North Carolina
Department of Environment and Natural Resources

Division of Waste Management

Michael F. Easley, Governor
William G. Ross Jr., Secretary
William L. Meyer, Director

NCDENR

January 30, 2001

Mr. Edward J. Kreul
Environmental Services Superintendent
International Paper- Riegelwood Mill
John L. Riegel Road
Riegelwood, NC 28456

RE: Site Suitability for a Sanitary Landfill, International Paper, Riegelwood Mill, Riegelwood, NC. Columbus Co.

Dear Mr. Kreul;

The Solid Waste Section of the Division of Waste Management (Division), has completed its review of the site application and facility plan study for the proposed International Paper, Riegelwood Mill, Industrial Landfill. The proposed site is located on NCSR 1818 in Columbus County, near Riegelwood, North Carolina.

The application was prepared by your consultant Earth Tech of North Carolina, Inc., Raleigh, NC and is referenced as follows: *Site Application. Sanitary Landfill, International Paper Company, Riegelwood Mill, John L. Riegel Road, Riegelwood, NC 28456.* Your consultants response to comments, dated June 20, 2000 is referenced, as are the site application drawings (eleven pages) titled: *Site Application Conceptual Design, International Paper, Riegelwood, North Carolina*. December, 1999.

Pursuant to Rule .0504, the Division is notifying International Paper (IP) that the site is considered suitable, and you are authorized to prepare and submit an application for a permit to construct. Section .0201 of the Solid Waste Management Rules (15A NCAC 13B) requires the Division to issue a solid waste permit in two parts. The first part is a Permit to Construct and the second part is a Permit to Operate. The Division may only issue a Permit to Operate after it determines that the facility has been constructed in accordance with the construction permit and that all pre-operative conditions have been met. The final action the Division may take on a permit application is the issuance or denial of a permit.

APPROVED DISPOSAL AREA

Based upon information submitted and revised through June 20, 2000, the Division has determined that the approximately 450 acre site, as proposed in the conceptual design plan, is suitable for development of a solid waste management facility subject to the terms and conditions specified below. This statement of suitability does not predetermine that all portions of this property are deemed appropriate for landfilling activities. Each phase will be evaluated during the design process as to whether or not landfilling can be performed and what, if any, engineering is deemed appropriate to achieve that purpose.

Disposal of waste, or any portion of the waste disposal unit is not permitted in the 100-year flood plain. This includes the containment berm or any leachate storage or treatment facilities.

Disposal on western portions of the site may be restricted or prohibited because of the of the stream, possibly intermittent, which dissects the property. Appropriate wetlands approvals and/or mitigation may be necessary to utilize this area for waste cells, as presented in the conceptual design plan.

GENERAL CONDITIONS AND SITE-SPECIFIC DESIGN REQUIREMENTS

The Division requires the submittal of a construction plan application for the first five-year development phase, as identified in the conceptual design plan, which is consistent with the requirements of 15A NCAC 13B .0503, .0504, and .0505, including, but not limited to, the site specific criteria set forth in this letter. Development of subsequent phases of the landfill will be in accordance with rule .0201(e).

Buffers

Horizontal buffers shall be as described in the conceptual design and as designated in Rule .0503(2)(f), and shall also include the following buffer criteria:

a) A 100-foot minimum buffer shall be maintained between facility boundaries and borrow areas, unless otherwise approved by the Division.
b) A minimum 50-foot buffer shall be maintained between borrow areas and delineated wetlands.
c) A minimum 50-foot buffer shall be maintained between disposal areas and the delineated wetlands.
d) A minimum 200-foot buffer shall be established between the waste boundary and the property line, unless otherwise approved by the Division.

IP may utilize all remaining areas of the site, except buffer areas, for other solid waste management activities (such as composting or recycling) or for landfill support activities (such as leachate management and/or stockpiling of cover material) upon approval by the Division.

Design and Construction Standards

An engineering evaluation and design report shall be prepared. The division strongly encourages IP and their consultant to schedule a pre-design meeting with the division to discuss a strategy for preparing a permit to construct that will meet the goals and objectives of IP, be permittable, and be protective of public health and the environment. The permit to construct should consider the following:

1. Use of any composite liner system other than that specified in .0503(d)(2)(ii)(B) will require groundwater modeling to demonstrate compliance with ground water standards established under 15A NCAC 2L.
2. The proposed closure cap system is not adequate for a lined waste cell. At a minimum, current engineering practice requires a cap system that is equal to or less permeable than the bottom liner system. This should be addressed in the permit to construct.
3. Stability and settlement will need to be investigated during the design hydrogeologic phase of work. The presence of the loose saturated sands and compressible clays may present challenges to the engineering design.
4. Stone Columns surrounding the leachate collection lines must penetrate the protective cover and be in contact with the waste.
5. The use of concrete manholes for the leachate system can be problematic, particularly if multiple sections are needed. Consideration to using HDPE manholes should be given.

Additional Subsurface Investigation

A geologic and hydrogeologic report shall be submitted as a component of the construction plan application. The report shall present the results of additional subsurface investigations at the site and shall be consistent with the requirements of Section .0503(d)(ii) and .0504(1)(c) of the Solid Waste Management Rules.

6. Further characterization will be necessary concerning the underlying Pee Dee formation for the purpose of evaluating its settlement properties. Potential settlement must be designed for with the engineering design and evaluation.
7. The hydrogeologic study should be designed to evaluate the area's aquifer to determine whether it is discharging or recharging in the area of concern, and its potential variance

across the site.

8. The seasonal high groundwater surface must be determined for the site, particularly in the area of Phases 1 and 2. Installation of additional piezometers in this area may be required.
9. The groundwater monitoring system must be designed by giving consideration to the dispersive characteristics of the aquifer. This will determine the spacing and number of the monitoring wells.

The Permit to Construct and the Permit to Operate will be issued to International Paper Company, Inc., Riegelwood Mill. If you have any questions, or would like to schedule a meeting to discuss this letter, please contact our office at (919)733-0692. The staff engineer assigned this project is Ed Mussler.

Sincerely,

James C Coffey

James C. Coffey, Supervisor
Permitting Branch
Solid Waste Section

cc: Ellen Lorescheider, SWS
Mark Fry, SWS
Jim Barber, SWS
John Crowder, SWS

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