



North Carolina Coastal Federation

3609 Highway 24 (Ocean) Newport, NC 28570

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Northern Office: P.O. Box 475 Manteo, NC 27954

October 24, 2005

Dexter Matthews
NC Division of Solid Waste Management
Mail Service Center 1646
Raleigh, NC 27699-1646

Dear Mr. Matthews,

On behalf of the North Carolina Coastal Federation (NCCF), I am writing to express serious concerns about the proposed operation of a municipal solid waste landfill by Black Bear Disposal, LLC, in the unstable soils of prior converted wetlands in Camden County. NCCF is a non-profit environmental group with a statewide membership of 8,000 people. Our mission is to protect the water quality of the 20 coastal counties.

The soils of prior converted wetlands retain wetland characteristics, with some underlying soils being more stable than others. In addition, the groundwater table on this site has been shown to be at the surface. The combination of unstable soils and high groundwater level clearly makes this site unsuitable for a landfill of this magnitude.

Regulations for a Subtitle D landfill require that there be four feet of separation between the groundwater table and municipal solid waste. The applicant proposes to meet this regulation by trucking in approximately 26,500,000 tons of fill, enough to create a 12- to 15-foot berm and to serve as daily cover. In addition, according to the application, plans for the landfill call for 102,400,000 cubic yards (82,500,000 tons; up to 10,000 tons a day) of waste to be accepted over the facility's 27-year life span. The footprint of the waste pile would be approximately 490 acres; the fill would reach a height of 260 to 280 feet. We are concerned that the combined weight of the soil fill and the waste will contribute to unstable settling in the wetlands soils and place unreasonable stress on the HDPE liner. Any rips or tears in the liner would cause leachate to escape and lead to groundwater contamination. Leakages from isolated tears in the liner would likely go undetected for years.

We are not alone in these concerns. Dr. G. Fred Lee and Dr. Anne Jones-Lee, waste industry consultants in El Macero, California, have published several papers documenting failure by the kinds of monitoring wells proposed for this facility. As Dr. Lee and Dr. Jones-Lee note, in many cases groundwater contamination initially occurs as finger-like

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plumes from holes or tears in the flexible landfill liner. Monitoring wells set several hundred feet apart, as proposed for this facility, are highly unlikely to detect these plumes. Pollutants may continue to leak out until enough accumulates to be detected by the monitoring system or a massive failure of the liner system occurs. (See Lee, G.F, and Jones-Lee, A., "Geosynthetic Liner Systems for Municipal Solid Waste Landfills: An Inadequate Technology for Protection of Groundwater Quality." *Waste Management & Research*, 11:354-360. Also see Lee, G.F., *Detecting Failure of Subtitle D Landfill Liner Systems*, G.F. Lee & Associates, El Macero, CA, 1999.)

We are also quite concerned about Black Bear Disposal's proposed plan to collect leachate and recycle it back through the waste pile. This practice may present an elevated threat to the integrity of the liner. Through this procedure the liquid produced by the disposal of trash would be poured back through the landfill, increasing the moisture level and accelerating decomposition of waste. However, the hastened decomposition rate also increases unstable settlement of the waste pile, as components in the landfill decompose at different rates. (See Jones-Lee, A. and Lee, G. F., "Groundwater Pollution by Municipal Landfills: Leachate Composition, Detection and Water Quality Significance," *Proc. Sardinia '93 IV International Landfill Symposium*, Sardinia, Italy, pp. 1093-1103, October, 1993.) This unstable settlement places more pressure on the HDPE liner and may compromise its integrity. The inconsistent settling of waste may also cause fissures to open in the final cover layer placed on the landfill. If the cover material is unsound, rainfall will enter the landfill and place further stress the liner.

Leachate recycling is a relative novelty within the industry, and we are concerned that it is not adequately regulated. The web site for the U.S. Environmental Protection Agency cites a series of "special considerations" that need further investigation before effective regulatory measures can be adopted for bioreactor or leachate recycling operations. These include "physical instability of waste mass due to increased moisture and density," "instability of liner systems," and "surface seeps." Again, we would be wary if such practices were proposed for any landfill on any parcel. But to propose such a large facility with leachate recycling for a patch of prior converted wetlands strikes us as foolhardy.

Our concerns about protecting water quality are shared by officials at the U.S. Fish and Wildlife Service. In a letter to Chesapeake City officials, Marvin E. Moriarty, regional director of the service in Hadley, Massachusetts, writes, "Water quality could be degraded if the site is not constructed and managed to the highest standards. The site does not appear ideal from a hydrogeologic standpoint. Although most of the site is characterized as 'prior converted' wetlands by the applicant, this area still provides important wetlands functions and values (including aquifer recharge, wildlife habitat, flood storage capacity, and water quality maintenance) for which potential impacts should be considered (undated letter to Dr. Clarence V. Cuffee, in response to Dr. Cuffee's correspondence of August 3, 2005).

The hydrology of this site is quite similar to the site proposed for the Riegel Ridge Municipal Solid Waste Landfill in Columbus County. The Division is on record as having serious concerns about the suitability of that site. In a December 7, 2001, letter to William Dreitzler, consultant for Riegel Ridge, James Coffey of the Solid Waste Section wrote, "... It is clear that if the site is ever determined to be suitable for a MSWLF, it would be marginally suitable at best. Site conditions which raise questions concerning suitability of the site include high ground-water table, compression and consolidation of soils creating stability and settlement issues, questionable onsite soil resources, and potential operational impacts on adjacent and nearby environmentally-sensitive features such as wetlands, flood plains, and state nature and historic preserves. The site would require extensive engineering design to resolve serious construction and operational concerns." The same concerns exist at the Camden County site. However, because of the sheer size of the proposed facility, any problems will be magnified several times.

We are further concerned about the possibility of a recycling center being added to the facility in the future, as allowed by the county franchise, because of the likelihood that it will accept Chromated Copper Arsenate (CCA)-treated wood products. CCA wood is commonly chipped for resale or use as cover material on landfill sites. These products pose additional threats to groundwater and surface water quality.

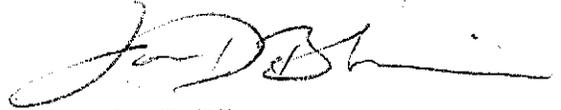
CCA-treated lumber is no longer allowed for use in residential structures; a ban was placed on the material in 2004. Nonetheless, it remains the most popular wood building product throughout the United States, and thousands of tons of CCA treated wood are expected to find their way into landfills in the next 20 years. Black Bear Disposal's Facility Plan states that Construction and Demolition (C&D) debris will be accepted at the facility. This type of waste includes building materials such as wood and wood scraps from construction, remodeling, or the repair of buildings and other structures. The plan also states that C&D debris will not be separated from other municipal solid waste. Numerous studies have shown that landfills containing CCA-treated wood leach arsenic, chromium, and copper at concentrations exceeding EPA standards. The toxic leaching intensifies when leachate is recycled back through the waste pile.

We understand that the Division has questions about the financial viability of Black Bear Industries to take responsibility for cleaning up any pollution from the facility. As a Limited Liability Corporation, Black Bear should under no circumstances be allowed to operate a landfill of this magnitude alone. Black Bear is a subsidiary of Waste Industries. The parent company should be held responsible for any problems caused by a facility operated by Black Bear or any other of its subsidiaries.

Landfills of any size are not suitable for sites that have been carved from wetlands or have a high water table. For the reasons listed above, as well as the sheer size of the facility, we urge you to find the proposed Camden County site unsuitable for the municipal solid waste landfill proposed by Black Bear Disposal, LLC.

Please feel free to contact me with questions. My email is hatteraskeeper@nccoast.org,
and my phone is (252) 473-1607.

Sincerely,

A handwritten signature in black ink, appearing to read "Jan DeBlieu". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Jan DeBlieu
Cape Hatteras COASTKEEPER®

Cc: Bill Ross, DENR
Ed Mussler, DWM