REVISED APPLICATION INFORMATION*

I-002093
Culclasure Farm Mine
Culclasure Farm Tract, LLC
Calhoun County

TMS# 049-00-01-010
Mine Location: Latitude: 33.7363
Longitude: -80.9512

***Information included is provided by the applicant; details may change with the public notice/ technical review process. No decision has been made on this application.*

Kennedy

Consulting KCS Services, LLC

P.O. Box 364
Irmo, SC 29063
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February 17, 2017

Mr. Ed Haigler, Project Manager
SC Department of Health and Env Control
Division of Mining and Solid Waste Mgnt
2600 Bull Street
Columbia, SC 29201

RE: Response to Request for Supplemental Information
Culclasure Farm Tract, LLC
Proposed Culclasure Farm Mine, Mine Permit Appl I-002093

Dear Mr. Haigler:

This is in response to the Department's request for Supplemental Information on the above referenced application. Additional work has been performed on the property by way of drilling to better define the sand deposit and wetland delineation to better define the water related resources deserving protection. As a result of this additional work, more detailed mine maps, engineered sediment basin design and location and protective measures for the wetlands are being provided.

To fully present the supplemental information being provided, Form MR-400 Application for Mine Operating Permit and Form MR-500 Reclamation Plan have been drafted and submitted along with revised mine maps. Below is a summary of the supplemental information being submitted.

1. **Provide information supporting how wetlands and adjacent surface waters will be protected.**
   A wetland delineation was conducted to locate the boundaries of the wetland along the eastern and southern side of Pit #1. Also, a sediment basin is being added to the mine plan to better manage sediment control. The basin is designed by Howiler and Associates to treat storm and pit water for 25-year 24 hour storm events.

2. **Clarify the intended depth of mining. The mine application and maps are inconsistent.**
   Within the MR-400, a revised depth of mining is being submitted for both pits. Additionally, the mine maps provide final elevation contours and cross sections.

3. **Show the limit of disturbance and final contours of the reclamation map.**
   The reclamation map is shown in drawing 7 of 7.

4. Provide and identify acreages accounting for the Permitted Area including affected area, affected area bonded, future reserves and buffer.

More detail on the acreage distribution throughout the mine permit area is provided in MR-400, revised Reclamation Plan and in table form on *Drawing 1 of 7 Base Map of Proposed Mine Site*.

We believe this submittal satisfies the Department's request for supplemental information and will enable the Department to continue their review for permit issuance. If you should have any questions, please do not hesitate to contact me.

Sincerely,

Craig Kennedy, PG
KCS Principal

cc Tom Rowland
Thomas Gordon

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

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"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 invalided." (Section 48-20-60)

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I.APPLICANT INFORMATION

1. Name of Company: Culclasure Farm Tract, LLC

Check form of business entity: Corporation ____ Partnership ___ Limited Liability Corporation __x__.

Limited Partnership ___ Sole Proprietorship ___

2. Name of Proposed Mine Culclasure Farm Mine County Calhoun

3. Home Office Address 1201 Main Street, Suite 1980 803-748-1224
(Street **and** P.O. Box) (Telephone No.)
Columbia SC 29201 803-748-1216
(City) (State) (Zip Code) (Fax. No.)

4. Local Office Address: Same as Home Office Same
(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: Thomas Gordon, Operations Manager

7.Location of Mine: Horsefeathers Lane, Calhoun County, SC Swansea, SC
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:_____

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** Sand and Gravel

2**. Mining Method**:

A. List equipment to be used for mining and provide a brief description as to how the mine will be operated.
Clearing and grubbing operations will be performed by an excavator & front-end loader equipped with a root rake. Cleared trees and brush will either be used to form temporary brush barriers for erosion and sediment control or burned. Topsoil will be removed by a loader or excavator and stockpiled into berms around the pit perimeters. Adequate amounts of topsoil will be retained for reclamation and excess sold. The exposed sand will be mined by front-end loader and/excavator and loaded into haul trucks and taken to the process plant.

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.
Screen plant will wash sand for concrete and mortar sand and stockpiled for sale to customers.

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

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)).**
Pit 1 -- Approximately 44 feet; pit floor elevation 242 feet msl
Pit 2 -- Approximately 60 feet; pit floor elevation 250 feet msl

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

1**) Total acres for which permit is being requested**:

68.0 **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** 5.6

B) **Area used for stockpiles of unprocessed minerals** 0.0
Any stockpiles of unprocessed minerals will be within the pit(s) boundaries and included in the pit acreages.

C) **Area used for spoil (overburden) banks, topsoil and disposal refuse (exclusive of tailings impoundments)** 2.8
Overburden disposal areas will not be a part of this operation. Any overburden encountered will be backfilled into the pit. Topsoil will be strategically stockpiled around pit perimeter during stripping for visual screen, barrier and later use in reclaiming the pit slopes.

D) **Areas used for on-site processing facilities and stockpiles of processed minerals** 5.7

E) **Areas used for tailings pond (waste material from mineral processing)** 0.0
Tailing pond is also the sediment control pond for pit #1 and acreage is accounted for in item A) above.

F) **Area for access or haul roads** 0.4
The 0.4 acre haul road is the route for transporting mined sand from pit #2 to the process plant. Haul roads internal to the pit are included in the pit acreages.

G) **Area for excavation during the period of this permit** 20.6

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** **35.1**

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)

___x__ 25.00 + acres (bond amount - $25,000 or greater)

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.

The use of a vegetative filter (VF) will provide redundant sediment control that will consist of land that will not be disturbed by mining, but may have or will be managed for timbered production. The vegetative filters are considered affected areas because they are part of the overall sediment control strategy to protect water resources. The 5.8 acres within the VF will not require reclamation practices and will have a reclamation bonding rate of $0/acre.

Based upon reclamation bond calculation in 2A-H, the reclamation bond is in the +25.0 acres (bond amount $25,000 or greater) category. The reclamation bonded acres is 35.1 acres

Affected 40.9 Buffer 27.1 Future Reserves 0.0 Total Permit Area 68.0

4. Will this operation be covered by a blanket bond? _____ Yes __x__ No 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.

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.**

_____10_____ years

IV. PROTECTION OF NATURAL RESOURCES*

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

The only waste water generated will be water used to wash clay fines from the mined sand. No chemicals will be used in the wash circuit. The "treatment" will be to route the wash water not re-circulated to the wash circuit into an engineer designed sediment basin and allow sediment to settle before discharge.

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. __x__ Yes _____ No**

Stormwater water will be routed into the pit and through the 5.6 acre sediment basin before discharge. Any groundwater seepage into the pits will be discharged through the sediment basin and NPDES outfall

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

_____ Yes __x__ No

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

Anticipate mining will have a shallow penetration into the water table. Groundwater collected in the pit sumps will be routed for discharge to the sediment basin/NPDES outfall by gravity and/or pumping.

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

Wetlands were delineated by *Tidewater, A Division of JMT* and are as shown on the attached page to this application and on the mine maps. Based upon the mine plan and location of the wetlands, the wetlands will not be impacted by mining and protected by upland buffers.

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

_____ Yes __x__ No

Comments provided by SC Department of Archives and History's State Historic Preservation Office (SHPO) (*October 22, 2015 letter from Emily Dale, Staff Archaeologist/GIS Coordinator, to Ed Haigler*) confirmed that the planned mined area is not likely to contain significant cultural and/or historical sites and that a cultural resources survey is not necessary.

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 __x__ 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.

Wildlife found on site is typical for this area of the stat consisting of deer, turkey, and small game in abundance. The properties neighboring the mine permit area have been used for hunting.

Big Beaver Creek is located 1,300 - 2,300 feet north of the mine permit area. Unnamed tributaries to Big Beaver Creek bound the mine area along its southern and western sides. Wetlands associated with these unnamed tributaries have been delineated and shown on mine map.

Based on comments from SC DNR, no record of threatened or endangered species in the immediate mine permit area. However, the Seagreen Darter and Sawcheek Darter, two species in the SC Wildlife Action Plan may be in Big Beaver Creek. These species will be protected using standard mining methods that will limit potential adverse impacts to Big Beaver Creek as recommended by SC DNR.

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

No schools, hospitals, churches, or commercial/industrial building are located within several miles of the proposed mine. The mine permit area is located north and south of the unpaved Horsefethers Lane. Neighboring lands are forested with limited rural residential to the east of the mine permit area.

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 will be controlled by routing stormwater into the pit or engineer designed sediment basin will treat stormwater and/pit water from pit #1 and process plant. 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. To increase the effectiveness of sediment control, land disturbance will be kept to a minimum.

To provide redundancy and back up to the primary sediment control practices (e.g. sediment basin, 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 between the pit area and buffers for wetlands.

(2) Limited depth of mining and mining on slope will minimize potential for landslides.

(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.**

No schools, hospitals, churches, or commercial/industrial building are located within several miles of the proposed mine. The area is rural with dwellings located east of the planned permit area. The public road providing access to Culclasure Farm mine is Horsefeathers Lane - unpaved road. A dwelling is located on property adjacent to the mine permit area with additional dwellings extending east along Horsefeathers Lane to SC Hwy 35 (Big Beaver Creek Road).

The potential for physical hazards to neighboring dwellings will be non-existent because the mining methods to be used do not involve practices (e.g., blasting, chemicals, etc.) that can project or extend hazards (e.g., flyrock from blasting or groundwater contamination from chemicals, etc.) away from the mine site on to neighboring properties. Any direct physical hazard to Horsefeathers Lane and adjacent properties from unstable mine walls will be minimal to non-existant because of the relatively shallow depth of mining and mining will be conducted on a slope.

Unauthorized access to the property will be managed through the use of 6 foot high earthen berms along the permit boundary along with warning signs stating "No Trespassing". The potential for accidental falls from mine walls due to unauthorized entry into the mine will be minimized because mining will be conducted on a slope and not vertical highwalls.

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.**

No publicly-owned park, forest or recreation area is located within one-mile of site.

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

The mine permit area is a minimum of 1,300 feet east of US Hwy 21 and 2,300 feet west of I-26. The existing vegetation of mature forest effectively screens the mine from these highways. The 6 foot high berm at the mine permit area perimeter will provide some visual screening from adjacent properties. Existing vegetation on and around neighboring properties will provide visual screening to homes in a eastward direction. Vehicles traveling Horsefeathers Lane will have a limited view of the mine due to the 6 foot high earthen berm will provide some visual screening along this road.

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

Thomas Gordon
Printed Name of Applicant/Operator or his Authorized Representative

Operations Manager
Title

2-17-17
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:_____

DHEC 3102 (08/1997)

MR-400

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

RECLAMATION PLAN

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

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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."

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I. APPLICANT INFORMATION

1. Name of Company: Culclasure Farm Tract, LLC

2. Name of Proposed Mine: Culclasure Farm Mine County: Calhoun

3. Home Office Address: 1201 Main St. Suite 1980 803-748-1224
(Street **and** P.O. Box) (Telephone No.)

Columbia SC 29201 803-748-1216
(City) (State) (Zip Code) (Fax. No.)

4. Local Office Address: Same Same
(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: Thomas Gordon, Operations Manager

II. ENVIRONMENTAL PROTECTION

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

A minimum 25 foot wide woodland buffer will be left between the limit of disturbance and the adjoining property lines and along Horesfeathers Lane. Topsoil berms will be established inside the undisturbed buffer in advance of mining each segment. The buffers and berms will serve to visually screen the operation from Horsefeathers Lane.

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

Adjoining areas will be protected by undisturbed buffers and the use of brush barriers and silt fencing. These spot sediment control measures will be in place prior to any land disturbance within that segment. Stormwater and pit water from the pit will be routed through a sediment basin designed by a professional engineer to meet NPDES effluent discharge limits for TSS for the 25-year 24-hour storm events.

No dumping of outside non- mine related material within the mine area. Periodic removal of accumulations of fines in the sediment basin will be backfilled into the pit.

Petroleum products from mobile equipment will be controlled following proper procedures, training, control of any spills and immediately removal of spills and contaminated soils. Fueling of equipment will be in locations that any spillage can easily be contained before entering surface waters of the state. Minor spills will be cleaned up immediately using absorbent materials and removal of contaminated soils. All employees will be trained on a regular basis in the proper handling of petroleum products, managing and clean up of spills, proper disposal of absorbent materials and contaminated soils in accordance with the Stormwater Pollution Prevention Plan (SWPPP).

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

Comments provided by SC Department of Archives and History's State Historic Preservation Office (SHPO) (*October 22, 2015 letter from Emily Dale, Staff Archaeologist/GIS Coordinator, to Ed Haigler*) confirmed that the planned mined area is not likely to contain significant cultural and/or historical sites and that a cultural resources survey is not necessary.

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

During operations, surface water quality will be protected through proper deployment and use of silt fencing, brush barriers and engineer designed sediment basin to control suspended sediment (TSS) for the 25-year 24-hour storm events. After mining, the land will be graded, top soiled and revegetated to stabilize the soil, prevent erosion and sediment from leaving the site.

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.

During operations, surface water quality will be protected through proper deployment and use of silt fencing, brush barriers and engineer designed sediment basin to control suspended sediment (TSS) for the 25-year 24-hour storm events. After mining, the land will be graded, top soiled and revegetated to stabilize the soil, prevent erosion and sediment from leaving the site.

Air quality will be protected using water trucks and/or water sprays on haul roads. and stockpiles. The sand wash plant will use water to remove fines and since this is water process, the particulate matter will be controlled. Through revegetation of the mine land, the soil will be protected after mining from 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____x_____ f. **Grassland**_____x_____

b. Agriculture_____ **g. Recreation**_____

c. Woodlands_____ **h. Wetlands**_____

d. Residential_____ **i. Park**_____

e. Commercial_____ **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.

Final surface gradient will be 3:1 slopes.

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.

Final gradient will be achieve by mining on slope.

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.

Grassing specifications and seeding notes are provided in *DWG No. 6 of 7 - Erosion & Sediment Control Details*.

Revegetated 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 by 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 will not require a closure plan. A) Sand's primary constituent is quartz which is inert and will not oxidize to create acid mine drainage. B) This mine qualifies for coverage under the *NPDES General Permit for Discharges Associated with Nonmetal Mineral Mining Facilities (SCG-730000)* with no additional parameters other than pH and TSS. C) No chemicals will be used in the mining or wash plant.

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.

Any mine waste would consist of oversize gravel, clay balls and fines cleaned from the sediment basin. This material will be backfilled into the pit, graded, covered with topsoil and revegetated. With no chemicals used in the mining process or wash plant, these "waste" materials will not have any contaminates that could be a source of groundwater or surface water contamination.

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

Sediment basin banks will be re-graded if necessary and revegetated and reclaimed to a 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.

No streams, wetlands or surface water bodies will be disturbed by mining; consequently, there will not be any restoration activities. Stormwater drainage channels constructed for mining will remain in place to prevent erosion and site degradation from over flows from mine reclamation to ponds.

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.

All mined areas will be reclaimed to 3:1 slopes and revegetated. These slope will be stable and not prone to landslides.

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 reclamation of the sediment basin to a pond and the lower level of pit #2 will meet this requirement of 50% of the pond surface area with a minimum 4 foot depth.

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

All structures will be removed.

18. Attach <u>two (2)</u> 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 <u>not</u> feasible to reclaim simultaneously with mining. Provide reasons why reclamation can not proceed simultaneously with mining in these areas.

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 Permit Boundary Buffers and	Pit 1 & Wash Plant Area	1.5 ac	2017			Prior to land clearing and construction of wash plant
Locate & establish upland buffers for wetlands not to be impacted	Pit 1 & Wash Plant Area	2.7 ac	2017			Prior to land clearing and construction of wash plant
Deploy Silt fence & brush barriers	Pit 1 & Wash Plant Area	22.9 ac	2017			Prior to land clearing and construction of wash plant
Construct Sediment Basin	Sediment Basin	5.6	2017			Prior to land clearing and construction of wash plant
Construct Topsoil Berms	Pit 1	1.0 ac	2017			Initial overburden stripping for mining pit # 1
Mine	Pit 1	11.6 ac	2017 - TBD			
Grade, Spread topsoil, fertilized, lime, seed, and mulch as necessary	Pit 1					Where feasible, portions of Pit 1 that have been mined and can be reclaimed without being re-disturbed by ongoing mining in Pit 1 will be reclaimed.
Monitor reclamation and repair as necessary until released by DHEC	Pit 1	11.6 ac	TBD			
Locate Permit Boundary Buffers and	Pit 2	2.9ac	TBD			Prior to land clearing
Deploy Silt fence & brush barriers	Pit 2	9.0 ac	TBD			Prior to land clearing
Construct Topsoil Berms	Pit 2	1.8ac	TBD			Initial overburden stripping for mining pit # 2
Construct Haul Road	Pit 2	0.4	TBD			
Mine	Pit 2	9.0 ac	TBD			
Grade, Spread topsoil, fertilized, lime, seed, and mulch as necessary	Pit 2 & Haul Road	9.4	End of Mining			Where feasible, portions of Pit 1 that have been mined and can be reclaimed without being re-disturbed by ongoing mining in Pit 1 will be reclaimed.
Monitor reclamation and repair as necessary until released by DHEC	Pit 2 & Haul Road	9.4 ac	Until released			
Dismantle wash plant, grade, spread topsoil, fertilize, lime, seed and mulch as necessary.	Wash Plant	5.7 ac	End of Mining			
Install stormwater overflow structure for water basin; grade, topsoil and seed pond banks.	Sediment Basin	5.6	End of Mining			
Monitor reclamation and repair as necessary until released by DHEC	Wash plant	5.7 ac	Until released			

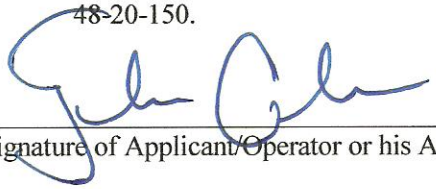
AA – Affected Area BMPs – Best Management Practices Fert. – Fertilize LOM – Life of Mine MW - Monitoring Well PA – Permitted Area
PL – Property Line SB – Sediment Basin ST – Sediment Traps SW – Stormwater TS – Topsoil WL – Wetlands

* 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.



Signature of Applicant/Operator or his Authorized Representative

Thomas Gordon

Printed Name of Applicant/Operator or his Authorized Representative

Operations Manager

Title

2-17-17

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:_____

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