well below the major source threshold. Please refer to the Statement of Basis for further details regarding emissions estimates.

Sources of Dust and Fugitive Dust – Concern was expressed about sources of fugitive dust, specifically referencing activities such as drilling, blasting, loading, hauling, crushing, and conveyance of crushed materials.

Response: Various permit conditions and regulatory requirements specifically address control of particulate and fugitive dust emissions from material handling activities such as loading, hauling, crushing, and conveyance of crushed materials. Emissions estimates for all these activities, except for blasting, were provided in the construction air permit application and are addressed in the Statement of Basis for the permit.

Dust emissions from the operating equipment and the on-site roads are required to be controlled in accordance with air quality regulations. These regulations limit PM emissions and opacity (amount of light blocked by dust particles). Air dispersion modeling and emissions evaluation demonstrated that PM pollutant concentrations would not exceed the NAAQS, which are protective of public health and the environment. For health impact information, please see the *Air Pollution Impacts* section.

Using wet suppression to control PM and fugitive dust emissions is required by the air permit. As discussed above, the air construction permit requires the facility to conduct weekly inspections on the wet suppression related equipment to ensure they are operating properly. The crushed stone processing plant (crushers, screens, conveyor systems) is regulated under the federal EPA New Source Performance Standard for Nonmetallic Mineral Processing Plants, 40 CFR Part 60, Subpart OOO, as well as State standards. These regulations and the permit require the use of wet suppression and require maintenance, inspections and, if necessary, corrective action on that control equipment. Water trucks (or other dust control measure) will be used to control fugitive emissions. When dust suppression is conducted in accordance with the permit, it should be effective in controlling

dust emissions.

The facility must also develop and implement a comprehensive Fugitive Dust Control Plan (plan) to ensure fugitive dust emissions are minimized. This plan must be submitted to the Department for approval 180 days prior to start of operations. The plan shall address, at a minimum, fugitive dust control procedures related to water trucks, truck traffic, storage piles, and process equipment.

Blasting is typically conducted while primary crushing and hauling are not in operation. The blast area is cleared before the blast and blasting cannot resume until the blasting contractors have inspected the blast area and deemed the area safe for re-entry. Operations are typically shutdown for approximately 30 minutes and the "actual blast" occurs in less than one minute. The emissions created from blasting are offset by the lack of emissions from primary crushing and hauling since these operations are not conducted while blasting. Blasting activities are directly regulated pursuant to the South Carolina Mining Act and mining permits issued under such authority. Accordingly, the comments related to blasting will be considered by the Bureau of Land and Waste Management (BLWM) as part of the review of the mining permit application.

The facility is not a Title V or Prevention of Significant Deterioration (PSD) major source; therefore, fugitive emissions are not required to be included in the facility's PTE. However, these fugitive emissions (except for blasting emissions) are included in the facility's uncontrolled emissions and controlled emissions calculations. For full detail of the emissions calculations, please refer to Appendix B Emissions Calculation of the air construction permit application, as well as the Statement of Basis for the permit.

Representation at the Meeting - A comment was received that the public meeting and hearing conducted on January 11, 2024, was used by the elected officials to promote themselves as opposed to addressing potential concerns or considerations, and that there was a lack of representation from citizens, as the meeting was not promoted by the town.

Response: The Department's procedures for public participation are designed to provide opportunities for public awareness and involvement consistent with regulatory requirements, including making draft permitting resources available to the public for review and comment. In accordance with S.C. Regulation 61-62.1, the permit application, draft air permit, and draft statement of basis were put on public notice, and notice of the public meeting and public hearing were provided on the SCDES Website. A period for submitting written comments was provided, as well as the opportunity to make comments at the public hearing. A public meeting and hearing are open to everyone, and everyone is provided with the same opportunity to provide questions and/or comments on the proposed facility. The Department reviews and considers all comments received relevant to the proposed project and the applicable regulatory and permit requirements.

Economics/Community/Quality of Life Concerns and Quarry Location - A comment was received regarding an additional quarry in the area and its potential impacts on the community's quality of life, property value, community well-being.

Response: The economics and quality of life of a community can be impacted by a variety of factors. These factors cannot be used by the Department when making a permit decision. Moreover, the Department does not have the authority to dictate where a facility may be located or to make zoning decisions. Zoning and land use decisions are outside of the Department's purview and are typically made by city or county zoning authorities, usually before a permit request is submitted to the Department. The decision of whether to grant a construction permit is based on the technical review of the proposed project, state and federal air quality regulations, and the project's ability to comply with those regulatory requirements. The Department has determined that River Bend has demonstrated it can meet the standards and requirements by operating in accordance with the submitted application and in compliance with permit requirements.

Impacts on Other Non-Air Quality Environmental and Cultural Resources – Comments were received expressing concerns about impacts to non-air quality resources, such as impacts to wildlife/animals, vegetation, natural habitats, natural resources, soil, structures, water quality and quantity and hydrology, groundwater, river, lake, preserve, local ecosystems, seismic activity, blasting impacts, flyrock, visual impacts of overburden piles, other environmental degradation, and impacts to cultural, archaeological, and historic sites and resources.

Response: Air permit decisions are based on the applicable air quality regulations and standards in place at the time of the Department's technical review of the permit application. Based upon this review, the proposed facility has met the requirements for issuance of a permit. The above-referenced non-air quality impacts are outside the scope of the Department's air quality regulations and thus are not addressed in the air quality permit. River Bend has also applied for a mining permit from BLWM and for a National Pollutant Discharge Elimination System (NPDES) permit from the Department's Bureau of Water (BOW). All applicable comments will be considered by BLWM and BOW as applicable to the facility's mining and water permit reviews. In addition, the secondary NAAQS for PM are set to protect public welfare, including protecting against air pollutant damage to buildings, animals, crops, and vegetation. Impacts to wildlife are also assessed by South Carolina's Department of Natural Resources (SC DNR) and reviewed by BLWM as part of the mine permit application process.

Heavy Equipment/Machinery – A comment was received regarding smog precursors and greenhouse gases from the operation of heavy equipment and machinery.

Response: The facility proposes to install a processing plant consisting of crushers, screens, and conveyors operated off electricity. The facility also proposes installing two water pumps.

The pumps are portable, non-road engine and do not meet the definition of a stationary source and thus are exempt from air quality permitting. Additionally, mobile sources such as trucks, forklifts, etc. are also not within the purview of the air quality regulations. However, exhaust emissions from vehicles are regulated by the EPA under the authority of the Clean Air Act (CAA).

Traffic/Roads - A comment was received concerning the cost of the maintenance for the bridge and roads and other hazards to public roads. A comment was also received regarding concerns regarding elevated truck traffic, dust, and the potential safety risks and livability.

Response: The Department does not have the authority to regulate truck traffic on public roads, as this is under the jurisdiction of the SC Department of Transportation. Additionally, the allocation of funds for road maintenance is typically under the jurisdiction of the local municipality or county. However, the Department regulates the fugitive dust from roads within the facility, and the facility is required to have a Facility Wide Fugitive Dust Control Plan. As part of the facility's fugitive dust plan, signage shall be posted on site with respect to Sections 56-5-4100 and 56-5-4110 of the S.C. Code of Laws, requiring that haul trucks transporting aggregate from quarries prevent the escape of materials loaded onto vehicles, clear spilled material, or cargo from highways, and ensure that loads and covers are firmly attached. In addition, exhaust emissions from vehicles are regulated by the EPA under the authority of the Clean Air Act (CAA).

Permit Decision – A comment was also received that the decision to issue the permit has already been made.

Per the air quality regulations, the Department is required to review the application and to draft a construction permit before the public comment period. The intent of the public comment period is to give the community the opportunity to simultaneously review and comment on the application and draft permit, including whether the application meets all applicable state and federal air pollution regulations. The information required to make an air permit decision was submitted by the facility and included an air dispersion modeling analysis showing that the project would not interfere with attainment of ambient air quality standards, a regulatory review of the applicable state and federal standards, and a demonstration that the facility would be able to meet these requirements. After the assessment of the air permit application and supplemental information, applicable state and federal air quality regulations, comments, and all other pertinent information, the Department has determined it has sufficient information to make a permitting decision.

Noise - The Department received comments regarding excessive noise and the number of decibels that would be generated from blasting, stone crushing, and truck traffic.

Response: The Department does not regulate noise and therefore does not have the

authority to make a permitting decision on noise levels. Issues such as noise are typically addressed at the local level by municipalities or counties. Additionally, the Mine Safety & Health Administration (MSHA) has noise standards to protect worker safety. These noise standards have the added benefit of limiting noise beyond the permit area. However, excessive noise levels not typical for a site should be reported to the SCDES regional office.

General Opposition and Support - Comments were received regarding the general support of the facility and general opposition to the facility.

Response: The Department does not have the authority to make permitting decisions based on general opposition to or support of a proposed project. The approval, denial, or modification of a draft permit is instead based on the technical review of the proposed project, the state and federal air quality regulations, and the proposed facility's ability to meet those regulations.