



Mining Form MR-400

S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL BUREAU OF LAND AND WASTE MANAGEMENT DIVISION OF MINING AND SOLID WASTE MANAGEMENT 2600 Bull Street, Columbia, SC 29201 Telephone Number(803) 869-4261 Fax Number: (803) 896-4001

SOUTH CAROLINA 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 Telephone Number (803) 896-4261 Fax Number (803) 896-4001

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obtained from the Department an operating permit which covers the affected land and which has not been terminated, been revoked, suspended for the period in question, or otherwise become invalidated."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: Winnsboro Crushed Stone, LLC

Check form of business entity: Corporation ___ Partnership ___ Limited Liability Corporation _x_ Limited Partnership ___ Sole Proprietorship ___

2. Name of Proposed Mine Winnsboro Quarry County Fairfield

3. Home Office Address: 1613 W. Roosevelt Blvd.; P.O. 1609 (Street and P.O. Box) 704-289-8482 (Telephone No.) Monroe NC 28111 704-282-1126 (City) (State) (Zip Code) (Fax. No.)

4. Local Office Address: Not Established (Street and P.O. Box) (Telephone No.) (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: Richard Moses

7. Location of Mine: SC Highway 34 Winnsboro 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: Multiple landowners – See attached page

Landowner's Address: Multiple landowners – See attached page
Street **and** PO Box City

State Zip Code Telephone Number

B. Date lease became effective See attached page

Date of lease termination See attached page

Name of lessee Winnsboro Crushed Stone, LLC

II. GENERAL CHARACTERISTICS OF MINE:

1. Material(s) to be mined Granite

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 timbering and clearing of existing vegetation and stripping overburden. Removed overburden will be placed in permanent storage areas at designated locations. The exposed granite will be drilled, explosives loaded and blasted to fragment stone into manageable sizes to facilitate loading in haul trucks and crushing by primary crusher. Stone passing through primary crusher will be transported to surge pile in processing plant by conveyor.

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.

The process plant will consist of primary and secondary crushers, conveyors to move and stockpile stone and screens to size stone for processing and creating marketable product. Primary crusher will be located at the pit to reduced mined stone to 4" minus size. Conveyor will move the 4" minus stone to surge pile in the process plant area. Surge pile will supply stone for the secondary crusher that will further reduce stone size for feed to shaker screen. Screen will separate stone sizes that will be blended and stockpiled in marketable products.

3. Do you anticipate blasting as part of the mining operation? 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?

All structures near the Winnsboro Quarry site that are not owned by Winnsboro Crushed Stone are located beyond 1/2 mile from the nearest point of blasting.

Flyrock will be prevented with proper blast design and procedures developed and implemented under the direction of a SC Licensed Blaster. For lands that will be adjacent to the mine permit area and within 250 feet of blasting, Winnsboro Crushed Stone is petitioning DHEC to waive Regulation 89-150 H requiring a 250 foot blasting setback from the property line contiguous to adjacent properties. Two land owners of adjacent properties, Ms. Annie McLeod (TMS# 146-00-00-003-000) and Creighton Coleman (TMS# 146-00-00-004-000), that fall within this criterion are submitting letters to DHEC requesting waiving implementation of Reg. 89-150 H for the reasons explained in their respective letters. Letters are attached to this application for a mine operating permit.

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 addition 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 pit floor elevation is expected to be +100 feet mean sea level. The topographic relief in pit area prior to mining ranges from +545 msl to +400 msl.

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

1) Total acres for which permit is being requested:

0 Permitted acres owned by the operator

923.2 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 -- Acres for sediment basins are already incorporated within the individual mine segments. This entry is only for illustration and is not included in the "Total Affected Acreage".	<u>12.0</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)	<u>58.3</u>
D) Areas used for on-site processing facilities and stockpiles of processed minerals	<u>34.1</u>
E) Areas used for tailings pond (waste material from mineral processing)	<u>0.0</u>
F) Area for access or haul roads -- Includes access road from Hwy 34, conveyor/haul road from pit to plant and east pit rim haul road CORRIDORS.	<u>37.1</u>
G) Area for excavation during the period of this permit -- This acreage includes Pit Phases I and II.	<u>55.1</u>

OR

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

H) TOTAL OF 2A THROUGH 2G 184.6

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 Winnsboro Quarry

1) Acres to be Affected by Mining (Bonding Acres)	<u>184.6</u>
1a) Affected Acres (Not mined initially - Bonding Deferred)	<u>185.6</u>
2) Total Acres to be Future Reserves or Future Impacted	<u>147.4</u>
3) Total Acres to be Undisturbed Buffer	<u>405.6</u>
Total Permitted Area (Sum of Lines 1, 1a, 2 &3)	<u>923.2</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.

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.

50 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 crush stone is circulated through a series of settling basins to remove fines created from the rock crushing and screening process. The clarified water in the last pond in the closed looped system will be recycled to the plant and water reused. Discharge from this closed system will only occur due to excess water in the system from storm events.

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

NPDES permit outfall 001 will be located in an unnamed tributary of Horse Creek (identified on mine map as "West Fork of Upper Middle Branch to Horse Creek"). Process wastewater consisting of water from washing crushed stone will discharge through Outfall 001 if excess stormwater becomes entrained within the close circuit wash water system. NPDES permit outfall 002 will be located in a small drainage leading to Horse Creek west of the Pit. The Pit will be used as a stormwater management facility. If the accumulation of groundwater seepage and stormwater becomes excessive in the pit sump, this excess pit water will be discharged through outfall 002.

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 Operating Permit issued by SC DHEC to operate. Based upon modeling to predict air particulate emissions, the Operating Permit will set air emission standards to protect air quality beyond the mine permit boundaries.

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

Winnsboro Quarry is located within Piedmont Physiographic province. Flow paths for groundwater movement are through fractures in the crystalline bed rock or through the saprolite overlying the crystalline bedrock. The nearest residence (presumed to be on well water) is located approximately 3,000 feet south of the pit. Due to topography, surface drainage features, geology and distance the groundwater withdrawal from the pit will not significantly lower groundwater levels beyond the mine permit area. As a result, there is no potential to impact distant domestic water wells.

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

Jurisdictional wetlands and streams have been delineated by Palmetto Environmental Consulting (PEC) and reviewed by the U.S. Army Corps of Engineers. The Corps issued a letter for *Preliminary Jurisdictional Determinations* dated July 15, 2013 concurring with PEC wetland delineations. A second wetland and stream delineation was conducted by PEC and jurisdictional determination by the Corps has been requested on the Tributary of Horse Creek. Once the Corps completes their review and issues a *Preliminary Jurisdictional Determinations* for the Tributary of Horse Creek, a copy of the letter will be provided to DHEC. Based on these determinations, Winnsboro Crushed Stone plans to avoid jurisdictional waters as shown on the mine map. The Corps's JD determination letters and other appropriate documents are attached to this application.

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

Yes No

An intensive archaeological survey of the proposed permit area was conducted by Brockington and Associates. Ten archaeological sites and six isolated finds were identified during the survey. Brockington does not recommend any of these site eligible for inclusion in the National Registry of Historic Place (NRHP). Cultural and historic resources are located within the permitted area, but are **NOT** considered significant enough to provide meaningful information. Consequently, no further investigations are recommended. SC Department of Archives and History concurs with Brockington's conclusion as indicated in Emily Dale, Staff Archaeologist's June 3, 2013 letter (attached). Copy of the final report is enclosed with this application.

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 mine materials are typically stored on site and reused when the opportunity exists. Trash, garbage, waste materials will be removed from mine and disposed of in an appropriate permitted landfill.

*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.

The property drains north and east offsite to Horse Creek. Horse Creek flows into Little Wateree Creek, which then flows northeast to the Wateree River. Horse Creek is located west of the Pit area. The Upper Middle Branch to Horse Creek, tributary to Upper Middle Branch and Upper East Branch to Horse Creek drain the eastern area of the Mine Permit Area. These branches flow north and join Horse Creek approximately 1.75 miles northeast of the mine permit area. (**NOTE:** The creek names *Upper Middle Branch to Horse Creek*, *tributary to Upper Middle Branch* and *Upper East Branch to Horse Creek* are NOT official USGS names. These names have been assigned by the applicant for ease of identifying features (i.e., creeks, buffers, etc.) in the permit application.)

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

The majority of the site consists of two general types of habitats including loblolly pine on the ridges and slopes and deciduous hardwood forest in the stream valleys. The majority of the site is planted loblolly pine stands ranging in age between 5 and 40 years old that are managed for timber resources. Managing and harvesting timber is a necessity on the upland buffers, vegetative filters and in future reserve/impact areas. The timber will be managed and harvested using appropriate silvicultural practices.

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 erosion and sediment control plan consists primarily of routing and containing stormwater within the pit where feasible and to designed sediment control basins where routing to the pit is not feasible. During overburden stripping, sediment basins, diversions and other appropriate BMPs will intercept stormwater and trap sediment. Additionally, brush barriers, silt fencing and stormwater diversions will be used where and as necessary to provide sediment control for mine disturbed areas.

To provide redundancy and back up to the primary sediment control practices (e.g., sediment basins, brush barriers, silt fencing, etc.), existing vegetation and/or timbered areas where stumps and woody debris from accepted timbering practices are left on the ground will be used as vegetative filters (VF) to trap and control any inadvertent sediment from mine areas. Vegetative filters will be located around the overburden storage areas and the processing plant area. The vegetative filters are considered an affected area, as defined by the SC Mining Act, because they are part of the overall sediment control strategy to protect streams; however, because there will be no mine related disturbance of these areas, the dollar per acre bonding rate should be \$0.

2) To prevent landslides in the pit, highwall benches will be utilized stability in the highwall. Overburden storage will be sloped on a gradient not to be steeper than 3(h):1(v).

3) Acid water generation is not be an issue. Pyrite, if present as an accessory mineral, is not in enough quantity to create acid mine 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 Winnsboro Quarry site is in a rural setting. Adjacent properties do not contain any of the above land uses that could be impacted by mining activities. Nearest structures not owned by Winnsboro Crushed Stone are 3,000+ feet from the pit. The process plant, pit and overburden storage areas are 2,000+ feet north of SC Hwy 34.

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. The SC Railroad Museum, Inc is located along Hwy 34 and is approximately 3/4 mile from the extreme southwest corner of the proposed mine permit area. The pit is greater than one mile from the museum. The SC Railroad Museum, Inc. is NOT a publicly owned facility.

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

The process plant and pit areas are approximately 2,000 and 4,600 feet respectively from SC Hwy 34. Distance, topography and existing vegetation will visually screen the operation from the nearest public road. There are no publicly-owned parks, forests or recreation areas within one (1) mile of the mine permit area.

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."

Carl A. Boggs III

Signature of Applicant/Operator or his Authorized Representative

CARL A. BOGGS, III

Printed Name of Applicant/Operator or his Authorized Representative

MEMBER - MANAGER

Title

3-13-2014

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: _____
DIVISION DIRECTOR

Date: _____

List of Tracts in the Winnsboro Quarry Mine Permit Area

Land Owner	TMS#	Acres
Coleman Land & Timber LLC	146-00-00-008-00	485.5
Coleman, Amos Davis, et al	146-00-00-007-00	349.0
Jenkins & McLeod LLC	146-00-00-014-000	35.0
McMaster, Quay W.	165-00-02-025-000	43.0
S C Electric & Gas Co	165-00-02-026-000	3.7
McMaster, Quay W.	165-00-02-027-000	<u>7.0</u>
Total		923.2

<u>Addresses for Lessors</u>	<u>TMS#</u>	<u>Landowner Telephone #</u>	<u>Lease Effective Date</u>	<u>Lease Term* Date</u>
Coleman Land & Timber LLC c/o Peter M MC 354 Winners Circle Hartsville, SC 29550	146-00-00-008-000			
Amos Davis Coleman, etal c/o George F. Cole 503 N. Zion Street Winnsboro, SC 29180	146-00-00-007-000			
Jenkins & McLeod LLC c/o D. McLeod 101 Evans Street Winnsboro, SC 29180-1229	146-00-00-014-000			
McMaster, Quay W. P.O. Drawer 449 Winnsboro, SC 29180	165-00-02-025-000 165-00-02-027-000			
S C Electric & Gas Co Attn: Land Department Columbia, SC 29218	165-00-02-026-000			

* -- Termination date for mining lease

The **lease effective dates** and **lease termination dates** will be provided when mining lease agreements are finalized in the final stages of the permitting process.



Mining Form MR-500

S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL BUREAU OF LAND AND WASTE MANAGEMENT DIVISION OF MINING AND SOLID WASTE MANAGEMENT 2600 Bull Street, Columbia, SC 29201 Telephone Number(803) 869-4261 Fax Number: (803) 896-4001

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RECLAMATION PLAN FORM MR-500 DATE VERSION ADOPTED: 7/1/94

As required in Section 48-20-90 of the South Carolina Mining Act, "An operator shall submit with his application for an operating permit a proposed reclamation plan. The reclamation plan for an operating permit only must be furnished to the local soil and water conservation district in which the mining operation is to be conducted. The plan must include as a minimum each of the elements specified in the definition of 'reclamation plan' in Section 48-20-40 and information required by the department. The reclamation plan must provide that reclamation activities, particularly those relating to control of erosion, to the extent feasible, must be conducted simultaneously with mining operations and be initiated at the earliest practicable time after completion or termination of mining on a segment of the permitted land. The plan must provide that reclamation activities must be completed within two years after completion or termination of mining on each segment of the area for which an operation permit is requested unless a longer period specifically is permitted by the department."

I. APPLICANT INFORMATION

1. Name of Company: Winnsboro Crushed Stone, LLC

2. Name of Proposed Mine: Winnsboro Quarry County: Fairfield

3. Home Office Address: 1613 W. Roosevelt Blvd.; P.O. Box 1609 (Street and P.O. Box) 704-289-8482 (Telephone No.)

Monroe NC 28111 704-282-1126 (City) (State) (Zip Code) (Fax. No.)

4. Local Office Address: Not Established (Street and P.O. Box) (Telephone No.)

(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: Rich Moses

II. ENVIRONMENTAL PROTECTION

1. Describe practices to protect adjacent resources such as roads, wildlife areas, woodland, cropland and others during mining and reclamation.

The mine permit area is located in a rural area with land cover consisting of hardwood and pine forests for managed timber, but no agricultural areas. Of the 919 acres of permitted land, 402 acres will be undisturbed buffer to provide additional protections to adjacent properties, creeks and other sensitive areas. Currently, the only agricultural related resource are pine plantations in and around the permit area. The nearest public road, SC Hwy 34, is approximately 2,000 feet south. Based on a survey, there are no endangered species or sensitive habitats on-site that would be potentially affected by mining and reclamation.

2. Describe proposed methods to limit significant adverse effects on adjacent surface water and groundwater resources.

Proper reclamation of the mine site will include stabilizing all overburden storage piles with vegetation, removal of mine equipment both mobile and stationary, clean up of any spillage of petroleum products, removal of scrap material. Setbacks and established buffers along stream banks and soil stabilization of will provide protection to surface water resources. Due to the geology, groundwater resources will only be minimally drawn down from dewatering in the pit. Once mining is terminated, groundwater levels will rebound to original levels. The mining process will not use chemicals in the mining or processing of crushed stone; consequently, no potential for chemical contamination to groundwater resources. Additionally, vegetative filters of existing vegetation, as described in the Mine Permit Application, will be utilized as secondary back up for sediment control to further protect adjacent surface water resources.

3. Describe proposed methods to limit significant adverse effects on known significant cultural or historic sites within the proposed permitted area.

An intensive archaeological survey of the proposed permit area was conducted by Brockington and Associates. Ten archaeological sites and six isolated finds were identified during the survey. Brockington does not recommend any of these site eligible for inclusion in the National Registry of Historic Place (NRHP). Cultural and historic resources are located within the permitted area, but are **NOT** considered significant enough to provide meaningful information. No significant cultural or historic sites will be within the proposed permitted area.

4. Describe method to prevent or eliminate conditions that could be hazardous to animal or fish life in or adjacent to the permitted area.

Proper reclamation of the mine site will include stabilizing all overburden storage piles with vegetation, removal of mine equipment both mobile and stationary, clean up of any spillage of petroleum products, removal of scrap material. Setbacks and established buffers along stream banks and soil stabilization of will provide protection to fisheries in nearby streams. Establishing 3:1 slopes around the pit and overburden storage areas and establish fencing around the pit where exposed highwalls will be present will remove hazardous conditions for the public and indigenous animal populations.

Vegetative filters will be established consisting of existing woodlands to provide secondary sediment control to protect streams from processing plant and overburden storage areas.

5. Describe how applicant will comply with State air quality and water quality standards as established by the S.C. Department of Health and Environmental Control.

To operate the quarry and processing plant, the applicant will complete the application process to obtain the Air Quality Construction Permit and ultimately the Air Quality Operating Permit. These permits set the quantity of air particulates that can be emitted to be protective of air quality standards.

With the termination of mining all mobile mine equipment and processing plant equipment will be removed from site. Once the process plant equipment is removed from site, the Air Quality Operating Permit can be terminated. Stone stockpiles, fines and barren soils, potential sources of dust after mining, will be either removed (stone stockpiles) or stabilized with vegetation to eliminate windblown dust.

III. RECLAMATION OF AFFECTED AREA

6. State useful purpose(s) the affected land is being proposed to be reclaimed to. More than one purpose may be checked, but information should be submitted to support the feasibility for each proposed purpose.

- a. Lake or pond _____
- b. Agriculture _____
- c. Woodlands _____
- d. Residential _____
- e. Commercial _____
- f. Grassland _____
- g. Recreation _____
- h. Wetlands _____
- i. Park _____
- j. Other _____

7. State the final maximum surface gradient(s) (slope) in soil, sand, or other unconsolidated materials on reclaimed land. Surface gradients steeper than 3H:1V (18 degrees or 33 percent) may be required to submit geotechnical data and studies to demonstrate that the steeper slopes will remain stable following final reclamation.

The final maximum surface gradient for slopes in overburden storage areas and slopes in overburden in the pit will be 3:1.

8. How will the final slopes in unconsolidated material be accomplished? If the slope will be by backfilling, demonstrate that there is adequate material to accomplish the stated final gradient. If gradient is to be achieved by bring in material from outside the permitted area, state the nature of the material and approximate quantities. If the gradient is to be achieved by grading, show that there is adequate area for grading to achieve gradient (ie. adequate distance between the property line and edge of highwall). Operator should show calculations or other appropriate information to demonstrate that there is adequate materials in backfilling and grading to meet the requirements for final slope.

The pit will not be backfilled with overburden. Slopes in the overburden surrounding the pit will be cut slopes to 3:1 gradient.

9. Describe the plan for revegetation or other surface treatment of affected area(s). The revegetation plan shall include but not be limited to the following: (a) planned soil test; (b) site preparation and fertilization; (c) seed or plant selection; (d) rate of seeding or amount of planting per acre; (e) maintenance.

(a) Fertilizing and lime amending rates will be based on soil testing conducted at the time for planting.

(b) Site preparation will consist of rough grading to a maximum 3:1 slope. The soil will be plowed (tilled) to minimize soil compaction. Tilling will be along contour where feasible. Topsoil previously stockpiled near overburden storage areas will be spread to prepare seed bed.

(c & d) *Spring Planting March - August*

Browntop Millet 10 lbs/ac
Weeping Lovegrass 2 lbs/ac
Sericea, Lespedeza 30 lbs/ac
(scarified seed)

Fall Planting

Rye Grass 15 lbs/ac
Weeping Lovegrass 2 lbs/ac
Sericea, Lespedeza 60 lbs/ac
(unscarified seed)

(e) Planted sites will be maintained with periodic inspections to detect areas with significant erosion, seed germination failure or significant plant die off. Site will be inspected after significant storm events to detect wash outs or gullies in planted areas. Damaged area will be repaired where necessary fixing erosion damage and reseeding as necessary.

- 10. Provide, as a separate document, a closure plan of the mine and permitted facilities to prevent a release of contaminants from being harmful to the environment. A closure plan is not necessary for all mines, but is required where the possibility exist for (a) acid rock drainage; (b) where the National Pollutant Discharge Elimination Systems (NPDES) Permit have discharge limitation parameters other than pH and Total Suspended Solids (TSS); (c) chemically treated tailings or stockpiles (excludes fertilizer or lime for revegetation purposes).**

Reclamation for the Winnsboro Pit will not require a closure plan. A) The granite is typical for granites in South Carolina where pyrite may be a minor accessory mineral, but not in quantities to create acid mine drainage. B) This quarry qualifies for coverage under the NPDES General Permit for Discharges Associated with Nonmetal Mineral Mining Facilities (SG-730000) with no additional parameters other than pH and TSS. C) No chemicals will be used in the mining process.

- 11. Method of control of contaminants and disposal of mine waste soil, rock, mineral, scrap, tailings, slimes, and other material directly connected with the mining, cleaning, and preparation of mineral substances mined and includes all waste materials deposited on or in the permit area from any source.**

Fines created from processing are granite are fine grain rock that are predominately quartz. These fines will accumulated in the clarification ponds of the wash circuit and periodically removed and stockpiled. The granite fines, once dried, will be either co-mingled in overburden storage areas for long term reclamation, sold as a product or graded to 3:1 sloped, covered in topsoil and vegetated at the end of mining.

- 12. Method of reclaiming settling and/or sediment ponds.**

Settling and/or sediment ponds will not be removed from service and reclaimed until all barren soils within the the sediment pond drainage is stabilized with vegetation and erosion controlled. Reclamation will either involve eithe one of two methods for final reclamation. **First method** will entail the either all or partial removal of the accumulated sediment from the basin. Sediment not removed will be stabilized in place with vegetation or rip rap. Removed sediment will be placed in overburden storage and revegetated. Once sediment is removed and stabilized the dam will be breached, graded and normal drainage reestablished. **Second method** will to convert sediment pond to a fresh water pond.

- 13. Describe method of restoration or establishment of stream channels, stream banks and site drainage to a condition minimizing erosion, siltation and other pollution.**

Appropriate setbacks and buffers will be established to protect the streams, not to mention strategically located sediment ponds. Additionally, vegetative filters will be used as a backup to further protect the streams from sediment. Streams will not be impacted by mining.

- 14. What are the maintenance plans to insure that the reclamation practices established on the affected land will not deteriorate before released by the Department?**

Areas that have undergone final reclamation practices will be maintained through periodic inspections and conducting any necessary repairs in a timely manner.

- 15. For final reclamation, submit information about practices to provide for safety to persons and to adjoining property in all excavations. Identify areas of potential danger (vertical walls, unstable slopes, unstable surface on clay slimes, etc.) and provide appropriate safety provisions. These provisions can include but are not limited to setbacks, fencing, signs, benching, guardrails and boulders.**

The following mine segments will be reclaimed to provide safety to persons and adjoining areas.

Highwalls -- Any portion of exposed granite within the pit area with vertical highwalls that cannot be sloped to a 3h:1v gradient and in excess of 10 feet in height will be fenced to prevent inadvertent accidental falls.

Unstable Slopes -- All unconsolidated soils, e.g., saprolite overlying hard rock and overburden storage areas will be sloped to 3h:1v gradient and vegetated. Soils place to 3:1 gradients are stable and are not prone to landslides. Granite highwalls are inherently stable. However, any unstable boulders or zone near the saprolite overburden will be removed to ensure miner safety and for long term stability.

Clay slimes -- Any fines created from processing are granite are not "clay slime" and are not inherently unstable in ponds. The granite fines, once dried, will be either co-mingled in overburden storage areas for long term reclamation, sold as a product or graded to 3:1 sloped, covered in topsoil and vegetated at the end of mining.

16. What provisions will be taken to prevent noxious, odious, or foul pools of water from collecting and remaining on the mined area? For mines to be reclaimed as lakes or ponds, provide supporting information that a minimum water depth of four (4) feet on at least fifty percent (50%) of the pond surface area can be maintained.

The final pit will be reclaimed as a pond and will meet the above referenced regulatory requirement for sufficient depth. Sediment basins established to trap sediment in storm water runoff to mine construction and operation will be evaluated at time of reclamation to determine if basin(s) are suitable to convert to freshwater ponds that will meet the regulatory requirement. Sediment pond not converted to ponds, will be breaches, soil stabilized by grading and vegetation to prevent noxious pools of water from forming. Areas of the affected land not reclaimed to ponds will be properly graded to prevent unwanted pools of water from collecting and prevent foul water from forming.

17. Identify any structures (e.g. buildings, roads) that are proposed to remain as part of final reclamation. Provide justification for leaving any structures.

The office building and other support buildings may be left upon final reclamation. Also, some of the haul roads may be left to provide access to the property. All areas will be sloped and stabilized to prevent erosion and control sediment.

18. Attach two (2) copies of a map of the area (referred to as the RECLAMATION MAP) that shows the reclamation practices and conservation practices to be implemented. The following should be shown:

- A. The outline of the proposed final limits of the excavation, during the number of years for which the permit is requested.
- B. The approximate final surface gradient(s) and contour(s) of the area to be reclaimed. This would include the sides and bottoms of mines reclaimed of ponds and lakes.
- C. The outline of the tailings disposal area.
- D. The outline of disposal areas for spoil and refuse (exclusive of tailings ponds).
- E. The approximate location of the mean shore line of any impoundment or water body and inlet and/or outlet structures which will remain upon final reclamation.
- F. The approximate locations of access roads, haul roads, ramps or buildings which will remain upon final reclamation.
- G. The approximate locations of various vegetative treatments.
- H. The proposed locations of re-established streams, ditches or drainage channels to provide for site drainage.
- I. The proposed locations of diversions, terraces, silt fences, brush barriers or other Best Management Practices to be used for preventing or controlling erosion and off-site siltation.
- J. Proposed locations of the measures to provide safety to persons and adjoining property.
- K. Segments of the mine that can be mined and reclaimed as an ongoing basis.
- L. The boundaries of the permitted area.
- M. The boundaries of the affected area for the anticipated life of the mine.
- N. The boundaries of the 100-year floodplain, where appropriate.
- O. Identify sections of mine where the final surface gradient will be achieved by grading and/or backfilling.
- P. A legend showing the name of the applicant, the name of the proposed mine, the north arrow, the county, the scale, the date of preparation and the name and title of the person who prepared the map.

THE REQUIRED RECLAMATION 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. RECLAMATION MAP SHOULD BE THE SAME SCALE USED FOR THE SITE MAP.

IV. SCHEDULE FOR IMPLEMENTATION OF CONSERVATION AND RECLAMATION PRACTICES

19. As stated in Section 48-20-90 of the S.C. Mining Act, reclamation activities, to the extent feasible, must be conducted simultaneously with mining operations. Identify which areas or segments of the mine are not feasible to reclaim simultaneously with mining. Provide reasons why reclamation cannot proceed simultaneously with mining in these areas.

Quarries are not feasible to conduct reclamation simultaneously with mining. Typically the pit, plant area and overburden storage areas are active throughout the mine life of a quarry.

20. Section 48-20-40(16)(l) of the S.C. Mining Act requires a, "time schedule, including the anticipated years for completion of reclamation by segments". This time schedule should meet the requirements of Section 48-20-90 of the Mining Act.

SCHEDULE FOR IMPLEMENTING CONSERVATION AND RECLAMATION PRACTICES

Conservation & Reclamation Practices	Segment or Area	Planned		*Applied		Notes
		Amount	Year	Amount	Month/Year	
Locate and mark Pit Phase I Boundary	Phase I/Phase II boundary	17 ac	2014			Initial Mine Construction
Locate and mark 75 ' buffer from delineated stream in Phase I	Pit Phase I Stream buffer	1.0 ac	2014			Initial Mine Construction
Locate and mark 75 ' buffer from Trib to Horse Creek	Pit Phase I Trib to H.C.	3.0 ac	2014			Initial Mine Construction
Construct Sediment Pond	Sed Pond K		2014			Initial Mine Construction Sed Basin Tier 1
Establish brush barriers and other spot sediment control (i.e., silt fence, etc.)	Pit Phase I	300-400 ft	2014			Initial Mine Construction
Construct Sediment Pond	Sed Pond P		2014			Initial Mine Construction Sed Basin Tier 2
Establish, as necessary, stormwater runoff diversions	Pit Phase I	As necessary	2014			Initial Mine Construction
Locate and mark South Ovbn Storage (SOS) Boundary	SOS	58 ac	2014			Initial Mine Construction
Locate and mark 75 ' buffer from West Fork Middle Branch to HC	WFMB Buffer	10.5 ac	2014			Initial Mine Construction
Locate and mark 75 ' buffer from Trib of Middle Branch to HC	TMB Buffer	10.3 ac	2014			Initial Mine Construction
Construct Sediment Ponds	Sed Ponds E-J		2014			Initial Mine Construction Sed Basin Tier 1
Establish brush barriers and other spot sediment control (i.e., silt fence, etc.)	SOS	As necessary	2014			Initial Mine Construction
Establish, as necessary, stormwater runoff diversions	SOS	As necessary	2014			Initial Mine Construction
Mark 50 foot property boundary	SOS & assoc. Sed ponds	1.8 ac	2014			Initial Mine Construction
Mark 50 foot property boundary	Plant	1.0 ac				Initial Mine Construction
Construct Sediment Pond	Plant Sed Pond M		2014			Initial Mine Construction Sed Basin Tier 1
If necessary, Const Sediment Pond	Plant Sed Pond O		2014			Initial Mine Construction Sed Basin Tier 3
Locate and mark Access Road General Buffer	Access Road	21.3	2014			Initial Mine Construction
Mark 50 foot property boundary	Access Road	2.5 ac	2014			Initial Mine Construction

AA – Affected Area; BMPs – Best Management Practices; Fert. – Fertilize; PL – Property Line; SB – Sediment Basin; ST – Sediment Traps SW – Stormwater; TS – Topsoil; WL – Wetlands; HC - Horse Creek; THC - Trib of Horse Creek; TMB - Trib of Middle Branch to Horse Creek; WFMB - West Fork of Middle Branch to Horse Creek; EFMB - East Fork of Middle Branch to Horse Creek; EBHC - East Branch of Horse Creek

* Completed by the Department

SCHEDULE FOR IMPLEMENTING CONSERVATION AND RECLAMATION PRACTICES

Conservation & Reclamation Practices	Segment or Area	Planned		*Applied		Notes
		Amount	Year	Amount	Month/Year	
Locate and mark Pit Phase II Boundary	Phase II/Phase III boundary	39 ac	2016			
Mark 50 foot property boundary	Pit Phase II	1.0 ac	2016			
Construct Sediment Pond	Sed Pond L		2016			Sed Basin Tier 1
Establish brush barriers and other spot sediment control (i.e., silt fence, etc.)	Pit Phase II	As necessary	2016			
Establish, as necessary, stormwater runoff diversions	Pit Phase II	As necessary	2016			
Construct Sediment Ponds	Sed Pond N		TBD			Sed Basin Tier 2
Update Mine plan prior to mining related activity	NOS	27.9 ac	TBD			
Locate and mark 75 ' buffer from Trib of Middle Branch to HC	TMB Buffer	10.3 ac	TBD			
Construct Sediment Ponds	Sed Ponds A-D		TBD			Sed Basin Tier 2
Establish brush barriers and other spot sediment control (i.e., silt fence, etc.)	NOS	As necessary	TBD			
Establish, as necessary, stormwater runoff diversions	NOS	Will be variable	TBD			
Mark 50 foot property boundary	NOS & assoc. Sed ponds	3.4 ac	TBD			
Construct Sediment Pond	Sed Pond Q		TBD			Sed Basin Tier 3
Update Mine plan prior to mining related activity	Future Impacts - West	76.9 ac	TBD			
Update Mine plan prior to mining related activity	Pit - Future Reserves	36.2 ac	TBD			
Update Mine plan prior to mining related activity	Pit Utility Area Future Impacts	10.0 ac	TBD			
Update Mine plan prior to mining related activity	Plant Area Expansion	19.4 ac	TBD			
Update Mine plan prior to mining related activity	Future Impacts Area - South	24.3 ac	TBD			

AA – Affected Area BMPs – Best Management Practices Fert. – Fertilize PL – Property Line SB – Sediment Basin ST – Sediment Traps SW – Stormwater TS – Topsoil WL – Wetlands; HC - Horse Creek; THC - Trib of Horse Creek; TMB - Trib of Middle Branch to Horse Creek; WFMB - West Fork of Middle Branch to Horse Creek; EFMB - East Fork of Middle Branch to Horse Creek; EBHC - East Branch of Horse Creek

* Completed by the Department

SCHEDULE FOR IMPLEMENTING CONSERVATION AND RECLAMATION PRACTICES

Conservation & Reclamation Practices	Segment or Area	Planned		*Applied		Notes
		Amount	Year	Amount	Month/Year	
Slope ovbn to top of rock; revegetate; establish perimeter fence	Pit	96.7	TBD			End of mining
Monitor and repair any damage until released as reclaimed by DHEC	Pit					
Remove equipment, remove stockpiles, topsoil, grade 3:1; revegetate	Process Plant	34.1	TBD			End of Mining
Monitor and repair any damage until released as reclaimed by DHEC	Process Plant					
Grade, establish drainage, topsoil, grade 3:1; revegetate	SOS	60 ac	TBD			End of Mining
Monitor and repair any damage until released as reclaimed by DHEC	SOS					
Grade, establish drainage, topsoil, grade 3:1; revegetate	NOS	27.9 ac	TBD			End of Mining
Monitor and repair any damage until released as reclaimed by DHEC	NOS					
Grade, stabilize road base, revegetate road shoulders	Haul & Access Roads		TBD			End of Mining
Monitor and repair any damage until released as reclaimed by DHEC	Haul & Access Road					
Remove conveyor, grade to 3:1 slope; topsoil, revegetate	Haul Road/Conveyor		TBD			End of Mining
Monitor and repair any damage until released as reclaimed by DHEC	Haul Road/Conveyor					

AA – Affected Area BMPs – Best Management Practices Fert. – Fertilize PL – Property Line SB – Sediment Basin ST – Sediment Traps SW – Stormwater TS – Topsoil WL – Wetlands; HC - Horse Creek; THC - Trib of Horse Creek; TMB - Trib of Middle Branch to Horse Creek; WFMB - West Fork of Middle Branch to Horse Creek; EFMB - East Fork of Middle Branch to Horse Creek; EBHC - East Branch of Horse Creek

* Completed by the Department

YOU ARE NOTIFIED THAT:

- 1) you, the operator, must file an application to modify the reclamation plan in the event actual reclamation varies from the set forth hereinabove, and
- 2) if at any time it appears to the Department that the activities under the reclamation plan are failing to achieve the purposes and requirements of the S.C. Mining Act, the Department may modify the RECLAMATION PLAN in accordance to Section 48-20-150.

Carl A. Boggs, III

Signature of Applicant/Operator or his Authorized Representative

CARL A. BOGGS, III

Printed Name of Applicant/Operator or his Authorized Representative

MEMBER-MANAGER

Title

3-13-2014

Date

Department Use Only

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

Bond Amount _____ Blanket or Single Bond _____ Permit Issuance Date _____

ACTION TAKEN ON THIS RECLAMATION PLAN

_____ Approved _____ Denied _____ Approved with Additional Terms and Conditions

By: _____
DIVISION DIRECTOR

Date: _____