

May 30, 2019

Ms. Judith A. Wehner
NCDEQ
512 N. Salisbury St.
Raleigh, NC 27699

RE: Proposed Alamance Quarry and Construction Materials Quarry
Alamance County
Cape Fear River Basin

Dear Ms. Wehner,

We have reviewed your letter of December 21, 2018 requesting additional information. We have revised and/or added the appropriate information that was requested. Please review the below and included information to see that it is satisfactory. Should there be any more additional requests, please reach out directly and we will ensure that it is provided timely.

Sincerely,

Chad Threatt

North Carolina Environmental Quality Questions 1 Through 12

- Provide proof such as copies of the signed return receipts from certified mail that the County Manager, Progress Energy, Colonial Pipeline Company, Robert L Rumley and Ralph W Bland have been properly notified of the proposed mine. In addition, provide in your response information that clearly demonstrates that Colonial Pipeline Company and Duke Power have no issues with the proposed disturbance within their rights-of-ways.
 - All Items pertaining to this question is attached in question 1 folder.
- Provide the estimated life of the mine in years.
 - Estimated life of current permitting will be +/- 50 years.
- Provide a detailed hydrogeologic study for the proposed operation. A report was referred to in the Monitoring Plan but was never submitted. Provide a copy of the information provided to Robert Christian Reinhardt, PG for the Groundwater Monitoring Plan. Provide a well survey for all wells within 1500 feet of the proposed permit boundary that details the well depth, well capacity, well recovery and well pump type. In addition, see

the enclosed comments from the Ground Water Management Branch and include or respond to the recommendations.

- The hydrogeologic study is attached including well survey within 1500 feet.
- Provide a thorough geologic investigation of the site that outlines any fractures, dykes, rock type, and radon presence etc.
 - See the attached study from Robert Christian Reinhardt, PG.
- Provide proof that a NPDES General or Individual Permit has been obtained.
 - A notice of Intent was submitted to NCDEQ for NPDES General Permit NCG020. A copy of the NOI is attached
- Provide proof that your company has obtained the Air Quality Permit as stated in the application. Provide additional information to this office that clearly addresses the amount of free silica dust and radon that will be released as a result of the proposed operation.
 - See the attached air permit # 10612R00
- Provide proof that there is valid approved wetland delineation for this site. Include proof that your company has obtained the necessary 401/404 approvals/certifications needed.
 - The wetland delineation was approved by the US Army Corps of Engineers. The Jurisdictional Determination is attached along with wetland delineation and stream buffer map. Brown's Environmental Group is waiting on concurrence that we do not need the 401/404, due to lack of impact on streams or wetlands
- Provide overburden calculations and show that the overburden removed from the proposed Mining Area balances with the overburden storage area, berm construction and processing/stockpile area. Provide pre and post construction cross sections of the processing, stockpile and overburden areas. Include construction sequences and staged seeding.
 - See the attached plans.
- Revise the blasting vibration study to include any effects blasting may have on the pipelines and power lines. Test blasting is an option prior to production blasting. See the attached comments provided by Colonial Pipeline Company and address the concerns in writing as a part of this response.
 - See the report that is attached from Dyno Nobile.
- See the enclosed comments from the NC Wildlife Resources Commission and respond to the concerns outlined in the memorandum. Please note that the Revegetation Plan submitted with the application is not adequate. Please include a revised Revegetation Plan as a part of this response.
 - See the attached plans.

- See the enclosed comments from the Winston- Salem Regional Office regarding the erosion and sediment control plan submitted with the application. Address all of these issues.
 - See are response to their question on WSRO question sheet.
- Provide cross sections of the final reclamation of the site. Include the final high wall barrier/fencing location and provide a final high wall barrier fence detail.
 - See the attached updated plans.

North Carolina Wildlife Resource Commission Questions 1 Through 7

- We are pleased to see a 50-foot buffer around wetlands and intermittent streams. However, a minimum 100-foot undisturbed native, forested buffer should be maintained along perennial streams. Maintaining undisturbed, forested buffers along these areas will reduce impacts to aquatic and terrestrial wildlife resources, water quality, and aquatic habitat both within and downstream of the project area. In addition, these buffers will provide an adequate travel corridor for wildlife species. We request that sediment and erosion control structures be located outside of these buffers.
 - See the attached plans
- Due to the presence of sensitive species in the watershed, we prefer bottomless culverts are used for the project instead of circular culverts. If culverts must be used, the culvert should be designed to allow passage of aquatic organisms; maintain floodplain attenuation; and designed and installed to maintain dimension, pattern, and profile of the stream
 - See the attached plans
- Since the purpose of storm-water-control is to protect streams and wetlands, no stormwater control measures or best management practices should be installed within any stream (perennial or intermittent) or wetland. We recommend that retention ponds be located at least 750 feet from small wetlands to minimize hydrologic disturbance and ecological function.
 - See the attached plans
- Due to the decline in bat populations, avoid tree clearing activities during the maternity roosting season for bats (May 15- August 15). Additionally, if any underground mines or

mine-like features occur onsite, please contact me or Katherine Caldwell at (828) 545-8328 prior to any disturbance

- **Non-native and/or invasive plants, such as lespedeza, should be removed from the seeding schedule.** Consider using seed mixtures (e.g., native warm season grasses) that are beneficial to wildlife for revegetation or reclamation activities. NCWRC recommends an alternative mix of red clover, creeping red fescue, and a grain, such as oats, wheat, or rye. Native plants are preferred and recommended for revegetation and reclamation activities. We are pleased to see the native trees and shrubs to be planted along the barrier. Please note that Yaupon holly (*Ilex vomitoria*) and Florida leucothoe (*Leucothoe populifolia*) are native to the Coastal Plain. Instead, we recommend winterberry (*Ilex verticillata*), fetterbush (*Lyonia* spp.), and/or winged sumac (*Rhus* spp.). Please contact NCWRC for a list of additional suitable native plants for reclamation or revegetation.
 - See the attached plans
- Sediment and erosion control measures should be installed prior to any land-disturbing activity. The use of biodegradable and wildlife-friendly sediment and erosion control devices is strongly recommended. Silt fencing, fiber rolls and/or other products should have loose-weave netting that is made of natural fiber-materials with movable joints between the vertical and horizontal twines. Silt fencing that has been reinforced with plastic or metal mesh should be avoided as it impedes the movement of terrestrial wildlife species. Excessive silt and sediment loads can have detrimental effects on aquatic resources including destruction of spawning habitat, suffocation of eggs, and clogging of gills.
 - See the attached plans
- For relatively shallow sediment basin reclamation, we recommend these are be reclaimed as wetlands where practicable.

- For clarity, the scale of the sediment control portion of the mine map must be shown on a 1"-60' scale.
 - Please see sheets C301A – C301F
- The names of all streams, rivers, and lakes must be shown on the mine map.
 - All streams shown on the mine map are unnamed tributaries to Cane Creek. Streams labeled per the USACE determination.
- Discharge points for the settling ponds must also be shown. Access for periodic clean-out must also be shown.
 - Please see Sheet C301 E
- The initial and ultimate limits of clearing must be shown on the plan.
 - The initial & ultimate clearing limits are the same as noted on sheet C 201.
- The size and locations of all proposed buildings (maintenance facilities, crushers, explosive storage areas) must be shown on the plan. All proposed stone stockpile areas must also be shown on the mine map.
 - No explosives will be stored on site per the Owner. Mobile Crushing Plants, wash plant, and shop building (maintenance facility) are all shown to scale on plans.
- The symbol (similar to the denotation of a rip-rap channel) within the mining limits must be identified on a project legend.
 - Please see sheet C301
- Design calculations are needed for the following devices: (1) All sediment skimmer basins (note: the information provided on sheet C302 is not sufficient for purposes of this application); (2) settling ponds; (3) proposed permanent ditches [Note: all proposed permanent ditches must also be identified with a specific number for reference]; (4) the proposed pipe beneath the entrance road off Clark Road.
 - Calculation sheets are being provided within the submittal package.
- Adequate sediment control measures must be provided at the entrance to the project off of Clark Road during the clearing phases. Check dams in the proposed ditch are not considered adequate.
 - Skimmer basins (SK 17 & SK 18) have been incorporated; please see sheet C301A.
- Adequate sediment control measures must be shown below the proposed 8' tall earthen berm located to the west of the proposed scale house. Note: sediment fence is not considered an adequate sediment control for this area.
 - Skimmer basins added; please see sheet C301A.

- Ditch lines shown north of the proposed scale house do not discharge into an acceptable sediment control device. The ditches bypass sediment skimmer basins #6 and #7, leading to the stream north of the basins noted.
 - Temporary Diversion Berms will be constructed as shown on sheet C301B.
- Similar to item #10 above, proposed ditch lines are shown bypassing sediment skimmer basins #4 and #5.
 - Temporary Diversion Berms will be constructed; see sheet C301B.
- The diameter and length of the proposed pipe shown under the access road into the mine must be shown on all C300 series of sheets.
 - Pipe has been shown on sheets C301, C301A, C303, C305
- The septic area and any leachate lines behind the scale house must be shown within the limits of disturbance.
 - Please see sheet C301A.
- On the west side of the mine there is a notation stating that “retain natural area for screening”, however, equipment access must be retained for the installation of perimeter security fencing. Disturbed areas must be noted for the installation of perimeter security fencing.
 - Sheet C301 (and all 60 scale sheets) have been updated to show the limits of disturbance.
- Grading must be shown for the “proposed shop” noted on sheet C301.
 - See Sheet C301B
- Temporary diversion berms must be shown directing runoff from the proposed berm into sediment skimmer basins #8 and #10.
 - Please see sheet C301B
- Adequate sediment control measures must be shown below the proposed berm on the west side of the mine. Note: Silt fence shown in this area is not an acceptable measure.
 - See sheets C301A, B and 301 E.
- Grading is shown beneath skimmer sediment basin #13 before the basin is installed. The use of sediment fence below this proposed grading is not acceptable.
 - The proposed grading has been modified; please see sheet C 301E.
- In addition, the proposed berm directing runoff to skimmer Sediment basin #13 may not be constructed and maintained as shown on the mining plan.
 - The temporary diversion berm has been shortened so that construction equipment can traverse above the measure; see sheet C301B.

- The temporary diversion berm directing runoff toward skimmer sediment basin #4 is shown running in an uphill fashion across the 620 contour line.
 - Addressed; see sheet C 301B.
- Proposed contour lines shown adjacent to the mine area show vertical slopes of up to 10' against the mine area. Vertical slopes left in these areas are not acceptable.
 - Addressed; see sheet C301B.
- The northern side of the mine area protrudes into the stream below the 620 contour interval. This is not acceptable as no buffer has been left in place.
 - Client has indicated they have decided to pay for mitigation for this impact
- No adequate sediment control measures have been proposed for the perimeter of the mine area. When the soil overburden material is removed, acceptable sediment control measures must be installed.
 - Skimmer basins 23 through 27 have been incorporated for the perimeter of the mine.
- Acceptable temporary diversion berms must be shown on either side of sediment skimmer basin #12. The diversion berm on the east side of basin #12 does not extend to the edge of the proposed disturbed area. In addition, no diversion berm has been proposed for the west side of the basin.
 - Addressed; please see sheet C 301E
- Acceptable temporary diversion berms must be shown on either side of skimmer sediment basin #1. The diversions shown are currently located within the active mine limits and cannot be properly maintained during mining activities.
 - Addressed; please see sheet C 301E
- Acceptable temporary diversion berms must be shown directing runoff to sediment skimmer basin #2. The east diversion is shown directing runoff in an uphill fashion toward the basin, which is not acceptable. The east diversion is also shown directing runoff beneath the security fencing and back into the basin. This would be very difficult to maintain. The diversion on the south side of sediment basin #2 is not visible on sheet C301. The extent of the berm is not completely shown on sheet C302. Please clarify.
 - Addressed; please see sheet C 301E
- It does not appear that sediment skimmer basin #3 can be installed as shown on sheet C301. The excavation of the basin in this fashion would result in steep slopes on the sides and rear of the basin. The temporary diversion shown on the west side of the basin is shown within the disturbed limits rather than at the edge of the disturbed limits. In addition, the two diversion berms shown on the east side of the basin are shown within excavated areas around the north settling cell, which is not acceptable. The southeast diversion berm is shown directing runoff in an uphill fashion through the 594 contour.

The northeast diversion berm is shown directing runoff in an uphill fashion over the 580 contour and toward sediment basin #4. Silt fence is not an acceptable sediment control for this area.

- Addressed; see sheet C 301 E
- Skimmer sediment basin #11 is shown being installed within an area of active excavation, which is not acceptable. In addition, the temporary diversion berm on the west side of the basin is also located in an area of active excavation, which is also not acceptable. The diversion may not be shown in an active fill area and may not include a 90 degree turn toward the basin.
 - Addressed; please see sheet C 301C.
- No acceptable sediment control measures have been shown below either of the two 8' berms located on the north and east sides of the mine. Temporary sediment fence shown in these areas is not acceptable. In addition, no clear path has been provided from the active work areas to the proposed berms. (i.e., a travel path has not been proposed through or around the "mining limits").
 - Addressed; please see sheet C 301C.
- No adequate sediment control measures have been proposed to protect the lake shown on the east side of the mine. Silt fence shown in this area is not an acceptable measure.
 - Skimmer basin has been incorporated; please see sheet C301D.
- In many areas, no sediment control protection measures have been shown in the vicinity of the 50' buffer zone of existing streams, lakes, and wetlands. Please review these areas carefully and propose acceptable measures in future revised submittals of this plan.
 - Addressed; please see sheet C 301 and the associated 60 scale sheets.
- The locations of the skimmer outlet pipes must be shown for each proposed sediment skimmer basin shown on sheet C302. In addition, these pipe outlet locations must also be shown on sheet C301.
 - This information has been added.
- The sequence of mining must be shown on sheet C203. From the cross-section A-A that has been provided, it appears that mining will begin on the north side of the mine, but this has not been expressly stated. Haul roads and varying phases of mining activity must also be shown.
 - The Rock mining phases have been shown on sheet C 301. The mining haul road that will serve the phases 1-4 of the rock mining is shown on sheet C 301 also. The overburden soil will be removed from the area of phases 1-4 in the beginning.

- All 50-foot buffer areas must be noted as being "undisturbed".
 - Addressed; please see sheet C 301 and the associated 60 scale sheets.