



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

Edge Road Mine | I-002375
Horry County, South Carolina

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 mine located along Edge Road in Myrtle Beach, Horry County, S.C. Operation of this mine site is to excavate sand and 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.

A public hearing is one method DHEC uses to hear concerns and receive comments during the permitting process. It is a formal opportunity for comments to be stated and recorded by a court reporter for inclusion in the official file.

DHEC held a public hearing on the proposed Edge Road Mine on June 30, 2022 at 6:30PM. The public hearing was held at the J. Bryan Floyd Community Center located at 1030 Possum Trot Road in North Myrtle Beach, SC, and included both an in-person and virtual option to allow broader access by interested persons. A recording of the public hearing was posted on DHEC's webpage at www.scdhec.gov/EdgeRoadMine prior to the end of the public comment period. DHEC also extended the period to accept written comments through July 15, 2022.

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.

Contents

Section 1: The South Carolina Mining Act	2
Section 2: Additional Terms and Conditions	3
Section 3: Groundwater	4
Section 4: Surface Water.....	4
Section 5: Wetlands	5
Section 6: Buffers, Setbacks, and Visual Impacts	5
Section 7: Noise.....	6
Section 8: Traffic & Public Safety	6
Section 9: Air Quality.....	7
Section 10: Wildfires	7
Section 11: Threatened or Endangered Species	7
Section 12: Community/Quality of Life	8
Section 13: Inspections	8
Section 14: General Opposition	8

The following responses are being provided to comments received during the public comment period and public hearing for Edge Road 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 here: <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 here: https://scdhec.gov/sites/default/files/Library/Regulations/R.89-10_89-350.pdf

In reaching the decision to approve the permit application and issuance of a permit for the Edge Road 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-002375.

Section 2: Additional Terms and Conditions

In response to information contained within the application, as well as by comments received by other agencies and interested persons 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 S.C. Department of Archives and History, the S. C. Institute of Archaeology and Anthropology, and DHEC should be notified immediately. 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.
2. Temporary or permanent placement of refuse and debris (e.g., concrete, brick, asphalt) from off-site locations is prohibited without approval by DHEC. Topsoil fill approved by DHEC may be brought in from off-site sources only for the purposes of mine land reclamation.
3. In the future, if determined to be necessary by DHEC, DHEC will notify the operator in writing that an appropriate fence must be installed around the affected area and give the operator a time certain to perform such installation.
4. The operator shall maintain a minimum 50ft. undisturbed buffer between all land disturbance activity and any U.S. Army Corps of Engineers (USACE) jurisdictional wetlands. This buffer shall be permanently flagged prior to the initiation of any mine activity. The flags shall be maintained throughout the active mine operation of the site. The operator is allowed to discharge accumulated stormwater—that meets DHEC’s National Pollution Discharge Elimination System (NPDES) permit limits—into wetlands through a regulated NPDES outfall.
5. The operator shall install three (3) piezometers within the on-site wetlands, as specified in the approved mine maps. The piezometers should be installed to a 30-inch depth in identified hydric soils indicative of wetlands, in order to monitor the 12-18 inch surface groundwater. The piezometers shall be measured monthly, and the data shall be submitted quarterly to the Division of Mining and Solid Waste Management by the 28th of the next month following the end of the quarter. The records should include a record of daily precipitation measurements, with monthly rainfall totals graphed to facilitate comparison to the on-site well hydrographs and piezometer graphs.
6. The operator shall comply with the approved Coastal Zone Consistency Determination issued under the SC Coastal Zone Management Program by SCDHEC’s Office of Ocean and Coastal Resource Management (OCRM). See Appendix B.
7. If spotted turtles (*Clemmys guttata*) are in the project area, the mine operator shall consult with S.C. Department of Natural Resources (SCDNR) to develop a project specific management plan, including but not limited to, collection and radio tracking, capture and relocation, or no further action. The mine operator shall train staff to identify the spotted turtle. Staff will be directed to protect any identifiable turtle and take pictures, if possible, without disrupting the spotted turtle. Upon confirmation of the turtle’s identification by the mine operator’s contract biologist(s), the siting shall be reported to SCDNR for consultation. See Appendix B (of the Mine Operating Permit) for additional information.

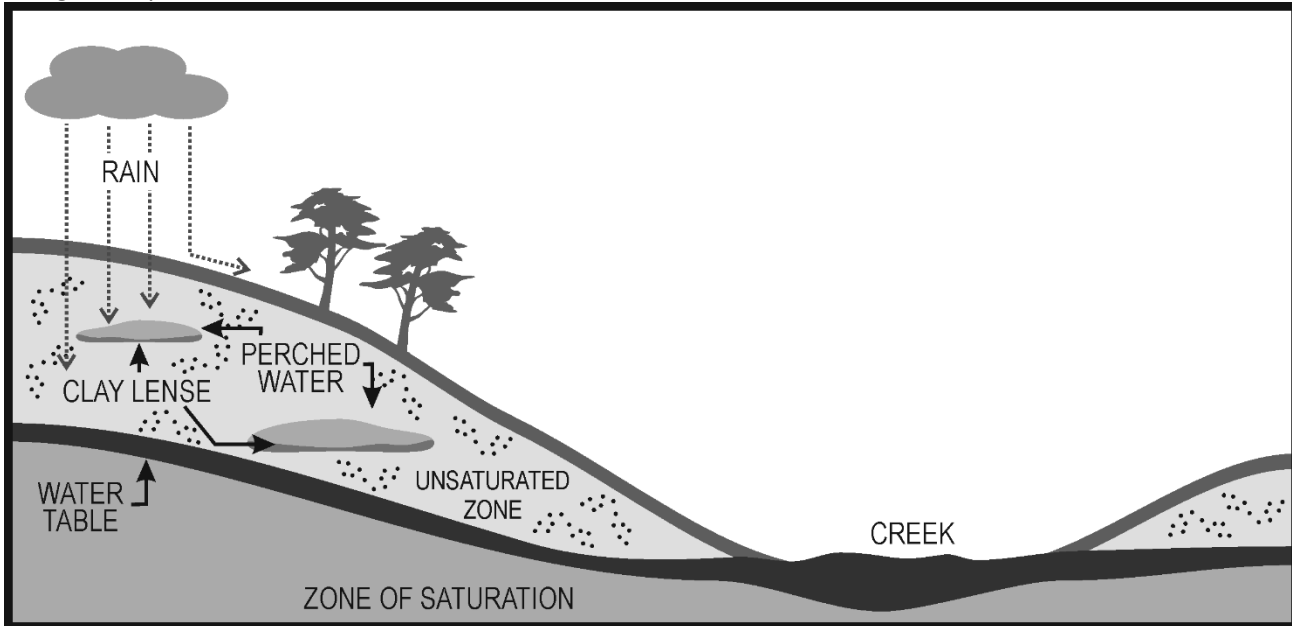
In order to avoid the take of Southern Hognose snake (*Heterodon simus*), the operator shall install silt fencing around mining activities as soon as feasible (preferably during winter months), but no later than one (1) week before mining activities commence in that segment, in order to restrict the snakes’ access to the site. The operator shall monitor the fence line daily during the week prior to mining activities commencing, and safely remove any trapped specimens. (The southern hognose snake is non-venomous to humans, but care should be taken to prevent workplace injuries; professional consultation is recommended.) The operator shall monitor the fence line weekly for the duration of activities in that area to ensure that the silt fence remains intact and is effective at deterring intrusion.

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 seep 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 diagram below, 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.



The water table at the mine site is relatively shallow and lowering of the water table via dewatering is necessary to facilitate mining. A recharge trench, or rim ditch, will be excavated around the perimeter of Segment One so that groundwater is maintained at a constant level during excavation. Once Segment One is fully excavated, the rim ditches will be removed and the primary sediment basin for the remaining operation will be constructed and used for constant groundwater recharge. Additionally, where feasible, stormwater runoff shall be diverted into the pit, collected into the sump, and discharged in the same manner as groundwater. Any accumulation of groundwater and stormwater shall be pumped into a sediment basin prior to discharge. Water discharged from the mine to a receiving stream must be discharged through an outfall regulated by an NPDES permit.

If an operator receives a complaint concerning adverse impacts to neighboring wells, the operator is to notify DHEC's Manager of the Mining and Reclamation Section, Columbia, SC, within 24 hours. After investigation, if DHEC determines dewatering activities at the mine are affecting a drinking water well or water supply well, the operator shall be responsible for repairing, deepening, or re-drilling such wells. Until that permanent water supply is re-established, the operator shall supply the owner with a temporary water supply (e.g., bottled water for drinking, provisions for laundry).

Section 4: Surface Water

Discharge Monitoring and Sediment Control: The operator is permitted to discharge wastewater and stormwater through the approved outfall point in Segment I in accordance with the *NPDES General Permit for Discharges Associated with Nonmetal Mineral Mining Facilities (SCG731593)*. All discharges will be routed north/northeast into Boggy Swamp. 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 will 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. Furthermore, the operator shall operate the site in accordance with the mine operating permit and the approved mine maps.

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 its BMP's or document that it is not feasible to improve its 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 operator shall maintain a minimum 50ft. undisturbed buffer between all land disturbance activity and any USACE jurisdictional wetlands on-site. This buffer shall be permanently flagged prior to the initiation of any mine activity. The flags shall be maintained throughout the active mine operation of the site. The operator is allowed to discharge accumulated stormwater—that meets NPDES permit limits—into wetlands through a regulated NPDES outfall.

The operator shall install three (3) piezometers within on-site wetlands, as specified in the approved Wetland Hydrology Monitoring Plan maps. The piezometers should be installed to a 30-inch depth in identified hydric soils indicative of wetlands, in order to monitor the 12-18-inch surface groundwater. The piezometers shall be measured monthly, and the data shall be submitted quarterly to DHEC's Division of Mining and Solid Waste Management by the 28th of the next month following the end of the quarter. The records should include a record of daily precipitation measurements, with monthly rainfall totals graphed to facilitate comparison to the on-site well hydrographs and piezometer graphs. These hydrographs and piezometer graphs are required in order for the operator and the Department to monitor correlations between rainfall and wetland hydrology, and to assess whether any anomalies present in reports are a result from weather and climate conditions or site operations. The operator has submitted a Wetland Hydrology Monitoring Plan for the Edge Road Mine. This plan includes installing three (3) wetland piezometers in wetlands both upstream and downstream of mine operations that automatically monitor and collect data.

Section 6: Buffers, Setbacks, and Visual Impacts

Buffer areas are areas that will not be disturbed beyond the pre-mine natural state and provide distance between the mining operation and the neighboring properties and wetlands. The Act and Regulations do not have specific requirements for buffer areas, therefore they are developed on a case-by-case basis by DHEC. 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 10.2 ac as buffer. The operator shall maintain a minimum 50-ft. undisturbed perimeter buffer between mining activity and all property lines for the majority of the site. Additionally, a minimum 100-ft. buffer will be maintained between mining activities and the Lewis Ocean Bay Heritage Preserve, with the exception of the already existing footprint that was excavated under the previously issued General Mine Operating Permit (GP1).

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. Any land disturbance not consistent with accepted silviculture practices in the buffer areas will require this permit to be modified prior to such disturbances.

During reclamation of the mine into ponds, the 50-ft. wetland buffer will be reduced to 35-ft. in order to accommodate and stabilize a "Littoral Shelf or Littoral Zone". Littoral Zones are fertile and valuable assets to flora and fauna for both aquatic and land-bearing species as well as the pond itself. Typically, these zones are shallow and beneficial for plant growth, bank stabilization, water quality, and create ample cover for fish and animals that inhabit shallow water environments. Though the buffer will be reduced during reclamation, it will be done in a responsible manner that works to create an environment for native plant and animal species to thrive.

Section 7: Noise

The majority of noise generated by this type of mining activity is associated with the operation of 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 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 that block the direct path of sound. Additionally, this 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, maintenance of equipment, and distance from the operation will consequently reduce the potential for sound heard off-site. 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 permitted area.

Section 8: Traffic & 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) provide a deterrent for accidental entry into a mine site. The combination of these barriers and site characteristics will limit public exposure to operations at the site.

A common concern expressed by local residents is the increase of truck traffic hauling mined material. The Act only authorizes DHEC to regulate truck traffic on roads *inside* the permit boundary. DHEC can evaluate impacts to public roads only as it pertains to the physical effects from the mining operation (e.g., blasting, undermining, etc.). The Act 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 public roads.

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

Section 9: Air Quality

Dust: Fugitive dust emissions from the proposed mining activities have been a concern with this mine. 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 BMPs, 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 to 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.

We are exposed on a daily basis to dust from non-industrial sources such as dirt roads, fields, and bare lots. Although the proposed 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 proposed 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 10: Wildfires

No significant groundwater or surface water impacts are anticipated at this mine site. Therefore, the availability of water in order to manage wildfires is not anticipated to be affected by mining operations.

Section 11: 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 an effect on a federally or state recognized endangered or threatened species without approved mitigation. The operator has provided a Threatened and Endangered Species Habitat Assessment for this site area and did not identify any federally endangered or threatened species. Comments provided by SCDNR did not indicate any federally threatened or endangered species. However, SCDNR did make recommendations regarding two (2) state threatened species: the Southern hognose snake (*Heterodon simus*) and the spotted turtle (*Clemmys guttata*). SCDNR's concerns have been addressed by this permit; please see *Additional Terms and Conditions* #6 above for more information. The U.S. Fish and Wildlife Service did not express any concerns over threatened or endangered species.

Section 12: Community/Quality of Life

Comments were received regarding the potential impacts 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 13: 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. DHEC will conduct routine site inspections and compliance inspections, as needed.

DHEC's Bureau of Water monitoring program 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 BMP plan. Compliance Evaluation Inspections (CEIs) are randomly conducted at permitted facilities approximately once every five 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 may also respond to complaints received about a facility.

Section 14: General Opposition

DHEC received several comments requesting denial of a permit. While DHEC appreciates all comments received, it is important to recognize that 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 only on the technical review of an application and the regulatory requirements in place at the time of that review. In accordance with 48-20-70 of the Act, DHEC is required to grant an operating permit to the applicant if there are no technical reasons to deny the permit.