MIAMI DADE
SOLID WASTE MANAGEMENT

July 21, 2003

Certified Mail **7002 0860 0000 1514 2901**
Return Receipt Requested

Mr. Carlos Hernandez, P. E.
Senior Professional Engineer
Department of Environmental
Resources Management
33 S. W. 2nd Avenue
Miami, FL 33130-1540

Re: South Dade Landfill
Hydraulic Analyses of Landfill Leachate Transmission System

Dear Mr. Hernandez:

As we discussed, Brown & Caldwell (B&C) performed an analysis of the sites leachate and remediation systems piping networks.

Attached is a letter summarizing B&C's findings and recommendations. Plans are currently in progress to implement the recommendations, which involve changes to DSWM's force mains within the site.

Please contact me if you need additional information.

Sincerely,

Lee S. Casey, Chief
Environmental Compliance Division

Attachment

Cc: V. Castro – DSWM
A. Ganguli – DSWM
B. Thorne – DSWM
G. Hernandez – DSWM
S. Christensen – DSWM
F. Bestard – DERM
J. Lurix – FDEP/WPB
J. Lore - Shaw
III. A102
III. A103

West Side Plaza II
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BROWN AND CALDWELL

July 7, 2003

Mr. Asok Ganguli, P.E.
Senior Professional Engineer
Miami-Dade County Department of
Solid Waste Management
8675 NW 53rd Street
Suite 201
Miami, FL 33166

58/24221

Subject: Results of hydraulic analyses
at South Dade Landfill

Dear Mr. Ganguli:

As you are aware, hydraulic performance of the leachate transmission and Groundwater Remediation (GWRIT) systems at the South Dade Landfill has been inadequate, particularly during periods of wet weather. During and after storms, when leachate flows are higher than average and the SBR treatment system is being bypassed, the South Leachate Pump Station (SLPS) cannot pump all of the flow it receives due to the increased head introduced by the SBR bypass piping. The result is surcharging of leachate lines along the south side of Cells 1-3 which convey flow to the SLPS. The GWRIT transmission line, which conveys groundwater flow from the two GWRIT pumping stations on the east side of Cell 1, is also connected to the SBR bypass piping. As a result, the GWRIT pumps are also not delivering the flows they were designed to convey.

At the DSWM's request, Brown and Caldwell analyzed both the leachate and GWRIT pumping and piping systems at the South Dade Landfill. A hydraulic model was used to identify where bottlenecks in the systems were likely to be occurring and to define and evaluate alternative methods for eliminating them. The results of the hydraulic analyses and the evaluation of alternatives show that the hydraulic limitations in both the leachate and GWRIT systems can be resolved without having to replace any of the pumps. This will reduce the cost of improvements significantly. The recommended approach for eliminating the hydraulic bottlenecks includes the following elements:

1. Replace the existing tee-connection in the leachate lines delivering flow to the SBR treatment facility with a wye-connection to facilitate merging of flow from the North Leachate Pumping Station with flow from the SLPS.

2. Provide a bypass in the leachate piping from the SLPS such that when flows to the SBR treatment facility have reached the daily maximum and the SBR bypass line is opened, leachate flows from the SLPS can be diverted to WASD's 54-inch force main without having to pass through the existing SBR bypass piping. This involves about 60 feet of pipe, two pinch valves, automatically controlled from the SBR facility, and an additional meter to monitor the flow discharged through the diversion piping.

3. Disconnect the GWRIT piping from the SBR bypass line and extend it about 1500 feet, connecting into the existing leachate piping just upstream of WASD's 54-inch force main. This keeps the GWRIT system completely separated from the leachate system until just before both flows are discharged into the WASD line. A new screen and meter will be installed in the new pipeline to validate flows measured at the two GWRIT pumping stations.

We have met with DSWM staff on several occasions to reach consensus on the approach described above. Model results and sketches of the proposed improvements were reviewed at those meetings. Based on our preliminary estimates, we believe the improvements can be designed and constructed for less than $150,000.00 and that the work can be completed in 90 days or less.

If you have any questions or require additional documentation regarding the hydraulic analyses performed at the South Dade Landfill, please call me at 407-661-9517 or on my cellular phone at 407-810-1051.

Sincerely,

BROWN AND CALDWELL

L.N. ENRIQUEZ FOR:

James A. Nissen, P.E. DEE
Senior Project Manager

JAN:mp

cc: Vicente Castro, DSWM
Lee Casey, DSWM
Luis Moreno, DSWM
Stu Oppenheim, Brown and Caldwell
Len Enriquez, Brown and Caldwell

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