CITY OF NORTH MIAMI, FLORIDA

Corps of Engineers Permit 75B-0869
and Permit Application 77B-0376

Recommended Determinations of the Regional
Administrator - EPA Region IV

Pursuant to the Clean Water Act as amended (Section 404(c)) (33 U.S.C. 1344 et seq.), I recommend the restriction of the use for specification of the area covered by permit 75B-0869 so that no further permanent discharges of fill material will occur in the area covered by that permit. In a companion action I recommend the denial of the use for specification of an additional 12 acres (proposed permit 77B-0376) at the same site covered by Corps of Engineers permit No. 75B-0869. These recommendations are based on my determination that the use of this site for disposal of fill material poses the risk of unacceptable adverse impacts, to fishery areas, wildlife and recreation areas of Biscayne Bay, adjacent wetlands, and lakes within the site. I hereby make the following findings:

1. On March 15, 1976, the Jacksonville District of the Corps of Engineers issued Permit No. 75B-0869 to the City of North Miami, Florida, to place fill material in a 291-acre area of low-lying land, 103 acres of which were wetlands containing waters of the United States, in order to construct a public recreational facility for the City of North Miami. The project is located west of Biscayne Bay, east of U.S. 1 and north of 135th Street in Sections 21 and 22: Township 52 South, Range 42 East; Dade County, Florida. Approximately 1,540,000 cubic yards of fill material were to be used to achieve sufficient elevations for the landscaping of golf courses and to prevent damage caused by flood tides. The minimum elevation within the area of the golf courses was to be +4.0 feet Mean Sea Level (MSL).

2. Several million cubic yards of solid waste, of which approximately 50 percent was household garbage, have been placed at this site since issuance of Permit 75B-0869 on March 15, 1976. Waste has been placed to a neight of approximately 40 feet MSL.

Several lakes have been excavated at the site to a depth of -35 feet MSL. Neither the Corps public notice nor the Corps permit referenced use of solid waste (garbage) as fill material.

4. At the request of the Environmental Protection Agency, personnel from the Dade County Department of Environmental Resources Management (DERM) inspected the northwest lake on January 15, 1980, and observed five leachate streams entering the lake. DERM personnel returned to the site on January 17, 1980, and took water quality samples. The leachate entering the northwest lake had an ammonia concentration in excess of 500 ppm, which is evidence of gross contamination.

5. Data collected on February 22, 1980, by Post, Buckley, Schuh and Jernigan, Inc., a consulting engineering firm employed by the applicant, show that three lakes on the site had surface water with ammonia concentrations ranging from 5-20 ppm. Subsequently these lakes have been sampled by both DERM and EPA who have independently verified the high levels of ammonia in those lakes.

A public hearing on my proposed determination was held on October 2, 1980, pursuant to Section 404(c) of the Clean Water Act. Dr. Joan A. Browder, a representative of the National Marine Fisheries Service, provided testimony at that hearing regarding the toxicity of ammonia to freshwater and salt-water fishes and invertebrates. Ammonia is acutely toxic to various aquatic species at low concentrations and is found in the aquatic environment in two forms, ionized (NH_4^+) and un-ionized (NH_3). Toxicity of ammonia to aquatic organisms is credited to the un-ionized form; however, there is considerable evidence that NH_4^+ contributes significantly to the detrimental effects of ammonia on aquatic organisms in some environments. Concentrations of 2 - 20 ppm total ammonia, as found in the lakes, result in concentrations of un-ionized ammonia that exceed the EPA's water quality criteria.

In one experiment cited in EPA's Quality Criteria for Water, total ammonia concentrations of 8 PPM produced 50% mortality

in the test animals within 24 hours. I have therefore concluded that the leachate entering the lakes is having an unacceptable adverse environmental impact.

7. An Environmental Protection Agency scientist found thirty-one man-made organic compounds in one leachate sample. Of this number, 20 compounds were identified and can be traced to various families of chemicals often associated with household wastes such as solvents, plasticizers, and lubricating fluids. Some other compounds can be linked to pharmaceutical wastes. The eleven remaining organic compounds could not be identified.

Although most of the organic materials could be linked to household wastes, five of the organic compounds identified were priority pollutants which are known or suspected of having toxic effects on man and other animals. These compounds were found at low concentrations; however, given the discontinuous and unpredictable nature of the distribution of chemicals in solid waste disposal facilities, such contamination could pose a serious threat for anyone coming into contact with the contaminated water within the lakes.

8. Data collected by DERM on several occasions show that surface waters of the mangrove preserve just east of the solid waste disposal site have ammonia levels much higher than samples taken in Biscayne Bay, or in surface waters of a mangrove community located completely off the site. Independent sampling and analysis by EPA scientists have further confirmed that concentrations of total ammonia as high as 9 PPM are present in the mangrove preserve east of the solid waste disposal facility. This indicates that shallow groundwater east of the site is also contaminated and is a continuing source of ammonia.

Low oxygen concentrations (as commonly found in surface waters of mangrove swamps such as those east of the solid waste disposal facility) can greatly decrease the resistance of aquatic species to ammonia toxicity. These waters are contiguous to and are a functional part of Biscayne Bay. I have therefore concluded that the high concentrations of ammonia entering the

mangrove preserve are having an unacceptable adverse impact on the waters of this mangrove swamp.

9. The 35 foot deep lakes at the site penetrate the Miami oolite which is a highly permeable geologic structure. Groundwater in the Miami oolite flows southeasterly toward mangrove wetlands and Biscayne Bay. The Miami oolite underlying Biscayne Bay has been penetrated by several excavations. These excavations are downgradient of the landfill, therefore, a direct hydrologic connection exists between the contaminated lakes and Biscayne Bay. The leachate, coming from such waters at the site, is an unacceptable threat to the shellfish, fisheries, wildlife and recreational areas of Biscayne Bay.

10. The Environmental Protection Agency has developed predictive models regarding the production of organic acid leachate from solid waste disposal facilities. EPA models predict that the waste disposed at this site will produce large quantities of leachate for many years.

11. I note that the Administrative Record includes letters and statements of agencies and elected officials against the project as follows:

a. Governor, State of Florida.

b. Secretary, Florida Department of Environmental Regulation.

c. Executive Director, Florida Game and Fresh Water Fish Commission.

d. Dade County Commissioners (Resolution).

e. Dade County Planning Department.

f. Director, Dade County Department of Environmental Resources Management.

g. Executive Director, South Florida Regional Planning Council.

h. Two City of North Miami Councilmen.

i. United States Fish and Wildlife Service.

j. United States National Marine Fisheries Service.

k. United States Representative Claude Pepper.

l. United States Representative Dante Fascell.

m. United States Representative William Lehman.

n. United States Senator Lawton Chiles.

12. I note that the Administrative Record includes letters and statements of agencies and elected officials in support of the project as follows:

a. Two City of North Miami Councilmen.

13. On July 31, 1980, Munisport, Inc., the City's leasee who was to build the recreation complex, stopped accepting waste at the site. Approximately 125 acres of the disposal area were left with only about 6 inches of final cover. The Florida Department of Environmental Regulation's closeout procedures require that an additional 1.5 feet of cover material be used for final cover with the area being grassed to reduce infiltration and the production of leachate. Approximately 303,000 cubic yards of clean fill material will be required to cover the 125 acres with an additional 1.5 feet of clean fill. If this clean fill material were to be hauled from the nearest sources in western Dade County, it would cost approximately $5.00/yd to haul and spread it for a total cost of approximately $1,515,000.

14. The relationship between the City of North Miami and its leasee, Munisport, has deteriorated to the point where the City of North Miami was forced to file suit against Munisport in an attempt to obtain a financial accounting of approximately $10,000,000 in cash flow that has occurred as a result of solid waste operations at the site since the issuance of Corps permit 75B-0869. (Copy of suit enclosed as part of the Administrative Record.)

15. The City claims it has no money to complete the recreational facility, and is actively pursuing the possibility of selling the entire tract to the State for incorporation into a State park. State officials are receptive to this proposal. Munisport claims it has no money to do further work of any type at the site.

16. The Florida Department of Environmental Regulation is taking legal action to ensure that the City of North Miami and Munisport properly cover the site.

RECOMMENDATIONS

Permit 75B-0869 - In order to prevent further environmental damage and reduce the economic burden on the City for providing the cover material, I recommend that permit 75B-0869 be restricted according to the following plan:

1. The applicant should be allowed to construct 33 acres of shallow lakes (-6' MSL) in the area immediately east of the solid waste disposal facility. The excavation of these lakes will provide the material necessary to properly cover the semi-exposed garbage at the site. Fourteen of the 33 acres of excavation would be in uplands. The fill for roadways necessary to extract the material from the borrow areas would be completely removed once the excavations are completed. The lakes should be interconnected with each other and with existing channels to Biscayne Bay. The lake system should provide excellent habitat for fish and wildlife and also provide recreational opportunities such as fishing, boating and nature studies.

2. Following the excavations, the dike now separating the preserve area from the permit area should be removed and realigned to parallel the eastern edge of the existing disposal area. This should contain any surface leachate flows that would occur in the future.

3. A causeway now exists across the south end of the preserve area. This causeway is penetrated by two 6' diameter culverts, however, these allow only a minimal exchange of water between Biscayne Bay and the existing mangrove preserve. Under the plan stated above, the water flow to the enlarged preserve area would be increased by construction of a bridge.

4. The environmental damage that has occurred at the site is far greater than was contemplated when EPA reviewed the application for permit 75B-0869. Therefore, no additional area should be filled for any recreational complex or any other purpose.

A restricted permit would provide a least cost alternative to remedy the serious environmental problems now existing (the semiexposed garbage). The plan as described above would save the party responsible for providing the final cover approximately $750,000 as compared with the cost of obtaining fill from offsite sources.

Permit 77B-0376 - I recommend the denial of the use for specification of the 12 acres of wetland (proposed permit modification 77B-0376) at the same site covered by Corps of Engineers Permit 75B-0869. That permit would allow the destruction of approximately 12 acres of wetlands by converting them to deep (-35' MSL) borrow pits. In view of the facts cited above regarding the environmental issues and legal position of the City and Munisport, the rationale for that permit modification has ceased to exist.

Date: 11/28/80

Rebecca W. Hanmer

Rebecca W. Hanmer
REGIONAL ADMINISTRATOR