



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
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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

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obtained from the Department an operating permit which covers the affected land and which has not been terminated, been revoked, suspended for the period in question, or otherwise become invalidated."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

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

2. Name of Proposed Mine: Fairfield I-77 County: Fairfield

3. Home Office Address: 515 Stone Mill Dr.; P.O. Box 29682 (Street and P.O. Box) 804-784-6300 (Telephone No.)

Richmond Va 23242 804-784-6390
(City) (State) (Zip Code) (Fax. No.)

4. Local Office Address: Local Office not yet 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: Chuck Stilson, PE Mining Engineering Manager

7. Location of Mine: SC Hwy 34 State or County Hwy No. Ridgeway 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: NA

Landowner's Address: _____

Street and PO Box

City

State

Zip Code

Telephone Number

B. Date lease became effective _____

Date of lease termination _____

Name of lessee _____

II. GENERAL CHARACTERISTICS OF MINE:

1. Material(s) to be mined Granite/Gneiss

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, wheel loaders, hydraulic rock breakers, road grader and possibly pans. The mining process will start with establishing erosion and sediment control Best Management Practices, timbering and clearing of existing vegetation and stripping overburden. Removed overburden to be placed in permanent storage areas at designated locations. The granite will be drilled, explosives loaded and blasted to fragment stone into manageable sizes to facilitate loading into haul trucks and crushing by primary crusher.

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 a primary, secondary and possibly tertiary crushers with conveyors to move and stockpile stone. Screens will be used to size stone for processing and creating marketable products. A wash plant may be used to remove fines from some 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?

The nearest inhabited structure to planned blasting operations is greater than 1,500 feet. Flyrock will be prevented with proper blast design and procedures developed and implemented under the direction of a SC Licensed Blaster. A preliminary map and list are being provided in this application. A final list with map based on Fairfield County's tax map showing the 1/2 mile radius will be provided to DHEC to comply with R.89-150 A after the mine operating permit is issued. Pre-blast surveys will be completed before blasting operations begin.

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)).

Depth of mining will be 485 feet with a final pit floor elevation of 30 feet msl.

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

1) Total acres for which permit is being requested:

416.8 Permitted acres owned by the operator

0.0 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: Acres

A) Area used for sediment control ponds 41.4

Series of 9 sediment basins and associated stormwater diversions will be located around the facilities and 3.1 acres of passive vegetative filters. The acres shown is a total figure for all basins and diversions with exception of 3.9 acres of sediment basins and diversions located within the pit. The 3.9 acres for sediment & erosion control measures located within the pit are included in the acreages shown in G) Pit below.

B) Area used for stockpiles of unprocessed minerals 0.0

Temporary stockpiles, if any, will be located within the pit and included in the Pit acreage in item G. below.

C) Area used for spoil (overburden) banks, topsoil and disposal refuse (exclusive of tailings impoundments) 49.8

There are 2 planned berms/overburden storage areas. Northeast Berm/Overburden Storage will be constructed first followed by the West/Overburden Storage second.

D) Areas used for on-site processing facilities and stockpiles of processed minerals 49.6

The *Initial Processing Plant* area, 24.2 acres, is within pit phase 3. (These 24.2 acres are included in the pit acreage shown in G) Pit of this section.) The *Final Plant* area – 49.6 acres will be developed later in the quarry life. Office, rail spurs and stockpiles are included in the Final Process Plant area.

E) Areas used for tailings pond (waste material from mineral processing) 0.0

Process plant will have a wash circuit to produce washed aggregate. A series of ponds will be constructed within the process plant area to receive wash water and allow fines to settle. Periodically, the stone fines will be removed from the wash ponds. The acreage for wash ponds is included with the on-site processing facilities area.

F) Area for access or haul roads 2.3

There are 14.3 acres of access road and haul roads in the mine permit area. However, these 12.0 acres are included within the acreages of the segments in which they lie; thus, are not being entered in F).

G) Area for excavation during the period of this permit (Pit Phases 1 – 3) 116.4

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. ----->

NA

H) TOTAL OF 2A THROUGH 2G 259.5

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)

Affected 259.5 Buffer 79.4 Future Impacts 77.9 Total Permit Area 416.8

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.

A reclamation bond estimate will be provided to the Department in a separate submission at the completion of DHEC’s technical review. A reclamation bond estimate will be based upon the initial phase of mining. The initial phase of mining includes the following facilities: Pit phase 1 excavation & sediment control (59.7 acres); Initial Process Plant and area of pit phase 3 that will be used for access to plant w/sediment control (30.4 acres); Northeast Berm/Overburden Storage w/sediment basins (50.4 acres); access/haul roads and rail spur (16.3 acres), sediment control pond/diversions along WB2 (JT-21, JW-O, JW-P) (5.1 acres) and 3.1 acres of vegetative filter for a total of **165.0 bonded acres**. The bonded acres will be reviewed periodically and adjusted as necessary as operations continue to develop throughout the life of the quarry.

Vegetative Filter - The use of 3.1 acres of vegetative filter (VF) provides redundant sediment control consisting of land that will not be disturbed by mining, but will be managed for timbered production or other similar non-mining related uses. The vegetative filters are considered affected areas because they are part of the overall sediment control strategy to protect water resources.

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.

100 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 the 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. 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 process 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

The point source discharge from the mine will be primarily groundwater from mine dewatering and stormwater routed in DHEC 3102 (08/1997)

to the pit. 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 process water and groundwater.

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

Yes No

The application for the Air Construction permit has been developed and will be submitted to DHEC's Bureau of Air Quality. The requirements in this permit upon its issuance will be protective of air quality.

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

The quarry is located in the Piedmont with crystalline rocks at shallow depths. 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 (along with stormwater) until pumped to surface ponds to be used for process water and dust suppression. In Appendix D of the application, the *Groundwater Monitoring Plan, Fairfield I-77 Development, Fairfield County, South Carolina* and *Limited Hydrogeologic Assessment Fairfield I-77 Development Site Ridgeway, Fairfield County, SC* developed by S&ME provides a methodology to track groundwater drawdown in the permit area.

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

Access road and haul road crossings will impact Corps of Engineers jurisdictional streams in 3 locations. Also, it will be necessary to impact jurisdictional streams and wetlands within Pit Phases 1 & 2 and Initial Process Plant Area to allow for a coherent mine plan. The impacts will be permitted through the Corps' appropriate Nationwide permit and loss of Waters of the US (WOUS) will be mitigated prior to impact. Attached is the *Jurisdictional Determination Request* (Appendix F) to the U.S. Army Corps of Engineers for the Fairfield I-77 Development property.

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

Yes No

S&ME conducted a reconnaissance level archaeological survey on the mine permit area consisting of 416.8 acres, with TMS#s 166-00-00-018-000, 116-00-00-028-00 and 116-00-00-030-000. The results of the survey are provided in the *Cultural Resources Reconnaissance Survey, Fairfield I-77 Development Site, Fairfield County, South Carolina* being submitted with the application in Appendix E. Four archaeological sites (38FA666 through 38FA669), one isolated find (1F-1), five above ground resources (SHPO Survey Numbers 0108 through 0112), and one cemetery (38FA670/SHPO Survey No. 0113) were identified and recorded. The four archaeological sites and one isolated find are located within the mine permit area. The five above ground resources and cemetery are located outside the mine permit area. All sites are not eligible for listing in the National Register of Historic Places (NRHP) and no further investigations are recommended.

The concurrence letter from SC Department of Archives and History's State Historic Preservation Office (SHPO) for these recommendations will be provided to DHEC upon receipt from SHPO.

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

*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 site is located within the Catawba River basin adjacent to the watershed divide with the Broad River. Headwaters of Dutchmans Creek is within or near the site. Ephemeral and intermittent streams that are tributaries to Dutchmans Creek run through the site. There are not ponds located on the property.

The permit area contains US Army Corps jurisdictional and non-jurisdictional wetlands and aquatic features as determined by S&ME. Where possible, both jurisdictional and isolated wetlands will be avoided. Attached is the *Jurisdictional Determination Request* (Appendix F) to the U.S. Army Corps of Engineers for the Fairfield I-77 Development property.

S&ME conducted a protected species assessment for the mine site. As stated in the Summary and Conclusions of their report, “Protected Species Assessment Fairfield I-77 Development Ridgeway, Fairfield Co.” that *based on the literature review, habitat assessment, and pedestrian field review of the site, the following conclusions are given regarding federally listed species in Fairfield County:*

- *The site does not provide suitable habitat for the federally listed species in Fairfield County. Our opinion is that proposed development of the site will have no effect on the federally listed species in Fairfield County. The site qualifies to use a Clearance letter for Species and Habitat Assessments (Appendix IV) from the USFWS.*

S&ME’s report is submitted as part of Luck Stone’s application for a Mine Operating Permit in Appendix G – Protected Species.

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

The site consists of planted pine stands, cutover forestland, pasture land and aquatic features – wetlands and tributaries. Land cover within the planned mine permit area is primarily pine trees as managed forest using accepted silvicultural practices. The timber will be managed and harvested using appropriate silvicultural practices.

Surrounding areas contain managed timberlands, agricultural, and rural residences.

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) Sediment control basin locations are based upon topography and are designed to control the sediment from 25 year-24 hour storm events. The erosion and sediment control plan (Appendix C) developed by S&ME provides maps and design calculations for the sediment control basins. Additionally, brush barriers, silt fencing and stormwater diversions will be used where and as necessary, typically around the down gradient perimeter of any land disturbances, to provide sediment control for mine disturbed areas not feasible to route into a sediment control basin or pit. To increase the effectiveness of sediment control, land disturbance will be kept to a minimum and to what is necessary to support mining activities. Non-vegetated areas will be graded and seeded as soon as feasible to stabilize the soil, reduce erosion and prevent sediment.

To provide redundancy and back up to the primary sediment control practices (e.g. 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.

(2) Proper mine designs, 3:1 slope in the unconsolidated overburden and benching of granite highwalls will maintain slope stability.

(3) Not applicable to this geology

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. Properties north, east and west of the site are mostly undeveloped with only scattered rural residential homes. Properties south of the permit area include the Norfolk Southern rail line and commercial properties along SC Hwy 34. Interstate I-77 is 1,300 feet east of the mine permit area and SC Hwy 34 is approximately 250 feet south of the permit area.

The mining operations will not use chemicals in the mining or processing of the granite; consequently, there will be no potential for chemical contamination to soil, water and air from mining activities.

Blasting

Explosives will be used to mine the granite. Blasting is a common technique in mining and used in a variety of settings ranging from rural to urban areas. Blasting operations will be under the direction of a SC Licensed Blaster. The mining operations will present no direct physical hazards to the surrounding community due to buffers and distance between mining activity to inhabited structures. Overburden will be used to construct vegetated berm overburden storage areas along the eastern side of the pit area.

There will be no blasting within 250 feet of the mine permit boundary. Explosives will not be stored on site and only transported to the site on the actual days blasting operations are planned. Extensive buffers, ranging from 400 to 500 feet wide, along the property line and wetlands along the northern permit boundary extend the distance from blasting to the few homes in these areas to greater than 2,000 feet. Properties along the southern end of the mine permit area are ½ mile or greater. Blasting operations will be approximately 3,000 feet and 3,300 feet from I-77 and SC Hwy 34 respectively from their respective nearest points of blasting during the lifetime of the quarry. No properties with inhabited structures are within 1,500 feet of where blasting operations will be conducted.

Ground vibration from blasting will be controlled through properly designed blasting operations that minimize vibration and maintain them at acceptable levels that prevent damage to structures. All blasting will be monitored with a seismograph. Ground vibration from blasting will be kept below SC's ground vibration requirements in R.89-150 to add additional protection to structures. Owners of structures within 1/2 mile of blasting, if any, will be offered the opportunity to have a pre-blast inspection of their structure(s) to establish baseline conditions. This baseline information will be beneficial should there become concerns of vibration damages in the future.

Groundwater Withdrawals

The potential for Fairfield I-77 to adversely impact wells on neighboring properties is considered low. This concept is based on the geology, experience at other quarries in the Piedmont and surface hydrology in and around the mine permit area.

In Appendix D of the application, the *Groundwater Monitoring Plan, Fairfield I-77 Development, Fairfield County, South Carolina* and *Limited Hydrogeologic Assessment Fairfield I-77 Development Site Ridgeway, Fairfield County, SC* developed by S&ME provides 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. The data from the observation wells will be used in determining whether the quarry is a factor should a neighboring well experience a malfunction. Groundwater monitoring wells will be placed at strategic locations at the perimeter of the mine permit area to observe the response to groundwater dewatering in the mine. Upon approval and issuance of the mine permit, the monitoring wells will be constructed.

During mining if a neighboring well is determined to be impacted due to pit dewatering, Luck Stone commits to repairing the impacted well or re-drilling a new well to ensure the affected neighbor has water. Luck Stone will also provide a temporary water supply to the neighbor until the repair or replacement well is completed.

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.

A publicly- owned park, publicly-owned forest, or publicly-owned recreation area is not within one 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 pit area and plant sites are located in the northern portion of the permit area. The pit and process plant are approximately 3,700 and 2,600 feet respectively from Hwy34 and I-77. The extreme distance and vegetation will effectively screen the mining operation from these highways. Additionally, earthen berms and overburden storage areas will be strategically located to visually screen mine operations from public roads & highways.

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 if 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

BENJAMIN A. THOMPSON
Printed Name of Applicant/Operator or his Authorized Representative

D.I.R., LAND & DEVELOPMENT
Title

~~D.I.R.~~, 3/16/21
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