MEMORANDUM

Agenda Item No. 7(D)(1)(A)

TO: Hon. Chairperson Barbara Carey-Shuler, Ed.D and Members, Board of County Commissioners

DATE: January 20, 2004

SUBJECT: Resolution Authorizing the Execution of a Cooperative Agreement between Miami-Dade County and the Florida Department of Environmental Protection, for the Evaluation of Sediment Chemistry and Toxicity Data

FROM: George M. Burgess
County Manager

RECOMMENDATION

It is recommended that the Board of County Commissioners approve the attached resolution authorizing the execution of Cooperative Agreement with the State of Florida Department of Environmental Protection (FDEP). The agreement provides $28,800 in funding for evaluation of chemistry and bio-toxicity data from sediments from Miami-Dade County canals and the potential impact of these sediments on Biscayne Bay. This is a cost shared project, with $14,400 provided in County funds, matched by $14,400 in FDEP funds and in-kind services. The project will result in a technical report summarizing the data and potential impacts to the Bay. County funding is provided by Miami-Dade County's National Pollutant Discharge Elimination System (NPDES) Permit Program through an inter-local agreement with local municipalities. This project is being conducted as a requirement of the County's NPDES permit.

BACKGROUND

Urban stormwater runoff is a major contributor of contaminants to estuarine systems. Studies indicate that tributaries feeding into Biscayne Bay can contain elevated concentrations of metals and organic pollutants. These toxic contaminants can become sequestered in sediments at concentrations many times the ambient levels measured in the water column. Contaminated sediments that become re-suspended in the water column, due to vessel traffic or as a result of high discharge velocities, can contaminate the receiving waters of Biscayne Bay causing adverse biological effects.

In May 1995, the Board approved Resolution No. R-546-95 authorizing the County Manager to execute Cooperative Agreements with the FDEP and the National Biological Service (NBS), now part of the United States Department of the Interior Geological Survey (USGS) to evaluate chemical concentrations and bio-toxicity associated with sediments from Miami-Dade County canals. In October 2001, the board approved Resolution No. R-1125-01 authorizing the County Manager to execute Cooperative Agreements with the FDEP and the USGS to analyze chemical concentrations and bio-toxicity associated with sediments from Miami-Dade County canals. Under these agreements, FDEP provided chemical analysis of the sediments, and the NBS (in 1995) and the USGS (in 2001) conducted the toxicity analysis. The studies were designed based on the National Oceanic and Atmospheric Administration (NOAA) study of sediments in Biscayne Bay. The 1995 and 2001 studies identified elevated sediment contaminant concentrations at several locations through out the County.

Periodic re-evaluation of canal sediments is mandated under the County's NPDES permit. The purpose of this agreement is to evaluate the chemical and bio-toxicity results from the 1995 and 2001 studies and write a technical report based on the evaluation of those results. The technical report fulfills the periodic re-evaluation mandate under the permit.

Attachment A: Cooperative Agreement w/ FDEP

Assistant County Manager

MEMORANDUM

(Revised)

TO: Hon. Chairperson Barbara Carey-Shuler, Ed.D. and Members, Board of County Commissioners

DATE: January 20, 2004

FROM: Robert A. Ginsburg
County Attorney

SUBJECT: Agenda Item No. 7(D)(1)(A)

Please note any items checked.

_____ **"4-Day Rule" ("3-Day Rule" for committees) applicable if raised**

_____ **6 weeks required between first reading and public hearing**

_____ **4 weeks notification to municipal officials required prior to public hearing**

_____ **Decreases revenues or increases expenditures without balancing budget**

_____ **Budget required**

_____ **Statement of fiscal impact required**

_____ **Bid waiver requiring County Manager's written recommendation**

_____ **Ordinance creating a new board requires detailed County Manager's report for public hearing**

_____ **Housekeeping item (no policy decision required)**

_____ **No committee review**

Approved _____ Mayor
Veto _____
Override _____

Agenda Item No. 7(D)(1)(A)
1-20-04

RESOLUTION NO. _____

RESOLUTION AUTHORIZING THE EXECUTION OF A COOPERATIVE AGREEMENT BETWEEN MIAMI-DADE COUNTY AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, FOR THE EVALUATION OF SEDIMENT CHEMISTRY AND TOXICITY DATA; AND AUTHORIZING THE COUNTY MANAGER TO EXERCISE PROVISIONS CONTAINED THEREIN

WHEREAS, this Board desires to accomplish the purposes outlined in the accompanying memorandum, a copy of which is incorporated herein by reference,

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF MIAMI-DADE COUNTY, FLORIDA, that this Board approves the Cooperative Agreement between Miami-Dade County and the Florida Department of Environmental Protection for the evaluation of sediment chemistry and toxicity analysis results and writing of a technical report based on the evaluation of those results, in substantially the form attached hereto and made a part hereof; and authorizes the County Manager to accept and execute such agreements as are required by this governmental body following their approval by the County Attorney's Office; to execute such other agreements as will serve to further the purposes described in the agreement, following their approval by the County Attorney's Office; to expend any and all monies received for the purpose described in the agreement; to request and expend any additional funds that might become available during the term of the agreement; to

file and execute any necessary amendments to the agreement for and on behalf of Miami-Dade County, Florida; and to exercise amendment, modification, renewal, cancellation and termination clauses of this agreement on behalf of Miami-Dade County, Florida.

The foregoing resolution was offered by Commissioner , who moved its adoption. The motion was seconded by Commissioner , and upon being put to a vote, the vote was as follows:

Dr. Barbara Carey-Shuler, Chairperson
Katy Sorenson, Vice-Chairperson

Bruno A. Barreiro	Jose "Pepe" Diaz
Betty T. Ferguson	Sally A. Heyman
Joe A. Martinez	Jimmy L. Morales
Dennis C. Moss	Dorrin D. Rolle
Natacha Seijas	Rebeca Sosa
Sen. Javier D. Souto	

The Chairperson thereupon declared the resolution duly passed and adopted this 20th day of January, 2004. This resolution shall become effective ten (10) days after the date of its adoption unless vetoed by the Mayor, and if vetoed, shall become effective only upon an override by this Board.

MIAMI-DADE COUNTY, FLORIDA
BY ITS BOARD OF
COUNTY COMMISSIONERS

HARVEY RUVIN, CLERK

By:_____
Deputy Clerk

Approved by County Attorney as
to form and legal sufficiency.
Peter S. Tell

ATTACHMENT A

COOPERATIVE AGREEMENT WITH FDEP

COOPERATIVE AGREEMENT
BETWEEN THE

MIAMI-DADE COUNTY

AND THE

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

This **AGREEMENT**, entered into this ___ day of _____ 200_, by and between the State of Florida Department of Environmental Protection, 3900 Commonwealth Boulevard, Tallahassee Florida 32399-300, hereinafter referred to as the **"FDEP"**, and Miami-Dade County,, herein after referred to as the **"COUNTY"** states conditions and covenants for the Miami-Dade Canal Sediment Chemistry and Toxicity Assessment Report hereinafter referred to as the "Report".

WHEREAS, the Home Rule Charter authorizes Miami-Dade County to provide for the uniform health and welfare for the residents throughout the County and further provides that all functions not otherwise specifically assigned to others under the charter shall be performed under the supervision of the County Manager; and

WHEREAS, the **FDEP** can provide services of value to the **COUNTY** in evaluation of sediment chemistry and toxicity, and has expertise and ability to provide these services; and

WHEREAS, the **COUNTY** and the **FDEP** are desirous of collaborating on the evaluation of sediment chemistry and toxicity of Miami Dade's canals and Biscayne Bay sediments; and

WHEREAS, the **COUNTY** and FDEP have appropriated funds for the proposed services;

NOW, Therefore, in consideration of the mutual covenants recorded herein, the parties hereto agree as follows:

I. General Information

This Agreement between the **COUNTY** and the **FDEP** is for the data evaluation and writing of a technical report based on the toxicity and chemical analysis results of the Miami-Dade Canal Sediment Chemistry and Toxicity Assessment studies conducted during the years 1995-1996 and again in the years 2001-2002. The overall goals of this project are (1) to determine the severity or magnitude of the toxicity of surficial sediments; (2) to determine the spatial patterns and extent of toxicity; (3) to determine the relationships between toxicity and the concentrations of potentially toxic chemicals in the sediments, and (4) to identify trends in chemistry and toxicity patterns as compared with the 1995 study. This agreement includes the provision of funds not to exceed $14,400.00 (fourteen thousand four hundred) on a reimbursement basis to the **FDEP** for the data evaluation and writing of the Report.

II. Responsibilities of the Parties

A. The **COUNTY** agrees to:

1. Provide funds to the **FDEP** on a reimbursement basis in an amount not to exceed $14,400.00 (fourteen thousand four hundred) for all documented costs incurred in conducting the data analysis and preparation of the Report as described in the "Statement of Work" attached hereto as Exhibit A and made a

part of this **AGREEMENT**. Payment will be made within thirty (30) days following receipt of all deliverables as described in Tasks 1 through 6 of the "DELIVERABLES" Section of Exhibit A.

B. The **FDEP** agrees to:

1. Provide all equipment, materials, labor, and other elements needed to complete the data analysis and writing of the Report as described in Tasks 1 through 6 of the "DELIVERABLES" Section of Exhibit A.

2. Provide the **COUNTY** with the data and reports as described in the "DELIVERABLES" Section of Exhibit A within the time schedule described in the "TIME SCHEDULE" Section in Exhibit A.

3. Provide matching funding in the amount of $14,400 as cash and in-kind services

III. Progress Reports

The **FDEP** shall provide the **COUNTY** with quarterly progress reports. The progress reports will include all available data results for the previous quarter and a financial statement documenting expenditures and showing allocation of matching funds. The reports will be provided within thirty (30) days after each quarter. A final report, as described in Task 6 of the "WORK BREAKDOWN STRUCTURE" Section in Exhibit A, will be provided thirty (30) days prior to termination of this **AGREEMENT**.

IV. Notices

The **COUNTY** and the **FDEP** mutually agree:

A. Luis C. Otero, Inspector II, **Department of Environmental Resources Management,** will be the project manager for the **COUNTY** and Thomas L. Seal, Environmental Specialist will be the project manager for **FDEP**.

B. It is understood and agreed between the two parties hereto that written notice addressed to the project manager for the **COUNTY** and mailed or delivered to the address appearing on page 1 of this **AGREEMENT**, and written notice addressed to the project manager for the **FDEP** and mailed or delivered to the address appearing on page 1 of this **AGREEMENT** shall constitute sufficient notice to comply with the terms of this **AGREEMENT**.

C. Any alterations, variations, modifications, or waivers of provisions of this **AGREEMENT** shall only be valid when they have been reduced to writing, duly approved and signed by both parties and attached to the original of this **AGREEMENT**.

V. Effective Term

Both parties agree that the effective term of this **AGREEMENT** shall initiate upon execution of the **AGREEMENT** by both parties, and expire on December 31, 2004.

VI. Termination

Both the **COUNTY** and the **FDEP** have the right to terminate this **AGREEMENT** by giving written notice to the other of such termination and specifying the effective date thereof, at least thirty (30) days before the effective date of such termination.

VII. Renewal

This **AGREEMENT** may be renewed in writing, at least (30) days prior to the expiration of this **AGREEMENT**, for a one (1) year period under the same terms and conditions set forth herein.

VIII. Amount Payable

Subject to the **COUNTY** budget, the **COUNTY** will pay the **FDEP** an amount not to exceed $14,400.00 (fourteen thousand four hundred) for the work that **FDEP** conducts under this **AGREEMENT** (per Exhibit A) based on receipt of all deliverables described under Tasks 1 through 6 in the "DELIVERABLES" Section of Exhibit A. The **FDEP** agrees to submit reimbursement requests to the **COUNTY** accompanied by appropriate documentation.

Payment shall be made in accordance with the procedures as outlined below:

1. The parties agree that this is a cost-basis **AGREEMENT** based on the payment schedule outlined in the "DELIVERABLES" Section of Exhibit A, and that **FDEP** will be paid by receiving reimbursement from the **COUNTY** for documented completion of tasks identified in the "DELIVERABLES" section of Exhibit A.

2. Requests for reimbursement are to accompany progress and financial reports presented to the **COUNTY** by **FDEP** and are subject to approval by the **COUNTY**.

3. The **COUNTY** will withhold ten percent (10%) of the contract amount until the final data report is received. The final report is described in Task 6 of the "WORK BREAKDOWN STRUCTURE" Section of Exhibit A. A final list of expenditures and a final request for reimbursement from the **FDEP** will be accepted by the **COUNTY** up to thirty (30) days prior to the expiration of this **AGREEMENT**. If after receipt of the final request, the **COUNTY** determines that **FDEP** inadvertently has been paid funds not in compliance with the **AGREEMENT**, and to which it is not entitled, **FDEP** will be required to return such funds to the **COUNTY** or submit appropriate reimbursement documentation.

   The **COUNTY** shall have reasonable discretion to initially determine if **FDEP** is entitled to such funds, providing that **FDEP** is not precluded from challenging the reasonableness of such **COUNTY** determination by filing legal action in Miami-Dade County prior to the termination date of this **AGREEMENT**. If **FDEP** fails to comply, all rights to payments will be forfeited if the **COUNTY** so chooses.

4. In no event shall County funds be advanced to **FDEP**.

5. The parties agree that the **FDEP** may, with **COUNTY** approval, revise the schedule of payments or the line item budget, and such revisions shall not require an amendment to this **AGREEMENT**. Should funding to the **COUNTY** be reduced, the amount payable under this **AGREEMENT** may be proportionately reduced at the option of the **COUNTY**.

IX. Indemnification

It is expressly understood and intended that **FDEP** is only a recipient of funding support and is not an agent of the **COUNTY**.

The **FDEP** assumes any and all risks of personal injury, bodily injury, and property damage attributable to the negligent acts or omissions of **FDEP** and its officers, employees, servants and agents thereof. **FDEP**, as a state agency, warrants and represents that it is self-funded for liability insurance, or has liability insurance, both public and property, with such protection being applicable to the **FDEP** officers, employees, servants and agents while acting within the scope of their employment with **FDEP**. The **FDEP** and the **COUNTY** further agree that nothing contained herein shall be construed or interpreted as (1) denying either party any remedy or defense available to such party under laws of the State of Florida; (2) the consent of Miami-Dade County or its agents and agencies to be sued; or (3) a waiver of sovereign immunity of the State of Florida beyond the waiver provided in Section 768.28 Florida Statutes.

X. Civil Rights

Where applicable **FDEP** agrees to abide by Chapter 11, A, Article III, Section 21 through 23 of the Code of Metropolitan Miami-Dade County, applicable to non-discrimination employment.

Where applicable **FDEP** agrees to abide and be governed by Title VI and VII, Civil Rights Act of 1968, as amended, which provides in part that there will not be discrimination of race, color, sex, religious background, ancestry or national origin in performance of this **AGREEMENT**, in regard to persons served, or in regard to employees or applicants for employment. It is expressly understood that upon receipt of evidence of such discrimination, the **COUNTY** shall have the right to terminate said **AGREEMENT**.

Where applicable **FDEP** also agrees to abide and be governed by the Age Discrimination Act of 1975, USC, as amended, which provides in part that there shall be no discrimination against persons in any area of employment because of age.

Where applicable **FDEP** agrees to abide and be governed by Section 504, of the Rehabilitation Act of 1973, as amended, 29 USC 794, which prohibits discrimination on the basis of handicap.

XI. Identification

Events carried out to publicize the accomplishments of any activities undertaken as part of this **AGREEMENT** will recognize the work funding provided by the **COUNTY** and **FDEP**.

XII. Severability of Provisions

If any provision of this **AGREEMENT** is held invalid, the remainder of this **AGREEMENT** shall not be affected and the remainder would then continue.

XIII. All Terms and Conditions Included

This **AGREEMENT**, with its Exhibit as referenced, contains all the terms and conditions agreed upon. No other agreement, oral or otherwise, regarding the subject matter of this **AGREEMENT** shall exist or be binding.

IN WITNESS WHEREOF, this **AGREEMENT** is executed by the respective and duly authorized officers.

(SEAL)

ATTEST:

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

By: _____

By: _____

Title: _____

Legal Sufficiency:

By: _____

ATTEST:

MIAMI-DADE COUNTY, FLORIDA

HARVEY RUVIN, CLERK

By: _____

By: _____

Title: _____

EXHIBIT A

EXHIBIT "A"
MIAMI-DADE CANAL SEDIMENT CHEMISTRY AND TOXICITY ASSESSMENT REPORT

Statement of Work

INTRODUCTION

The Surface Water Improvement and Management (SWIM) Plan for Biscayne Bay has identified a number of issues directly affecting bay water quality and habitat values. These include "... turbidity, sewage pollution, storm water runoff, and contamination with manmade chemical substances". Strategies to address these issues include systematic and investigative monitoring and the development of methodologies to assess known problems of contamination with toxic substances within Biscayne Bay.

Data collected previously in Biscayne Bay indicate that tributaries feeding into portions of the Bay can contain elevated concentrations of metals and organic pollutants. Probable sources of contamination include both point and non-point sources from adjacent urban or agricultural areas. These toxic contaminants can become sequestered in sediments in freshwater canals and estuarine environments in concentrations many times the ambient levels within the water column. In some of the tributary sediments, the concentrations of these pollutants are sufficiently high to warrant concern about possible adverse biological effects to marine resources. In addition, contaminated sediments may become remobilized in the water column during vessel traffic or periods of upstream discharge, and eventually contaminate receiving waters in Biscayne Bay. Analysis of sediment chemistry and toxicity is a useful tool for evaluating watershed impacts to receiving water bodies. Upper portions of undisturbed sediments can be used to evaluate recent historical conditions in the watershed.

In 1995-1996, the Miami-Dade Department of Environmental Resources Management (DERM) conducted a chemistry and toxicity study of sediments at 88 stations in 28 freshwater canals throughout the county. A follow up study was conducted again in 2001-2002 at 85 stations in the same 28 canals. The study was designed based on a similar study of Biscayne Bay sediments conducted by the National Oceanic and Atmospheric Administration (NOAA). Both studies identified elevated sediment contaminant concentrations at several locations throughout the county. .

The purpose of this report is to evaluate the data from the 2001-2002 study for trends as compared with results from the 1995-1996 study. The overall goals of this project are (1) to determine the severity or magnitude of the toxicity of surficial sediments; (2) to determine the spatial patterns and extent of toxicity; (3) to determine the relationships between toxicity and the concentrations of potentially toxic chemicals in the sediments; and (4) identify trends in chemistry and toxicity patterns as compared with the 1995 study

SCOPE OF WORK

DERM's 1995-1996 and 2001-2002 studies were modeled after U.S. EPA's EMAP program and NOAA's protocols for evaluating sediments used nationally and in other regions of Florida. It is based on a probabilistic sampling scheme that allows for statistical characterization of various regions of the Biscayne Bay watershed. Each tributary will be treated as a separate region. These regions are then subdivided into blocks, each representing a relatively homogeneous environment. Each block will contain six (6) randomly selected sampling sites. One randomly selected site will be designated as the primary sampling site, the remaining five (5) sampling sites will be alternate sites to be used in case the primary site cannot be sampled. The tributary regions will be subdivided in blocks sized according to the density of storm water outfalls impacting the surface water. In urbanized Miami-Dade County, where there are more outfalls per mile of tributary, the blocks will be smaller to achieve a more representative sampling pattern.

This project is a cost-shared joint effort between the Miami-Dade County Department of Environmental Resources Management (DERM) and the Florida Department of Environmental Protection (FDEP). Under this scope of work, DERM will furnish all available laboratory results from the 1995-1996 and 2001-2002 studies to FDEP. Additionally, DERM will provide FDEP with GIS generated site maps to be included in the report. FDEP will act as the principal coordinator ensuring that the tasks as described in the Section – WORK BREAKDOWN STRURE. are accomplished.

WORK BREAKDOWN STRUCTURE

TASK 1 INTRODUCTION AND BACKGROUND DRAFT REPORT

- Introductory material describing project goals, and a listing of the participating agencies and laboratories
- Description of stratified-random sampling design, selection of canals, delineation of major reaches within the canals, and methods to determine sampling locations
- Description of sample collection and handling methods
- Description of comparability of methods between sampling periods
- Description of chemical analytical methods and Quality Assurance (QA) procedures
- Description of chemical analyte list and method detection limits
- Description of toxicity test methods and QA procedures
- Description of chemical data interpretation methods
- Description of how the statistical significance of how each toxicity test was determined
- Interpretation of sediment data: scoring sites as contaminated and/or toxic
- Description of methods used for overall classification of sediment quality
- A format of the sediment chemistry and toxicity data in a form suitable for evaluation under Florida's Impaired Waters Rule (IWR) methodology, so that by using biological information, impaired water bodies can be identified

TASK 2. SEDIMENT CHEMISTRY DRAFT REPORT

- Compilation of chemical data into a spreadsheet, and using a table format, compares chemical concentrations with sediment quality guidelines (SQGs) for each sample.
- Identification of chemicals that exceed FDEP SQGs in each sample. Using a table format, sampling locations will be compared to each other in regard to the number of chemical contaminants that exceed the SQGs, and to the degree by which they were exceeded.
- Acquire base maps provided by either FDEP or Dade County DERM showing locations in which SQGs were exceeded. Maps will show sampling stations, and indicate with a symbol or histogram where SQGs were exceeded.
- Tables showing the frequencies of exceedances of SQGs by ~~the~~ different sediment chemical contaminants
- Tables showing the spatial extent of contamination relative to the SQGs, and expressing the extent of contamination in terms of area and percentage of total survey area
- Graphs comparing metals concentrations to metals/Al ratios in Florida reference sediments
- Text explaining and interpreting sediment chemistry information

TASK 3 SEDIMENT TOXICITY DRAFT REPORT

- Compile toxicity data into a spreadsheet and summarize in report tables
- Describe the statistically derived critical values that were used to declare samples as toxic or not toxic to the test organisms
- Identify those sediment samples in each toxicity test in which a statistically significant response relative to that in the negative controls was recorded
- Acquire maps from either the DERM or DEP showing which samples were toxic and which were not toxic in each test.
- Tables that identify which samples were toxic and which were not toxic
- Tables that compare the frequencies of toxic responses among tests
- Tables in which the spatial extent of toxicity in each test and any test was determined and expressed in terms of area and percentage of total survey area
- Text that explains and describes all toxicity information

TASK 4. DISCUSSION OF RESULTS DRAFT REPORT

- Compilation of a table in which samples were classified as both contaminated (i.e., chemical concentrations > SQGs, metals concentrations > expected based on metals/Al ratios) and toxic in at least one test. The table will note which stations have the poorest sediment quality or are the most degraded.
- Compilation of a table of stations in which samples were either classified as contaminated or toxic, but not both. The table will note which stations are intermediate in quality. Text accompanying this table will provide explanations for any poor agreement between chemistry and toxicity data, if it exists.

- Compilation of a table of stations in which samples were classified as both uncontaminated and non-toxic. This table will describe which stations had the highest sediment quality.
- Summary of findings for strata, or major canals or major reaches of canals
- Acquire a base map, using data from Dade County DERM, which identifies either sampling sites or canal strata as poorest quality, intermediate quality, or highest quality
- Text that explains and interprets these findings

TASK 5. SUMMARY AND CONCLUSIONS DRAFT REPORT

- A discussion on the relevance and significance of the findings of the surveys relative to Florida's water quality classification system (e.g., Class III) and Chapter 62-303, Florida Administrative Code (Identification of Impaired Surface Waters).
- Comparison of the incidence of chemical contamination and toxicity with that reported for Biscayne Bay and adjoining saltwater canals, as well as with other U.S. estuaries or databases for which there are comparable data
- Conclusive statements regarding the incidence of chemical contamination among the samples and the spatial area that these samples represent
- Conclusive statements regarding the incidence of toxicity among the samples and the spatial area that these samples represent
- Identification of chemicals that most frequently exceeded numerical, effects-based SQGs and that, therefore, should be viewed as chemicals of most concern
- Conclusive statements regarding the relative sensitivities of the toxicity tests
- Conclusive statements regarding the reaches of the canals that are most degraded, least degraded, and intermediate in quality based upon the data from the chemical analyses and toxicity test together
- Recommendations on those sampling locations and canal strata that appear to be most in need of future surveillance

TASK 6. FINAL TECHNICAL REPORT

- First, assemble a draft technical report and submit to Dade County DERM and DEP staff for review (see schedule below)
- Second, receive, review and incorporate comments from reviewers into a final version to be published, reproduced and distributed by FDEP or Dade County DERM.
- Third, provide an oral presentation on the findings at a date and location to be determined

Outline of Final Technical Report:

1. Abstract
2. Introduction
   - the need and rationale for the study
   - relationship with simultaneous NOAA survey of the bay
   - objectives and overall approach
   - rationale for preparation of this report
   - a map showing the boundaries and canals of the study area

3. Methods
   - determination of sampling locations
   - base maps showing locations of sites within each stratum in both survey periods
   - sampling collection and handling methods
   - comparability of methods between the two time periods
   - area covered (km^2) in each sampling stratum and total survey area
   - chemical analytical methods and QA
   - chemical analyte list and method detection limits
   - use of Florida SQGs to interpret chemistry data
   - use of the metals/Al ratio tool
   - toxicity test methods and QA
   - statistical significance of each toxicity test
   - interpretation of data: scoring sites as contaminated or toxic or as neither or as both
   - overall classification of sites based on a weight of evidence; definition of degraded, un-degraded and intermediate

4. Results
   - data table with lists of chemicals that exceeded SQGs at each site and the concentration/SQG ratios
   - data table with frequency that each chemical exceeded the SQGs
   - estimated spatial extent of contamination by each chemical (as km^2 and percentage of survey area)
   - base maps showing where contamination was elevated above the SQGs (either as presence/absence or as relative degree of contamination)
   - sites in which metals concentrations exceeded background metals/Al ratios
   - chemistry data summarized by canal or major reach (stratum)
   - text that describes and interprets the chemistry data
   - data tables with average ± std deviation results for each toxicity test on each sample, plus control-normalized results, and indications of statistical significance
   - estimated spatial extent of toxicity in each test and any test (as km^2 and percentage of total survey area)
   - data tables with results of tests of negative controls and reference toxicants
   - base maps showing where statistically significant results and non-significant results were recorded for each test
   - toxicity data summarized by canal or major reach (stratum)
   - text that describes and interprets the toxicity test data

5. Discussion
   - compare and rank sites and canals using the chemistry and toxicity data combined
     - Lowest ranks (highest quality): locations without elevated chemistry relative to SQGs and no toxicity
     - Intermediate ranks: locations with elevated chemistry, but no toxicity (chemicals not bioavailable and/or not sufficiently elevated in concentrations to cause toxic responses)

• Intermediate ranks: locations in which significant toxicity test responses were recorded, but chemical concentrations did not exceed the SQGs (toxicity caused by other substances or conditions)

• Highest ranks (poorest quality): both elevated chemical concentrations and significant toxicity tests were recorded (sufficient evidence to rank the site as degraded by the presence of the chemicals that exceeded the SQGs with evidence of confirmation of toxicity)

• base maps showing the four kinds of site ranks

• general discussion of the relationship between sediment quality in freshwater reaches of canals and saltwater reaches of the same canals where NOAA survey data are available

• compare incidence of chemistry hits in this survey with frequency of hits in other surveys conducted elsewhere, nationwide

• compare incidence of toxicity hits in this survey with frequency of hits in other surveys conducted elsewhere, mindful of possible differences in tests

• areas most in need of future surveillance

6. Conclusions
   • summarize incidence of contamination and toxicity
   • summarize spatial extent of contamination and toxicity
   • summarize which sites and canals were highest quality, intermediate, and most degraded based on both chemistry and toxicity data
   • identify chemicals of most concern
   • compared relative sensitivities of each toxicity test
   • compare sediment quality in Dade County canals with that in adjoining saltwater canals, Biscayne Bay, and other regions of the country
7. Acknowledgements
8. References
9. Appendix with sample descriptions and station coordinates

TIME SCHEDULE

Initiate TASK 1 by January 31, 2004 or excecution of this agreement

Complete TASK 1 on February 31, 2004

Complete TASK 2 on March 1, 2004

Complete TASK 3 on May 1, 2004

Complete TASK 4 on July 1, 2004

Complete TASK 5 on September 1, 2004

Complete TASK 6 on December 31, 2004

CONTRACT TERMINATION

All reports and invoices must be received by DERM thirty (30) days prior to the termination date of this Agreement. This Agreement may be extended or renewed in accordance with Article VII of the Agreement.

DELIVERABLES

TASK 1 INTRODUCTION AND BACKGROUND DRAFT REPORT

Draft report which includes introductory and background information and descriptions of sampling, analytical, and reporting methods of agencies and laboratories involved with the Dade County Department of Environmental Resource Management (DERM) sediment toxicity survey.

.....$2,000.00

TASK 2 SEDIMENT CHEMISTRY DRAFT REPORT

Draft report that compiles sediment chemistry data and describes stations containing chemicals that exceed FDEP sediment quality guidelines (SQGs).

.....$7,000.00

TASK 3 SEDIMENT TOXICITY DRAFT REPORT

Draft report that evaluates data from sediment toxicity tests conducted by the United States Geological Survey

.....$6,000.00

TASK 4 DISCUSSION OF RESULTS DRAFT REPORT

Draft report containing a database that reflects the application of a weight of evidence analytical approach to the existing chemistry and toxicity data.

.....$4,000.00

TASK 5 SUMMARY AND CONCLUSIONS DRAFT REPORT

Draft summary integrating the results of-Tasks 1 through 4, including conclusions on the overall sediment chemistry and toxicity data

.....$1,500.00

TASK 6 FINAL TECHNICAL REPORT

Final Technical Report, including labor to present final results $2,500.00

Round Trip travel costs to Miami Florida from Portland Oregon $1,800.00

Grand Total.....$24,800.00

DERM will withhold ten percent (10%) of the total reimbursement amount pending receipt of the final data report. At a minimum, the final report will present all the data collected, the statistical treatment of the data and any discussion of and conclusions drawn from the data. The final report should also discuss any modifications or deviations from the SOP, and present any QA/QC data generated for the analyses. In addition to the written final report, all data should also be submitted electronically in ASCII fixed field format. Final data reports and reimbursement request must be received by DERM thirty (30) days prior to contract termination.