



Mining Form MR-400

S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
BUREAU OF LAND AND WASTE MANAGEMENT
DIVISION OF MINING AND SOLID WASTE PERMITTING
2600 BULL STREET, COLUMBIA, SC 29201
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SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
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2600 Bull Street
Columbia, SC 29201

APPLICATION FOR A MINE OPERATING PERMIT
FORM MR-400 DATE VERSION ADOPTED 7/1/94

"The South Carolina Mining Act," Sections 48-20-10 through 48-20-310, Code of Laws of South Carolina, 1976, as amended provides in part: "No operator may engage in mining without having first obtained from the Department an operating permit which covers the affected land and which has not been terminated, been revoked, suspended for the period in question, or otherwise become invalidated." (Section 48-20-60)

I.APPLICANT INFORMATION

1. Name of Company: Vulcan Construction Materials, LLC

Check form of business entity: Corporation [X] Partnership
Limited Partnership Sole Proprietorship

2. Name of Proposed Mine Fairfield Quarry County Fairfield

3. Home Office Address: 201 Brown Road (864) 299-4785
(Street and P.O. Box) (Telephone No.)

Piedmont SC 29673-8513 (864) 299-0610
(City) (State) (Zip Code) (Fax. No.)

4. Local Office Address: Same Same
(Street and P.O. Box) (Telephone No.)

Same Same
(City) (State) (Zip Code) (Fax. No.)

5. Designate to which office Official Mail is to be sent:

Home Office [x] Local Office

6. Name of company personnel and their title to be the contact for official business and

correspondence: John R. Aultman, PE - Manager of Environmental Services (aultmanj@vmcmail.com)

7. Location of Mine: S-53-41 (Old River Rd) Winnsboro (6 miles west of site)
State or County Hwy No. Nearest Town or City

8. Locate accurately on a county map, USGS 7.5' Topographic Map, or draw a detailed map to scale of: (1) how to get to your local office and (2) how to get to the mine and attach to this application.

9. If land is leased, complete the following:

A. Name of landowner: Weyerhaeuser Company

Landowner's Address: 5 Concourse Pkwy, Suite 1650 Atlanta
Street and PO Box City

Georgia 30328 770-829-6319
State Zip Code Telephone Number

B. Date lease became effective _____

Date of lease termination _____

Name of lessee Vulcan Construction Materials, LLC

II. GENERAL CHARACTERISTICS OF MINE:

1. Material(s) to be mined Granite, Sand and Sand/clay

2. Mining Method:

A. List equipment to be used for mining and provide a brief description as to how the mine will be operated.

Typical equipment to be used in the mining process includes hydraulic excavator, off road haul trucks, blast hole drill(s), bull dozers, road scrapper and possibly pans. The mining process will start with the clearing of existing vegetation and stripping overburden. Excavated overburden will be first utilized in constructing the processing plant and perimeter earthen berms. Once berms and construction needs are met, overburden will be placed in permanent storage areas as shown on the mine map. As the opportunities arise, overburden will be sold to contractors for use in local construction projects.

The granite, once exposed, will be drilled, explosives loaded and blasted to fragment stone into manageable sizes to facilitate loading into haul trucks for transport to the primary crusher. Stone passing through primary crusher will be stored in a surge pile for later processing by the plant into marketable stone products.

B. Will there be a process plant located at the mine site within the boundary of the permitted area? If so, please provide a brief description of the plant equipment and function of the plant.

Initially the processing plant will be a portable plant limited to primary and secondary crushers producing a limited range of products. As demand for a wider range of products increase, the processing plant will be upgraded for increased throughput, conveyors, addition of tertiary crusher(s) and wash circuit. The wash circuit will be a closed loop system where wash water will be clarified in ponds and re-circulated for reuse.

3. Do you anticipate blasting as part of the mining operation? x Yes ___ No If yes, provide the distance to the nearest inhabited structure not owned or leased by the applicant. Also, provide as an attachment to this application the names and addresses of all the owners of all structures within one-half mile from the nearest point of blasting during the life of the proposed mine. How will flyrock be prevented from being projected from the permitted area?

The nearest inhabited structure not owned by Vulcan will be 1,500+ feet from the nearest point of blasting at the Fairfield Quarry. There are 14 tracts of land within 1/2 mile (2,640 feet) of the ultimate pit limits. This information is preliminary and will be finalized pursuant to R. 89-150 once the mine permit is issued. Attached to this application is the preliminary list of the landowners and their addresses.

Flyrock will be prevented with proper blast design and procedures developed and implemented under the direction of a SC Licensed Blaster. Using proper blasting procedures, the potential for flyrock leaving the pit area is eliminated. In the unlikely event flyrock is generated from a blast, the buffers to adjacent properties provides protection to the public.

4. Has this site been mined in the past? If so, please indicate the present condition of the land.

No

5. What is the expected maximum depth of this mine? Provide any additional information about the final depth of the mine that would be useful to the Department. (Ex. Final depth of pit will be level to adjacent road, elevation above Mean Sea Level (MSL)).

The surface elevation for the planned pit area ranges from approximately 440 feet msl to 370 feet msl. The depth to pit floor will be 400 feet to an elevation of -30 feet msl. (Depth to pit floor measured from lowest surface elevation.)

III. DETERMINATION OF PERMITTED ACREAGE, AFFECTED ACREAGE AND RECLAMATION BOND

1) Total acres for which permit is being requested:

0.0 Permitted acres owned by the operator

924.1 Permitted acres leased by the operator

Note: Permitted acreage should include the following: 1) acres of land to be affected (excavation, processing plant, stockpiles, etc.); 2) future area(s) to be mined and 3) land to be used for buffer zones around the affected land. The permitted area should be the property described in the LAND ENTRY AGREEMENT(S) (FORMS MR-600 OR MR-700).

2. Total affected acreage:

	<u>Acres</u>
A) Area used for sediment control ponds -- Sediment ponds for Overburden Areas 1 & 2	<u> 4.0 </u>
B) Area used for stockpiles of unprocessed minerals -- Stockpiles of any unprocessed minerals (surge pile from primary crusher) is included in 2.D. below.	<u> 0.0 </u>
C) Area used for spoil (overburden) banks, topsoil and disposal refuse (exclusive of tailings impoundments) -- Overburden Areas 1 & 2; The total acres shown for overburden is reduced 4.0 acres to account for the sediment control ponds shown in item A.	<u> 103.9 </u>
D) Areas used for on-site processing facilities and stockpiles of processed minerals -- Includes Office and shop areas (office & shop only – 21.0 acres (plant 16.1 acres))	<u> 37.1 </u>
E) Areas used for tailings pond (waste material from mineral processing)	<u> 0.0 </u>

F) Area for access or haul roads 12.9
-- Includes access road from, to office to process plant area. Haul roads are internal to other mine segments and; thus, the acreage included within those segments.

G) Area for excavation during the period of this permit 44.3
-- This is Phase I Pit.

OR

If mining and reclamation are to be done in segments, state the size of each segment (acres) NA. Multiply the size of the segments by 3 and enter the resulting number. -----> 0.0

H) TOTAL OF 2A THROUGH 2G 201.8

3. Check acreage to be bonded: total affected acreage calculated from Section 2.

- 0.00 - 9.99 acres (bond amount - \$10,000)
- 10.00 - 14.99 acres (bond amount - \$15,000)
- 15.00 - 24.99 acres (bond amount - \$25,000)
- 25.00 + acres (bond amount - \$25,000 or greater)

Summary of Acreage Classification for Quarry

1) Acres to be Affected by Mining (Bonding Acres)	<u>201.8</u>
2) Total Acres to be Future Reserves or Future Impacted	<u>522.9</u>
3) Total Acres to be Undisturbed Buffer	<u>199.4</u>
Total Permitted Area (Sum of Lines 1, 2 &3)	<u>924.1</u>

Applicant may submit a reclamation cost estimate for mines that will affect greater than 25 acres. Estimate should be based upon requirements in Regulation 89-20 B.

Reclamation bond estimate is being developed and will be provided during the technical review.

4. Will this operation be covered by a blanket bond? If so, please list your company's other permitted mining operations in South Carolina giving mine names, permit numbers and state the present reclamation bond amount on file with this Department.

No.

5. Number of years for which this permit is requested. The requested number of years the permit is requested should coincide with the Schedule of Reclamation as proposed by the applicant in the RECLAMATION PLAN, Form MR-500.

Life of Mine Years

IV. PROTECTION OF NATURAL RESOURCES*

1. Will there be a waste water treatment system at your mine site? Yes No

Waste water generated from washing crushed stone will be circulated through a series of settling ponds to remove fines created from the rock crushing and screening processes. The clarified water in the last pond of the closed looped system will be returned to the plant to conserve and re-use the water. The treatment of the wash water from the plant is typical Best Management Practices using settling ponds to remove suspended solids. Should it become necessary to release water from the wash water system, the release will be directed to the NPDES outfall designated for discharge for waste water and groundwater.

2. Will there be a point source discharge from your plant or mine requiring an NPDES Permit? If no, provide information as to how stormwater and groundwater will be managed. Yes No

Vulcan's primary strategy to manage stormwater will be to route runoff from mine disturbed land into the pit for containment. Groundwater seepage from the pit walls will also be contained in the pit. The water from both sources will be temporarily stored within the pit for later transfer, when necessary, to surface pond(s) for use in the processing plant and for dust suppression.

Vulcan will file a Notice of Intent (NOI) for coverage under the *NPDES General Permit for Waste Water Discharges from Mineral Mining Facilities (SCG - 7300000)* with DHEC's Wastewater Permitting Section to allow for direct discharge of pit/wastewater to Waters of the State if it should become necessary. The NOI will identify one outfall for discharge of pit groundwater/wastewater to Horse Branch. Four stormwater outfalls will discharge stormwater runoff from Overburden Areas 1 & 2.

3. Will there be air contaminant emissions from your plant or mine requiring an Air Quality Permit?

Yes No

The process plant requires an Air Quality Construction Permit and Operating Permit issued by DHEC. Vulcan will submit the Air Quality Construction Permit Application to DHEC Bureau of Air Quality for review and approval. Based upon equipment used in the processing plant and modeling to predict air particulate emissions, the Operating Permit will set particulate emission limits to protect air quality beyond the mine permit boundaries. Air particulate emission standards are set to be protective of human health and safety.

4. Do you anticipate pumping of groundwater? If yes, describe. Yes No

Fairfield Quarry is located in the Piedmont crystalline rocks. Groundwater seepage is expected into the pit from the saprolite (weathered granite) and the fractures in the upper zone of the granite. The groundwater seepage will collect in the pit sump(s), stored there (along with stormwater) until pumped to surface ponds to be used for process water and dust suppression.

The potential for Fairfield Quarry to adversely impact wells on neighboring properties is considered low. This concept is based on geology, experience at other quarries in the Piedmont and surface hydrology in and around the mine permit area. As part of this application, a *Groundwater Observation Plan* has been developed to provide a methodology to track groundwater drawdown in the permit area. This information will be used to assess, on a continuing basis, the unlikely possibility of adverse impacts on neighboring wells. Finally, data from the observation wells will be used in determining whether the quarry is a factor should a neighboring well experience a malfunction.

5. Will jurisdictional wetlands be affected, filled or altered in any fashion that will require a Section 404 Dredge and Fill Permit? Yes No

A total of 48.9 acres of possible Corps jurisdictional waters (48.9 acres of wetlands and 23,290.18 linear feet of streams) have been delineated by Sligh Environmental Consultants, Inc. and submitted to the U.S. Army Corps of Engineers for a jurisdictional determination. The identified wetlands within the mine permit area will be avoided where possible. However, the access road will cross the primary stream and associated wetlands in the permit area to connect SC Hwy 41 to the office and stockpile area. The access road construction will place 0.3437 acre of fill in the wetland and 124 linear feet of piping in the stream. Where wetlands must be directly impacted, the loss of wetlands will be mitigated following prescribed US Army Corps of Engineer procedures. Avoided wetlands will be protected with a 75-foot wide upland buffer. Vulcan submitted a Jurisdictional Determination request and authorization to place fill in wetlands pursuant to Corps' Nationwide 44 permit.

6. Are there any known cultural or historic sites located within the proposed area to be permitted?

Yes No

Brockington and Associates conducted an intensive cultural and historic resources survey of the mine permit area to determine if any such resources would be adversely affected. In Brockington's draft report, *Cultural Resources Survey of The Fairfield Quarry* they acknowledge that S&ME had conducted a cultural resources identification survey of a larger area which includes the Fairfield Quarry site. Results of S&ME's investigation include the identification of 18 archaeological sites (38FA618 – 38FA635) and 31 isolated finds. Eight of the 18 sites and 12 isolated finds were identified within the *Current Fairfield Quarry APE*. All 18 sites and 31 isolated finds were recommended NOT eligible for the NRHP. The State Historic Preservation Office (SHPO) concurred with these recommendations in a letter to Kimberly Nagle, (S&ME) on April 11, 2019 (SHPO Project No. 19-KL0104).

7. Will any part of the permitted area be used as a solid waste disposal site? If no, describe how waste, trash, scrap metal material, garbage will be handled. Yes No

Scrap metal and used mine materials are typically stored on-site and reuse and recycling when the opportunity arises. Trash, garbage, waste materials will be removed from mine and disposed of in appropriately permitted landfills.

***NOTE: For questions 1-7 that need additional space for explanations, please provide additional information on an attached sheet to this application.**

8. Describe the wildlife or freshwater, estuarine or marine fisheries in the area of the mining operation. Also provide information about any ponds and/or streams that may be located in the proposed permitted area.

Horse Branch, flowing north, is located along the western boundary of the mine permit area. An unnamed tributary to Horse Branch flows in a northwest direction and intersects Horse Branch at the northwest corner of the permit area. The unnamed tributary along with other lesser tributaries located on the property are the predominate surface water features within the permit area.

As provided in Kleinfelder's June 2019 *Threatened & Endangered Species Survey*, the federal and stated listed protected species in Fairfield County are Broad River Spiny Crayfish, Tricolored Bat, Carolina Heelsplitter, Bald Eagle and Georgia Aster. None of these species were observed during Kleinfelder's onsite assessment. The report is being submitted with this application for mine operating permit.

9. State the land cover and land uses on the permitted land area and contiguous tracts of land to the permitted land area.

The quarry site is undeveloped and predominately wooded with pine and hardwood. There are scattered areas of grassed easements in the eastern and central portions of the property. The adjacent properties are predominately undeveloped, with scattered rural residences to the east and south. I-77 is located approximately 0.5 mile west of the permit area. There are scattered rural residences west of I-77. The landowner, Weyerhaeuser Company, managed the property for timber production.

10. Describe measures to be taken to insure against (1) substantial deposits of sediment in neighboring streams, rivers lakes or ponds; (2) landslides; (3) acid water formation and discharge. Attach any supporting documents (engineering designs, calculations, sediment & erosion control plan, setbacks, geotechnical information, acid prediction test etc.) to this application.

1) The primary strategy for managing stormwater around the pit area will be to route stormwater, where feasible, into the pit for containment and storage for future use as process water and dust control. When and where routing stormwater to the pit is not feasible, the stormwater will be routed through sediment control ponds and discharged as stormwater. Overburden Areas 1 & 2 will utilize sediment ponds 1 through 4 to trap sediment from these facilities until vegetation is establish to stabilize the soils in place and control erosion. Additionally, where sediment control is necessary, Best Management Practices (e.g., brush barriers, sediment tubes, rock check dams, silt fencing and stormwater diversions, etc.) will be used where and as necessary to provide sediment control for mine disturbed areas. Location of sediment control ponds, engineering designs and functionality of the ponds are provided Synterra's *Storm Water Runoff [& Sediment Pond] Design plan*.

2) Pit hardrock highwalls will be composed of granite. Granite is very competent and exhibits long term stability in highwalls. Additionally, as mining extends into deeper levels, "step out" benches will be established to provide for miner safety, but also has the added benefit of increasing highwall stability. Unconsolidated overburden overlying the granite will be sloped to a gradient no steeper than 3(h):1(v). Final overburden storage will be sloped on a gradient no steeper than 3(h):1(v).

3) The granite or overburden to be mined does not contain sulfide minerals in the quantities necessary to create acidic waters.

V. SAFETY

1. Describe methods to be used during the time the mine operating permit is active to prevent physical hazards to persons and to any neighboring dwelling, house, school, church, hospital, commercial or industrial building or public road. If applicable, provide the zoning designation for the property to be permitted.

The quarry site is in a rural setting. Several adjacent properties are rural residences, but will not be adversely impacted by mining due to extensive undisturbed buffers and noise berms at the perimeter. Nearest inhabited structures not owned by Vulcan are 1,500+ feet from the pit. Additionally, existing natural barriers, e.g., streams, creeks and dense vegetation, situated around the mine permit area will provide impediments for unwarranted entry to the affected area. Signage around the permit boundary perimeter will provide notice to unwary people not to trespass on to mine property.

2. Describe methods to be used to prevent an adverse effect on the purposes of a publicly- owned park, publicly-owned forest, or publicly-owned recreation area. If any of these facilities are within one (1) mile of the proposed affected property, please locate on mine location map and the submitted U.S.G.S topographic map for this application.

There are no publicly-owned parks, forests or recreation areas within one (1) mile of the mine permit area.

3. Describe measures to be taken for screening the operation from view from public highways, public parks or residential areas.

The processing plant and pit areas are interior to the mine permit area and not easily visible, if at all, from I-77 or Old River Road. These facilities are approximately $\frac{3}{4}$ mile or greater from I-77 and 1 mile from Old River Road. Portions of Overburden Areas 1 & 2 south of Old River Road may be visible along Old River Road. However, establishing vegetation on the overburden will allow the overburden storage areas to blend in with the surrounding environment. Hope Road, running along the eastern boundary of the permit area, is bordered by trees that will visually screen the interior of the permit area.

As noted previously, there are no public parks within 1 mile; thus, the site will not be visible from a public park.

The surrounding area contains few homes. The limited number of homes are located along Hope Road and will be visually screened from the interior of the mine permit area by the trees along the perimeter of the permit area.

Emergent vegetation from the recently timbered areas of the permit area through time will continue to enhance the visual screen of the existing vegetation.

VI. MINE MAP

1. Provide the U.S.G.S. topographic map(s) that contains the proposed mine site. The proposed permitted area should be outlined on this submitted topographic map.
2. Attach **two (2)** copies of a map of the site (referred to as the MINE MAP) that shows the following:
 - A. Outline of the area to be affected by mining during the number of years for which the permit is requested. See Section III, Question 1 on page 3 of this application form.
 - B. Outline of the permitted area that shows the buffers zones, future mine areas and areas to be affected by mining.
 - C. Outline of the planned pits or excavations for which your company has detailed plans. If your company has reason to believe that additional land may be mined in the future within the permitted area but is not feasible to show as planned excavations; indicate these areas as FUTURE RESERVES on this site map.
 - D. Outline of areas for the storage of naturally occurring soil that will be suitable for the establishment of vegetation in final reclamation.
 - E. Outline of planned areas for disposal of refuse, exclusive of tailings ponds.
 - F. Outline of planned spoil, overburden or other similar waste material disposal areas.
 - G. Locations of planned access and haul roads on the area to be affected.
 - H. Outline of planned tailings ponds.
 - I. Locations of sediment control pond(s) and other sediment control structures within the affected area. Outline of areas on which temporary or permanent vegetation will be established to control erosion during the mine operation.
 - J. Location and name (if appropriate) of streams, lakes, wetlands and existing drainage ditches within the area to be permitted. Use arrows to indicate direction of water flow in such streams and drainage ditches.
 - K. Boundary for the 100 year floodplain, where appropriate.
 - L. Outline of areas for stockpiles of unprocessed minerals.
 - M. Outline of area of previously mined land that will not be affected.
 - N. Outline of the area to be occupied by processing facilities including stockpiles of processed minerals if such facilities are to be an integral on-site part of the mining operation.
 - O. Show location of the two permanent survey control points.
 - P. A legend showing the name of applicant, name of the proposed mine, north arrow, county, scale, date of preparation and name and title of person who prepared the site map.

THE REQUIRED SITE MAP SHALL HAVE A NEAT, LEGIBLE APPEARANCE AND BE OF SUFFICIENT SCALE TO CLEARLY SHOW THE REQUIRED INFORMATION LISTED ABOVE. THE BASE FOR THE MAP SHALL BE EITHER A SPECIALLY PREPARED LINE DRAWING, AERIAL PHOTOGRAPH, ENLARGED USGS TOPOGRAPHIC MAP OR A RECENTLY PREPARED PLAT.

- 3. Provide the most recent county tax map that shows all contiguous land owners of the permitted mine site. Provide name and addresses of all land owners contiguous to the proposed permitted mine site.
- 4. Provide letter from an attorney attesting to (1) the ownership of the property, (2) ownership of the mineral rights and (3) that the applicant has the legal right to mine the proposed mineral resource on the property as described in this application.

We hereby certify that all information and details contained hereinabove, within any supporting documents and on the map are true and correct to the best of our knowledge. We fully understand that any willful misrepresentation of facts will be cause for permit revocation.

The applicant acknowledges that Section 48-20-130, Code of Laws of South Carolina, provides in part:
 "Upon receipt of the operator's annual report or report of completion of reclamation and at any other reasonable time the department may elect, the department shall inspect the permit area to determine if the operator has complied with the reclamation plan, the requirements of this chapter, regulations promulgated by its authority, and the terms and conditions of this permit. Accredited representatives of the department at all reasonable times may enter upon the land subject to the certificate of exploration or operating permit for the purpose of making the inspection."

 Signature of Applicant/Operator or his Authorized Representative

John R. Aultman

 Printed Name of Applicant/Operator or his Authorized Representative

Manager of Environmental Services - SC

 Title

03/16/2020

 Date

=====
 Department Use Only

Application No. _____ Date Application Approved _____ Date Bond Rec'd _____

Bond Amount _____ Blanket or Single Bond Permit Issuance Date _____

ACTION TAKEN ON THIS APPLICATION

_____ Approved _____ Denied _____ Approve with additional Terms and Conditions

By: _____
 SECTION MANAGER

Date: _____