

## South Carolina Department of Health and Environmental Control Summary Response to Comments

Sassafras Timber, LLC | I-002310 | Sassafras Mine  
Dorchester County, South Carolina  
June 19, 2023

This summary is being provided in conjunction with the South Carolina Department of Health and Environmental Control's (DHEC) decision to approve the permit application and issuance of a permit for the Sassafras Mine located approximately 8.6 miles south of Summerville, SC in Dorchester County. Specifically, the site is 3.75 miles southeast of the intersection of SC Primary Highways 165 and 61 (Deleamar Highway and Ashley River Road). The operation of this mine is to excavate sand and sand/clay.

DHEC's mission is to protect and promote the health of the public and the environment. Through the passage of environmental statutes and regulations, the S.C. General Assembly has established the conditions and criteria that DHEC follows in the permitting process. DHEC's role is to ensure that a proposed project meets all regulatory requirements that have been established in order to be protective of human health and the environment. If it has been determined that an applicant or application has met all applicable regulatory requirements, DHEC does not have the authority to withhold the issuance of a permit.

As part of the permitting process, DHEC engages other state and federal agencies, the surrounding communities, and the general public prior to making a final permit decision in order to:

- 1) Provide information about the proposed permitted activities in the communities;
- 2) Give agencies, community members, and other interested parties an opportunity to submit relevant information to DHEC for consideration prior to making a final permit decision; and,
- 3) Provide an opportunity to submit other concerns to the attention of DHEC and the applicant.

Public meetings and public hearings are methods DHEC uses to hear concerns and receive comments during the permitting process. A public meeting is an informal conversation with DHEC staff, to include questions and answers. A public hearing is a formal opportunity for comments to be stated and recorded by a court reporter for inclusion in the official file.

On September 30, 2021, DHEC held a public meeting on the proposed Sassafras Mine. A public hearing was held on October 21, 2021. These events were conducted using a virtual platform in a live-event setting. Recordings of both virtual events have been posted on DHEC's webpage for the proposed mine at [www.scdhec.gov/SassafrasMine](http://www.scdhec.gov/SassafrasMine). DHEC also extended the period to accept written comments through November 5, 2021.

DHEC values all public comments received during the permitting process and is committed to addressing and considering all relevant information prior to making a final permit decision. Public input is an important part of the permitting process and can result in changes to permit conditions and operational practices if a permit is issued.

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The following responses are being provided in response to comments received during the public comment period, the public meeting, and the public hearing for SassafRAS Mine.

### Section 1: The South Carolina Mining Act

The principal law governing mining in this state is Title 48 Chapter 20: The South Carolina Mining Act. The legislative purpose of the Act is to provide that: (1) the usefulness, productivity, and scenic value of all lands and waters involved in mining within the state receive the greatest practical degree of protection and restoration; and that (2) no mining may be carried on in the state unless plans for the mining include reasonable provisions for protection of the surrounding environment and for reclamation of the area of land affected by mining. A complete copy of the Act can be found at <https://www.scstatehouse.gov/code/t48c020.php>.

The Act provides specific criteria for review of mine permit applications by DHEC. The Act does not supersede local zoning ordinances. Issues related to zoning (i.e., property value and industrial development) are under the jurisdiction of county and municipal planning departments and governed by zoning and land use regulations. DHEC has not been given the authority to consider the effect of a mining operation on property values. DHEC is required to evaluate the application in a timely manner and to consider relevant environmental issues.

The Act allowed the development of regulations to establish minimum standards for mining operations. Regulations 89-10 through 89-350 became effective on June 24, 1983 and have been subsequently modified. These regulations outline the requirements for permitting the design, construction, operation, maintenance, reclamation, and closure of mine sites. The complete list of regulations can be found at:

In reaching the decision to approve the permit application and issuance of a permit for the Sassafra Mine, DHEC staff reviewed all information contained in the application, supplemental information submitted by the applicant, and all agency and public comments to ensure that the requirements of the Act and Regulations had been met. DHEC has determined that the applicant has met the applicable requirements and is approved to construct and operate the mine in accordance with the conditions and limits set forth in Permit No. I-002310.

## Section 2: Additional Terms and Conditions

In response to information contained within the application, as well as by comments received by other agencies and the communities during the public comment period, DHEC incorporated additional terms and conditions in the final permit. These additional terms and conditions are as follows:

1. If archaeological materials are encountered prior to or during the construction of mine facilities or during mining, the SC Department of Archives and History, the SC Institute of Archaeology and Anthropology, and the SC Department of Health and Environmental Control should be notified immediately. Historic or cultural resources consist of those sites listed in the National Register of Historic Places and those sites that are eligible for the National Register. Archaeological materials consist of any items, fifty years or older, which were made or used by humans. These items include, but are not limited to, stone projectile points (arrowheads), ceramic sherds, bricks, oyster shell, worked wood, bone and stone, metal and glass objects, human skeletal remains, and concentrations of charcoal and stones below the ground surface. These materials may be present on the ground surface and/or under the surface of the ground.

Prior to any disturbance in Segments 4, 5, or 6 the company must present a protection plan for Site 38DR0272. The decision on protecting these resources must be presented to DHEC for review by SC Department of Archives and History and approved before any activity within these areas.

2. In the future, if determined to be necessary by DHEC, an appropriate fence will be installed around the affected area.

3. Temporary or permanent placement of refuse and debris from off-site locations is prohibited. Topsoil, free of debris and contaminants and as defined in Regulation 89-10D, may be brought in from off-site sources, but only for the purposes of mine land reclamation.

4. The operator shall maintain a minimum fifty foot undisturbed buffer between any land disturbance activity and wetland areas. This buffer shall be permanently flagged prior to the initiation of any mine activity or preparation. The flags shall be maintained throughout the active mine operation of the site. The operator is allowed to discharge accumulated stormwater, free of sediment, into wetlands.

5. Prior to initiating activity in Segment 7, the operator must submit a USACE (U.S. Army Corps of Engineers) certified wetland delineation, Coastal Zone Consistency (CZC) request forms, revised mine plan and maps, and reclamation schedule. At this time, DHEC will also review the amount of the reclamation bond and adjust as necessary. All requests must receive CZC certification and be approved by DHEC with any bond increase received before proceeding in reserve areas.

6. The operator shall comply with the approved Coastal Zone Consistency Determination issued under the SC Coastal Zone Management Program by DHEC's Office of Ocean and Coastal Resource Management (OCRM). See Appendix B.

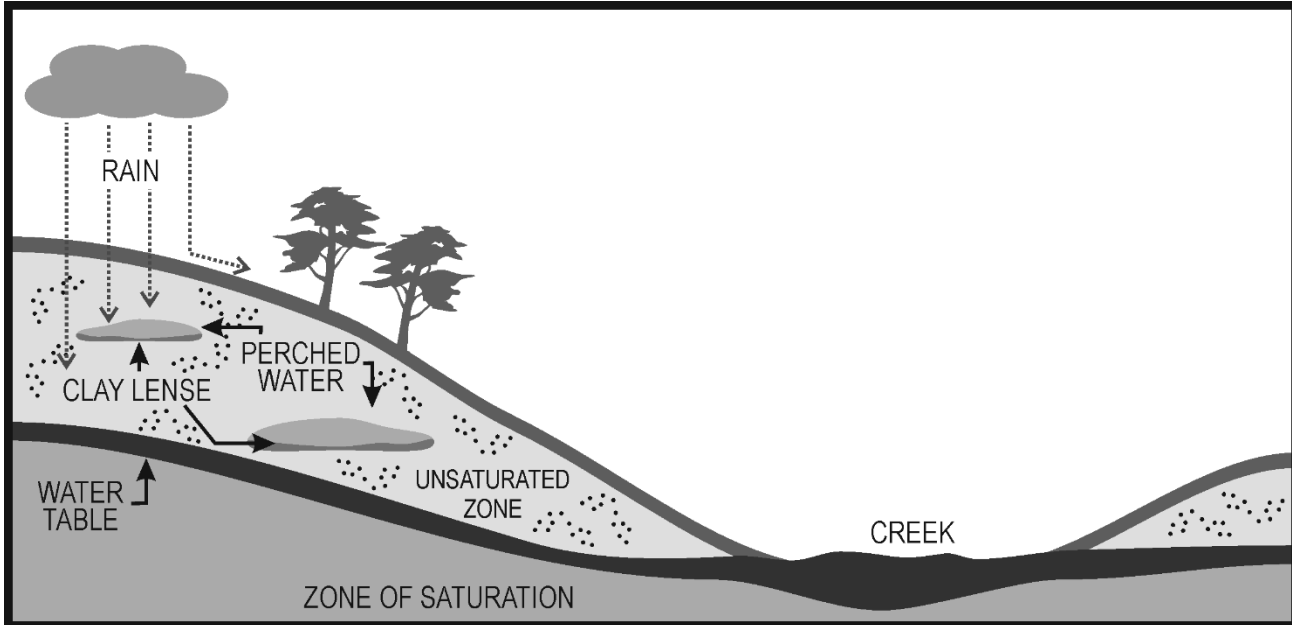
Some of these conditions are also detailed in subsequent sections.

## Section 3: Groundwater

Groundwater is water that collects or flows below the soil surface. The main source for groundwater is rainfall. Runoff from rainwater can go directly into water bodies or seeps into the ground. When water soaks (infiltrates) into the ground, gravity pulls the water down through the spaces between the soil particles and rocks until it reaches a depth where all of

the spaces are filled with water, or saturated. The water level where the soils are saturated is called the water table. The area above the water table is called the unsaturated zone, the area below the water table is the saturated zone.

As shown in the following diagram, the water table is not always at the same depth below the land surface - the level moves up or down depending on rainfall and the rate water is removed (e.g., irrigation, industry, well). The unsaturated zone may contain pockets (lenses) of tightly bound clayey soils that do not allow the water to infiltrate. In this situation, the water will collect (perch) on the top of these impermeable lenses. This is "perched water" and is not the true water table along the top of the saturated zone.



**Groundwater Availability:** DHEC considers the potential effects of mining activities on the quantity of groundwater available to nearby water supply wells, wetlands, and lakes/ponds. Pumping from the water table is expected at the Sassafras Mine. The permitted excavation depth is a maximum of 20 feet below ground level; this shallow depth will limit the lateral extent of the cone of depression, narrowing the area of influence.

A collection of stormwater and groundwater in the mine will be pumped into a sediment basin for retention and settling. Water from the basin will be discharged through the National Pollutant Discharge Elimination System (NPDES) outfall to existing ditches to adjacent wetlands. Water discharged from the site will provide some recharge to the wetlands and the water table aquifer thereby minimizing potential impacts to groundwater supply. It is not anticipated that the pumping of water from the mine will affect the quantity of water in nearby wells.

During the public comment period, DHEC obtained records on two wells in Boyle Plantation; records note the wells were drilled 360 feet deep. With the mine approximately 1.5 miles from this residential area, it is not anticipated pumping of water from the shallow mine (20') will impact the quantity of water in such deep wells so far away. However, the permit is conditioned such that if a water supply well complaint is received, DHEC is responsible for determining if dewatering activities at the mine have caused the problem. If DHEC determines the mine caused the problem, the operator is responsible for repairing, deepening, or re-drilling the affected well at no cost to the landowner.

**Groundwater Quality:** Groundwater contamination from the operation is not a concern. No chemicals are used in the excavation of materials from mines in the area. Both the mine permit and NPDES Stormwater Pollution Prevention Plan (SWPPP) require the operator to establish procedures to minimize fuel spillage or incidental spillage of other petroleum products during storage, refueling of equipment, or in the performance of routine maintenance on equipment. Any materials contaminated from contact with petroleum products shall be removed from the site and disposed of properly to prevent contamination of the ground and surface water resources.

## Section 4: Surface Water

Discharge Monitoring and Sediment Control: The operator is permitted to discharge wastewater and stormwater through outfall 001 in accordance with the *NPDES General Permit for Discharges Associated with Nonmetal Mineral Mining Facilities* (SCG731661). All discharges, free from sediment, will be routed into adjacent offsite wetlands through a regulated NPDES outfall. Discharges from the outfall will be subject to numeric effluent limits (total suspended solids and pH) and other permit requirements that are protective of human health and the environment. Should the operator be unable to meet the requirements of the NPDES permit, DHEC's Bureau of Water would initiate their compliance and/or enforcement procedures, accordingly.

Stormwater will be routed into the pit or any of the sediment basins throughout the site, in order to capture sediment runoff. This sediment will be allowed to settle out of the stormwater prior to being discharged offsite. The NPDES permit requires the operator to have proper Best Management Practices (BMPs) and a Stormwater Pollution Prevention Plan (SWPPP) in place.

The NPDES general permit requires that stormwater outfalls have appropriate BMP's to minimize the discharge of pollutants. The permit also requires benchmark monitoring of stormwater discharges. Benchmark monitoring involves collecting a quarterly sample during the first 30 minutes of the stormwater discharge and analyzing it for Total Suspended Solids. If the average of the four quarterly benchmark samples is greater than 100 mg/l Total Suspended Solids, then the operator must either improve their BMP's or document that it is not feasible to improve their BMP's. If the average of the four quarterly benchmark samples is less than 100 mg/l Total Suspended Solids, benchmark sampling is no longer required during this permit term for that outfall.

Potential for Flooding: The mine operating permit is conditioned such that "Active pumping and discharge of water shall cease if the dewatering discharge causes flooding conditions to property downstream of the mine site". At no time will the operator be allowed to flood neighboring properties.

## Section 5: Wetlands

The U.S. Army Corps of Engineers (USACE) issued an Approved Jurisdictional Determination (AJD) dated May 19, 2021 (SAC-2020-01142). The decision was based on the "Sassafras Timber Mining Permit Dorchester County, South Carolina" prepared by Newkirk Environmental, Inc. (August 2020). The USACE determined the mine site, as shown on the submitted information, did not contain aquatic resources subject to regulatory jurisdiction.

In addition, DHEC's Ocean and Coastal Resource Management Office (OCRM) reviewed the application for consistency with the S.C. Coastal Zone Management Program. OCRM determined the proposed operation consistent with the Guidelines for Evaluation of All Projects, as well as the (1) Coastal Industries (Mining) and the (2) Stormwater Management (Runoff and Mines) policies. The Coastal Zone Consistency Determination (HP7-A8HC-KB42X), dated December 30, 2021, has been added to the mining permit as Appendix B.

## Section 6: Buffers, Setbacks, and Visual Impacts

Buffer areas are areas that will not be disturbed beyond the pre-mine natural state. Buffers provide distance between the mining operation and the neighboring properties and wetlands. The Act and Regulations do not have specific requirements for buffer areas, so buffers are developed on a case-by-case basis. The size of the buffer and setback from the permit boundary is dependent on the nature of the mine, the neighboring land use, and the purpose of the buffer area.

The operator has designated 8.5 acres as buffer. Located within a 2,603 acres parcel in a rural area of mostly undeveloped tracts, the Sassafras Mine will be well buffered from adjacent properties. Historically, the permit area has been in silviculture practices with existing roads and drainage ditches. DHEC can only control activity in the area within the 171.5 acres under the permit. Sassafras Timber, LLC has the right to continue timbering activity, or other uses, on the balance of the tract outside the permit area.

The majority of adjacent parcels are forested but residences are located along the property line approximately 1.5 miles northwest of the permitted mine area. The distance between the mine and residences provides sufficient buffer to minimize potential effects of the mine on residences. Sassafras Timber, LLC maximized the distance between the access road and residences within the constraints of land ownership and wetlands.

The operation will maintain a minimum fifty-foot undisturbed perimeter buffer along all adjacent property lines, including off of the electric line easement.

The vegetation in the buffer will remain in its current state or be enhanced to provide for visual screening. Appropriate silviculture practices may be utilized to manage buffer areas that will allow thinning of timber under the direction of a S.C. licensed Professional Forester with prior approval from DHEC.

## Section 7: Noise

The majority of noise generated by mining activity is associated with motorized vehicles and equipment. The level of noise perceived at residences is usually related to the distance from the source of the sound, weather conditions, topography, and the type and condition of the equipment. Equipment such as trucks, dozers, and loaders usually has an average noise level determined by the manufacturer. The majority of the equipment averages 75 to 90 decibels (db) at a distance of fifty feet. Sound decreases (attenuates) with distance at the rate of about 3 to 5 db each time the distance between the source and the person hearing it is doubled.

Another factor used to buffer noise is topography. Overburden will be used to construct berms to block the direct path of sound. Additionally, the mine operating permit requires the operator to maintain equipment (e.g., mufflers on trucks, trackhoes, pumps) to minimize noise from the site.

The combination of undisturbed vegetated buffers, earthen berms, maintenance of equipment, and distance from the operation will consequently reduce the potential for sound heard offsite. There may be instances when the sound of equipment (back up alarms, trucks, etc.) can be heard, but the decibel levels should not be excessive.

Although no state standards exist for noise emitted from this type of industry, the Mine Safety & Health Administration (MSHA) does have noise standards applicable for worker safety to protect hearing. Therefore noise, limited at the source to protect workers, has the added benefit of limiting noise beyond the permit area.

## Section 8: Public Safety

Public safety around a mine site is always a concern. A primary method to ensure public safety is controlling access to the mine property. A gated entry and warning signs can minimize physical hazards to persons and adjoining land uses. Additionally, natural barriers (e.g., streams, wetlands, vegetation) and constructed berms provide a deterrent for accidental entry into a mine site. The combination of these barriers and site characteristics will limit public exposure to the operations at the site.

## Section 9: Traffic

A common concern expressed is the increase of truck traffic hauling mined material. The SC Mining Act only authorizes DHEC to regulate truck traffic on roads *inside* the permit boundary. DHEC can only evaluate impacts to public roads as it pertains to the physical effects from the mining operation (e.g. blasting, undermining, etc.). It does not give DHEC the authority to regulate or restrict vehicle traffic outside the permit boundary or deny a permit based on the potential increased use of such roads.

Other concerns with road systems, including use of the roads or general wear-and-tear issues, are under the jurisdiction of the S.C. Department of Transportation (SCDOT), S.C. Public Service Commission, or Dorchester County Department of Public Works.

## Section 10: Blasting

Blasting is not necessary to excavate sand and sand/clay resources. Blasting operations are not permitted at this mine site.

## Section 11: Air Quality

**Dust:** The potential for fugitive dust emissions from the proposed mining activities was a concern expressed in the hearing. DHEC is responsible for regulating dust emissions from a mining site. Sources of dust include moving equipment, handling of the mineral resource and overburden, truck traffic, and wind erosion.

At active sites, the major contributors of dust are equipment and truck traffic. Properly constructed access roads with dust suppression methods (e.g., water trucks, sprinklers) are the most effective way to manage dust from traffic. The operator will use a watering truck to aid in dust suppression. The frequency of watering will depend on weather conditions and volume of traffic.

Wind erosion of areas stripped of vegetation and material stockpiles are also sources for potential dust. The operator, where feasible, shall establish vegetation in non-active mine areas barren of vegetation to stabilize the soil and reduce potential for wind erosion and dust emissions. The combination of minimizing land disturbance and re-vegetation will lessen the potential for windblown dust.

**Health Risks with Dust Exposure:** Health risks are mitigated by controlling dust at the source. Source control measures include best management practices, such as water trucks, dust suppressants, sprinklers, etc.

MSHA is responsible for protecting the health of workers at mine operations. As part of their duties, MSHA monitors exposure of workers to dust. Results from monitoring show the risk is greatest within work environments involving processing (crushing/grinding) and operating equipment. If a problem concerning overexposure exists, MSHA would require the company install some type of engineering control to eliminate the concern at the source.

Meeting MSHA requirements to control dust in the immediate work area will further minimize any exposure risk outside the permitted area. No elevated exposure risk is anticipated from the mine beyond the property line.

Exposure to dust occurs on a daily basis from non-industrial sources such as dirt roads, fields, and bare lots. Although this mining operation does not add any new hazards, engineering and administrative controls have been designed to minimize the production of airborne dust. Based on the controls at the mine (natural buffers, distance from property lines, controls on the haul road), an increase in the exposure to silica or other materials beyond the property line is not anticipated.

Information on air monitoring in South Carolina is available on DHEC's Bureau of Air Quality website at <http://www.scdhec.gov/HomeAndEnvironment/Air/AmbientAir/>.

## Section 12: Zoning

Appropriate or compatible land use is determined by local government. DHEC has no authority regarding zoning in Dorchester County. Specifically, the S.C. Mining Act states in Section 48-20-250, "*No provision of this chapter supersedes, affects, or prevents the enforcement of a zoning regulation or ordinance within the jurisdiction of an incorporated municipality or county or by an agency or department of this State, except when a provision of the regulation or ordinance is in direct conflict with this chapter.*" DHEC recognizes that each county and municipality across the state has different priorities and unique requirements. DHEC relies on county and municipal governments, through zoning and other ordinances, to regulate where residential, commercial, and industrial zones may occur.

## Section 13: Threatened or Endangered Species

The S.C. Mining Act and Regulations do not allow an undue adverse effect on wildlife or freshwater, estuarine, or marine fisheries. DHEC has interpreted an "undue" effect as affecting either a South Carolina or federally listed endangered or

threatened species without approved mitigation. No concerns with threatened/endangered species at the site were raised by the S.C. Department of Natural Resources (DNR) or the U.S. Fish and Wildlife Service (USFWS) during DHEC's public comment period.

## Section 14: Cultural and Historic Sites

In their comments, the SC Department of Archives and History (SCDAH) referenced a survey conducted by Brockington & Associates (*Cultural Resources Survey & Archaeological Testing of Selected Sites at Watson Hill Tract, 2006*). The survey identified several sites near/within the area noted on the mine map. With the exception of site 38DR0272, SCDAH determined the remaining sites did not meet criteria for inclusion in the National Register of Historic Places.

SCDAH recommends further study or buffering of Site 38DR0272 from mine activity which is located within Segments 4 - 6. The operator's final decision on protecting these resources must be presented to DHEC, for approval by SCDAH, prior to any disturbance in Segments 4, 5 or 6. This requirement is noted in Part X: *Additional Term and Conditions* of the Mine Operating Permit.

## Section 15: Land and Property Value/Economic Impact

Comments were received regarding the impact on property values and possible economic impacts. All zoning decisions are made at the local level by a city or county zoning authority, usually before a permit request is received by DHEC. DHEC does not have the authority to dictate where a facility locates or factor property value impacts into the permitting decision. Residents are encouraged to contact the local city or county council representatives for more information on how to get involved in local zoning and planning issues.

## Section 16: Community/Quality of Life

Comments were received regarding the potential impact of the proposed mine on the local community's way of life. DHEC is committed to fulfilling the agency's responsibilities to protect and promote the health of the public and the environment. Through the exercise of those responsibilities, DHEC works to improve the quality of life of individuals and communities. However, the agency may only act within the limits of its statutory and regulatory authority. Through statutes and regulations, the General Assembly has established conditions and criteria the agency uses to ensure public health and environmental protection. DHEC is required to make its permit decision based only on technical review of the permit application and the Act and Regulations in place at the time of DHEC's review.

## Section 17: Operating Hours

DHEC does not have the authority to regulate operating hours at mine sites.

## Section 18: Inspections

S.C. Mining Act 48-20-130 and Regulation 89-240 allow DHEC to conduct inspections and investigations of the permitted area at any reasonable time for the purposes of determining whether the operator has complied with the reclamation plan, requirements of the Mining Act, any rules and regulations promulgated thereunder, or the terms and conditions of the operating permit. The Mining Program will conduct routine site inspections and compliance inspections, as needed.

The monitoring program under DHEC's Bureau of Water includes documentation of quarterly visual inspections, an annual comprehensive site inspection, quarterly benchmark sampling, an impaired waters assessment (TMDL sampling if discharging to an impaired water), monthly effluent limitations monitoring (if required), and other aspects like employee training, spill/leak assessments and documentation, and a Best Management Practices Plan. Compliance Evaluation Inspections (CEIs) are randomly conducted at permitted facilities approximately once every 5 years, unless a follow up is needed due to non-compliance with permit guidelines; in such cases, the facility may be inspected at DHEC's discretion to assess and/or enforce permit compliance. DHEC staff will also respond to complaints received about the facility.



## Section 19: General Opposition

DHEC received several comments requesting denial of a permit. While DHEC appreciates all comments received, it is important to recognize DHEC does not have the authority to make permitting decisions based on community, business, employee, or customer approval or disapproval of a proposed operation. DHEC is required by law to make a decision based on the technical review of an application and the regulatory requirements in place at the time of that review. In 48-20-70 of the S.C. Mining Act, DHEC is required to grant an operating permit to the applicant if there are no technical reasons to deny the permit.