

**Program
Module**

**Addendum
No.** 34

**Accounting
System**

New Module xxx Module Revision Module Termination

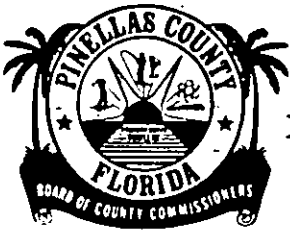
Source of Funding Industrial Siting Trust Fund

Module Number 8188 Effective Date 6-30-83

Module Title PPS PA 83-18 Pinellas County Phase II

Module Description:

Includes activities associated with the review and processing of Pinellas County's Phase II power plant siting application.



BOARD OF COUNTY COMMISSIONERS

COMMISSIONERS

BARBARA SHEEN TODD, CHAIRMAN
JOHN CHESNUT, JR., VICE-CHAIRMAN
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CHARLES E. RAINEY
BRUCE TYNDALL

DEPARTMENT OF SOLID WASTE MANAGEMENT
2800 110TH AVENUE NORTH
ST. PETERSBURG, FLORIDA 33702
PHONE (813) 825-1565

P.O. Box 21623
St. Petersburg, FL 33742-1623



June 28, 1983

Mr. W. K. Hennessey
Southwest District Manager
Department of Environmental Regulation
7601 Highway 301 North
Tampa, FL 33610-9544

Re: Laboratory Analyses--RRF

Dear Mr. Hennessey:

Enclosed are copies of the formal laboratory analyses, as prepared by Environmental Science and Engineering, Inc., and dated June 21, 1983. These are formally transmitted to meet our obligations under the Power Plant Siting Certificate issued by your Department to Pinellas County on April 24, 1979 (page 51).

By copy of this letter, I am also transmitting the same to your Tallahassee Office, Attention: Mr. Hamilton Oven.

If I can be of any further assistance in this matter, please let me know.

Very truly yours,

W. W. Dasher, Director
Public Works Operations

WWD:RSB:ltl

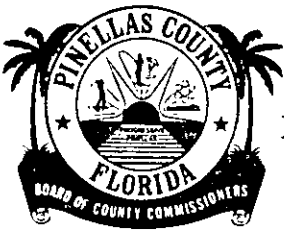
Encls

cc: Hamilton Oven, Admin of PPSC

Received DER

JUL 5 1983

P.P.S



BOARD OF COUNTY COMMISSIONERS

DEPARTMENT OF SOLID WASTE MANAGEMENT
2800 110TH AVENUE NORTH
ST. PETERSBURG, FLORIDA 33702
PHONE (813) 825-1565



COMMISSIONERS

BARBARA SHEEN TODD, CHAIRMAN
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BRUCE TYNDALL

P.O. Box 21623
St. Petersburg, FL 33742-1623

June 28, 1983

State of Florida
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

ATTN: Mr. Hamilton Owen

Re: Application for Power Plant Siting Certification (PPSC), Phase II

Gentlemen:

The document enclosed herewith is Pinellas County's Phase II application for an electrical power plant siting certification, submitted in accordance with Florida Department of Environmental Regulation Chapter 17-17 Rules.

Hopefully, the information contained herein provides all that is necessary to permit a thorough evaluation of our application. If, however, you find that additional data is required, please contact me at your earliest convenience.

Activities covering our application to the Public Service Commission for a Certificate of Need are underway at this time.

Also enclosed is our check for \$25,000.00 to cover the application fee.

Sincerely,

D. F. Acenbrack, Director
Solid Waste Management

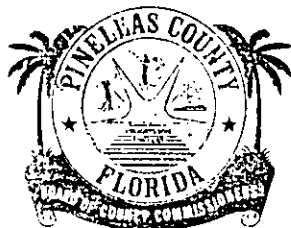
Received DER

ACE:ltl
Enclosure

JUN 30 1983

BPS

1565
SC 570 - ~~3334~~
~~3334~~



BOARD OF COUNTY COMMISSIONERS

PINELLAS COUNTY, FLORIDA

315 COURT STREET

CLEARWATER, FLORIDA 33516

COMMISSIONERS

BARBARA SHEEN TODD, CHAIRMAN
JOHN CHESNUT, JR., VICE-CHAIRMAN
GABRIEL CAZARES
CHARLES E. RAINEY
BRUCE TYNDALL

June 21, 1983

Mr. W. K. Hennessey
Southwest District Manager
Department of Environmental Regulation
7601 Highway 301 North
Tampa, FL 33610-9544

Re: Proposal for Compliance--FAC

Dear Mr. Hennessey:

It is Pinellas County's intent to operate the landfill at the Refuse-to-Energy Facility in an exemplary fashion, so it will in effect be a showcase operation. Our engineering staff has been formulating alternative development plans to meet this goal. We are now at a crossroads in this analysis and seek assistance from the Department before design commences.

The proposed testing and research will be very expensive so we naturally would like to do it properly and completely the first time. We believe that the best way to avoid unnecessary effort would be to get your Department's concurrence on our methods at each step.

Attached you will find a proposal for regulatory compliance which features a ground water containment method using a clay-soil slurry wall keyed into a natural geologic formation beneath the site. Review of this proposal by your technical staff is solicited.

When you have reviewed this proposal, it is requested that a meeting be held to discuss this matter.

Please advise if you require additional information.

Sincerely,

Gene E. Jordan, P.E.
Director, Public Works and Utilities

Fee

GEJ:WWD:ltl

Encls (Proposal and Drawings)

PINELLAS COUNTY IS AN EQUAL OPPORTUNITY EMPLOYER

DEAR

JUN 27 1983

COMMUNITY DISTRICT
TAMPA

Stem
e

PROPOSAL FOR COMPLIANCE WITH FLORIDA
ADMINISTRATIVE CODE AT THE PINELLAS
REFUSE TO ENERGY FACILITY

JUNE 21, 1983

Attached are conceptual drawings for a system of ground water containment at the Pinellas Refuse to Energy Facility. As shown, it is proposed that all land within the 730 acre site be surrounded by a bentonite soil slurry wall keyed into an underlying clay layer of low permeability. Prior to wall construction a detailed hydrogeologic survey will be conducted to examine the real extent of the confining layer. The absence of undesirable features such as artesian flow and limestone outcrops will be verified. This evaluation will rely heavily on soil borings taken at centers of a 300' x 300' grid cell matrix over the entire site. The terminal depth of each boring will be the top of the calcareous Tampa limestone which lies at an average depth of 54 feet below land surface. Boring tests will include Atterburg limits, standard penetration tests, and sieve analysis. When the confining layer is encountered Shelby tube samples will be taken at not less than 3 foot intervals through a minimum 10 foot thickness through the layer. The samples will be tested for permeability.

If the continuity and permeability of the underlying confining layer is suitable for vertical flow attenuation, the slurry wall will be constructed. With an in-place bentonite concentration of 1 to 3% by weight, the wall will have a permeability in the desired range of 1×10^{-7} cm/s (1.2f/yr.). .10 The wall will be 3 ft. thick and will be keyed into the confining layer a minimum of 3 ft.; this layer underlies the site at a nominal depth of 29 ft. below land surface. Since ground water coming into contact with the slurry wall may have a high dissolved mineral content some ionic substitution on the bentonite crystal lattice may occur resulting in a slight increase in permeability. Therefore, prior to wall placement, appropriate tests will be conducted to identify the magnitude of permeability change; derived data will aid in adjusting the clay-to-soil mix ratio so that the desired 10^{-7} permeability is attained.

During wall construction borings will be taken on 500 foot centers along the slurry wall right-of-way. The same boring tests described above will be repeated here. This will ensure that the wall is being keyed into proper strata and that no untoward geologic conditions are present.

Once the wall is in place the water level within will rise. This will result in an undesirable increase in outward flow through the wall. The ideal situation will be to maintain equal water table elevations on either side of the wall. Under this condition there will be virtually no flow. A comprehensive water management plan is now being devised to accomplish this goal. A major effort in this design is the application of EPA's HSP-F (Hydrologic Simulation Program-Fortran) model.

With the site completely surrounded by the slurry wall, and the desired water levels maintained, leachate from solid waste cells would be contained. New cells would be constructed below grade. Before placing solid waste within, the excavated pit is dewatered and the removed water treated in an

existing aeration pond. No liner would be placed on the cell bottom. After the cell is completed, it is permanently capped with a clay cover. Rain falling on this low permeability surface would be collected by interceptor drains and routed to perimeter ditches. Since no liner is provided, ground water will eventually seep back into the completed cell.

In accordance with the ground water revisions of January 1, 1983, it is proposed that the entire 730 acre site be designated a zone of discharge (ZOD). Specifically:

Chapter 17-4.25 (2) (a) - "Unless exempted by sub-section (c) below or by Section 17-4.243, F.A.C., no installation shall discharge into ground water, either directly or indirectly, any contaminant that causes a violation in the water quality standards and criteria for the receiving ground water as established in Chapter 17-3, Part IV, F.A.C., except within a zone of discharge established by permit or rule pursuant to this section."

Chapter 17-4.245 (4) - "Upon affirmative demonstration by an installation owner that a ground water discharge will not impair the designated uses of contiguous waters outside a zone of discharge, the Department shall establish a zone of discharge for Class G-II ground water ... in (one of) the following manners:"

17-4.245 (4) 2 - "Any applicant seeking a zone of discharge and not electing to use the above procedure shall have a zone of discharge established by the Department. The boundary of the zone of discharge shall be 100 feet from the site boundary or to the installation's property boundary, whichever is less, unless a smaller zone of discharge is necessary to protect the designated use of contiguous waters."

17-4.245 (4) 3 - "Where multiple sites occur within close proximity, a single zone of discharge for the sites may be established ..."

The slurry wall would be located inside the property boundary; monitoring wells inside and outside the wall would be sited after consultation with the Department. Each individual landfill cell is considered one of the "multiple sites" within the single zone of discharge. Two statements in Chapter 17-7 have direct bearing on this proposal:

17.704 (2) - "Unless permanent leachate control methods are installed, no solid waste shall be disposed of by being placed: (d) in a dewatered pit."

17-7.04 (3) - "No solid waste shall be disposed of: (b) in any natural or artificial body of water including ground water."

PROPOSAL FOR COMPLIANCE, etc.

Page Three

June 21, 1983

Considering the activities permitted within a designated ZOD the statements quoted from FAC 17-7 are interpreted to allow ground water to seep back into completed and unlined below-grade cells provided that waters contiguous to the ZOD are not adversely affected and "free from" criteria in the ZOD are met.

As previously stated, a comprehensive surface and ground water management program for the entire 730 acre site is now being formulated. The design will incorporate on-site retention and treatment. The Conditions of Certification for the facility recognize two manners in which site water levels could be regulated; water treatment and discharge to adjacent surface water and/or utilization of retained water as process cooling water. As stated in the C.O.C., discharges to off-site surface waters must meet the following condition:

"Any discharges from the site stormwater/leachate treatment system via the emergency overflow structure which result from any event LESS than a ten-year, 24 hour storm (as defined by the U.S. Weather Bureau Technical Paper No. 40, or the DOT drainage manual, or similar documents) shall meet State Water Quality Standards, Ch. 17-3 FAC."

This proposal is preliminary and does not detail implementation procedures which may be required by the DER; notably approval of treatment facilities and discharge point, additional ground water monitoring, and inspection and evaluation during slurry wall construction.

PLAN

118th. AVE.

ZONE OF DISCHARGE BOUNDRY

34th. ST.

28th. ST.

ZONE OF DISCHARGE BOUNDRY

B

B'

49th. ST.

N

SCALE

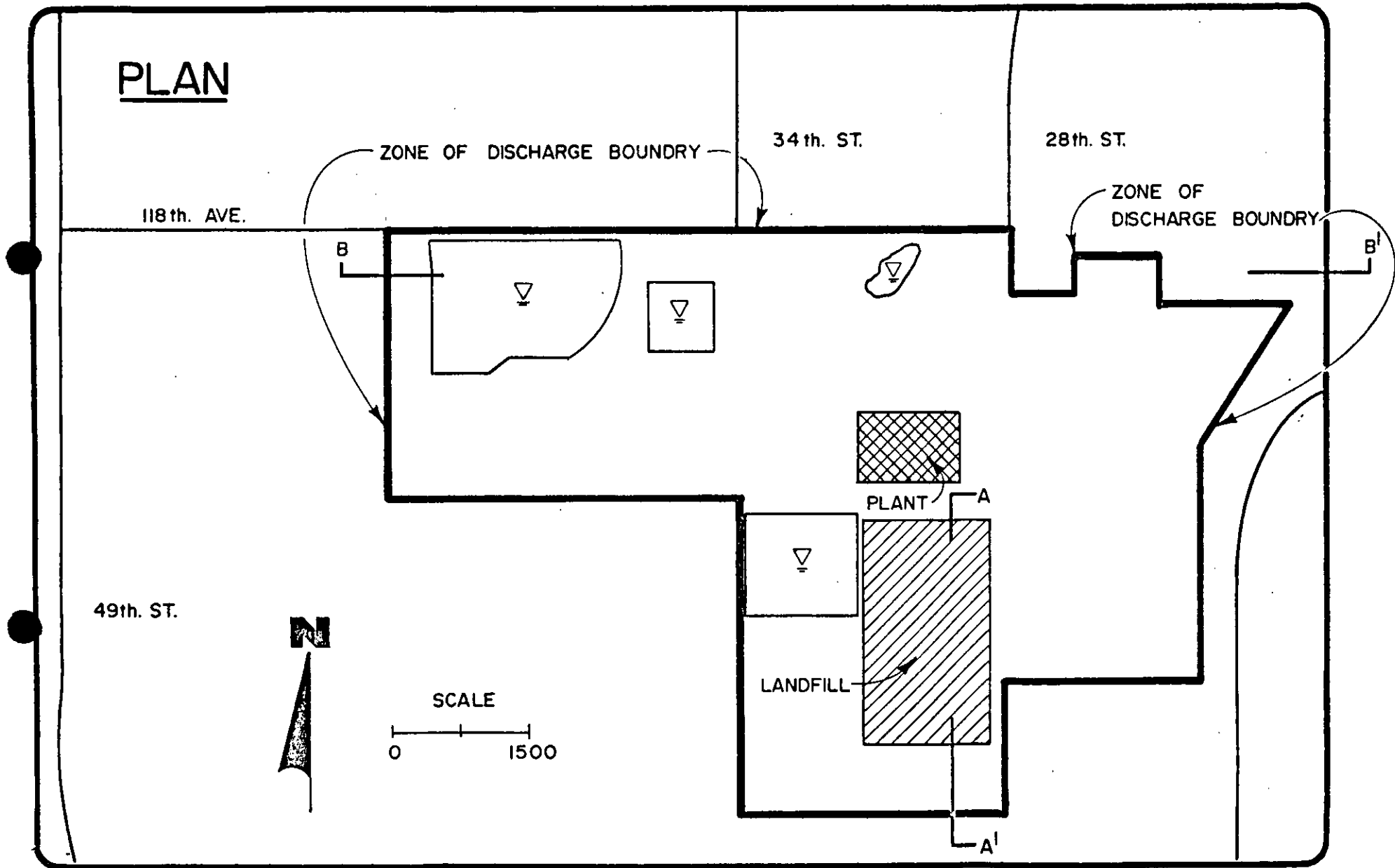
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PLANT

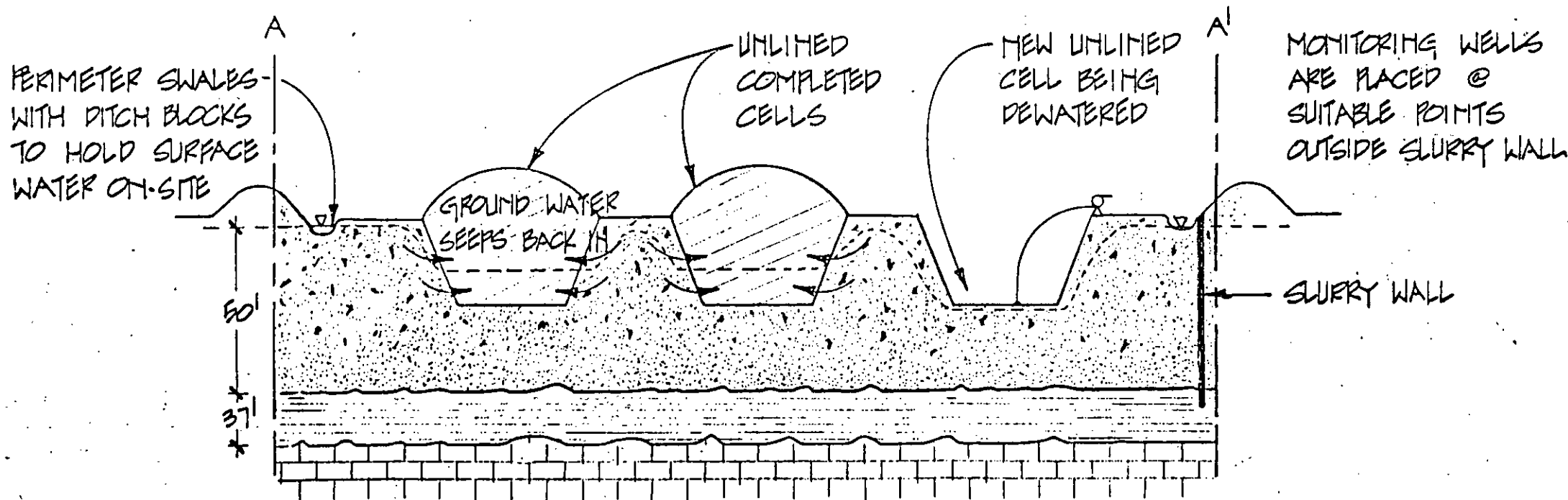
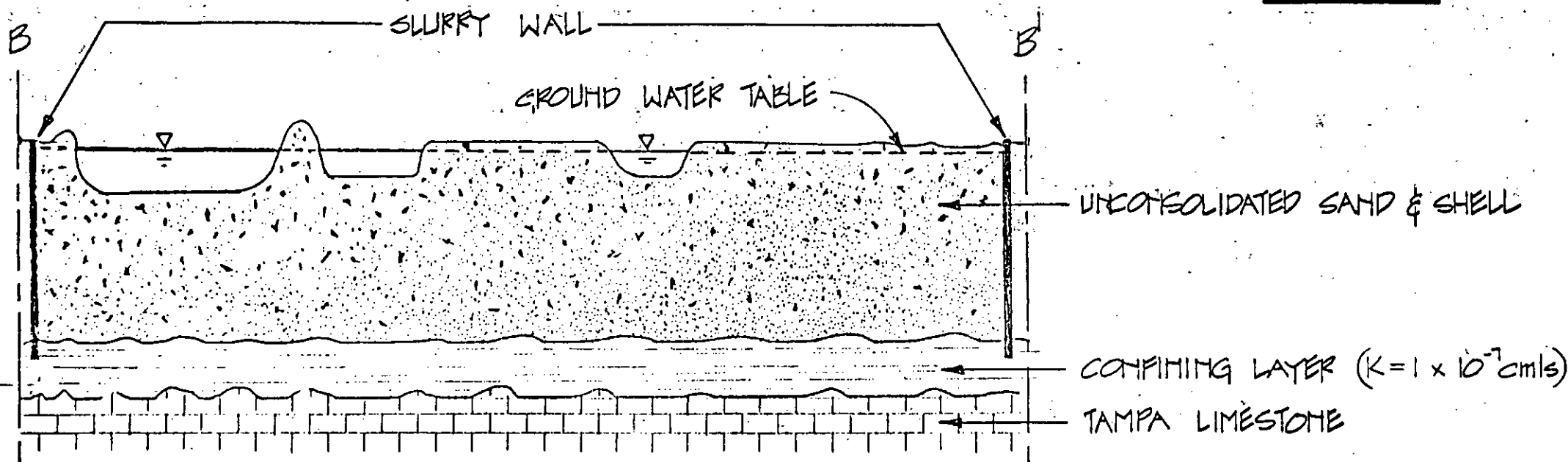
A

LANDFILL

A'



PROFILE



DRAWN:	CHECKED:	DATE:	JOB N°	SHE
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HDR
 Henningson, Durham
 & Richardson
 Architecture
 Engineering
 Planning
 Systems

ESE

ENVIRONMENTAL SCIENCE
AND ENGINEERING, INC.

June 21, 1983

ESE No. 83 405 400

Mr. William Dasher
Director Public Works Operations
Pinellas County Solid Waste Department
2800 110th Avenue North
St. Petersburg, FL 33702

Dear Mr. Dasher:

Enclosed are the results of the two waste samples collected on 5/27/83 and the two residue samples collected on 6/6/83 at the Pinellas County Refuse to Energy Facility. The samples can be described as follows:

<u>ESE Sample No.</u>	<u>Sample Description</u>	<u>Sample Date</u>
246902	Waste (5/26/83)	5/27/83
246903	Waste (5/27/83)	5/27/83
246904	Aggregate Residue	6/06/83
246906	Non Separated Residue	6/06/83

The maximum allowable concentrations are also provided on the data reports. Results from all four samples are below the maximum allowable concentrations.

Sample numbers 246904 and 246906 yielded a positive reaction to acid and a negative reaction to base when subjected to the reactivity test. The results indicate that the positive reaction is due to carbonates in the samples and hence the samples should not be considered hazardous for the reactivity criteria.

A third sample (#246905) of the non-ferrous residue was also collected on 6/6/83. This sample consisted of non-magnetic residue from two to ten inches in size. The nature of this sample made it impossible to sieve it to the required size as specified in the EP Toxicity Test. The DER recommended that this sample was not suitable for the test and hence no analysis was conducted.

Please call me if you have any questions.

Sincerely,

Karen Hatfield

Karen Hatfield
Project Manager

KLH:ceg
Enclosures

5725 RECEIVED
JUN 23 1983

PINELLAS COUNTY
SOLID WASTE SYSTEM

RESULTS OF ANALYSES

SAMPLES COLLECTED AT THE PINELLAS COUNTY REFUSE TO ENERGY FACILITY 5/27/83

ESE Sample No. Sample Description	246902 Dumped 5/27	246903 Dumped 5/26	Max. Conc. Allowed
Arsenic, Diss (ug/L)	<22	<22	5000
Barium, Diss (ug/L)	363	252	100000
Cadmium, Diss (ug/L)	4.2	4.9	1000
Chromium, Diss (ug/L)	170	160	5000
Lead, Diss (ug/L)	<30.0	<30.0	5000
Mercury, Diss (ug/L)	<12	<12	200
Selenium, Diss (ug/L)	<39	<39	1000
Silver, Diss (ug/L)	<4.0	<4.0	5000
Zinc, Diss (ug/L)	5.9	1.9	500000
Endrin, Diss (ug/L)	<0.010	<0.010	20
Lindane, Diss (ug/L)	<0.002	<0.002	400
Methoxychlor, Diss (ug/L)	<0.1	<0.1	10000
Toxaphene, Diss (ug/L)	<0.5	<0.5	500
2,4-D, Diss (ug/L)	<10	<10	10000
2,4,5-TP, Diss (ug/L)	<10	<10	1000
Gross Beta, Diss (ug/L)	112	150	100000
Radium 266, Diss (ug/L)	1.5	0.4	300
pH (Corrosivity)	12.2	12.0	2->12.5
Ignitability	>212°F	>212°F	>212°F
Reactivity	Neg	Neg	Neg

Karen Hatfield
Karen Hatfield, Project Manager

RECEIVED
5775 JUN 23 1983
PINELLAS COUNTY
SOLID WASTE SYSTEM

RESULTS OF ANALYSES

CERTIFICATION SAMPLES COLLECTED AT THE PINELLAS COUNTY REFUSE TO ENERGY FACILITY
6/6/83

ESE Sample No. Sample Description	246904 Aggregate	246906 Non Separated	Max. Conc. Allowed
Arsenic, Diss (ug/L)	<22	<22	5000
Barium, Diss (ug/L)	295	312	100000
Cadmium, Diss (ug/L)	169	494	1000
Chromium, Diss (ug/L)	8.2	91	5000
Lead, Diss (ug/L)	991	2110	5000
Mercury, Diss (ug/L)	<12	<12	200
Selenium, Diss (ug/L)	<39	<39	1000
Silver, Diss (ug/L)	<4.0	<4.0	5000
Zinc, Diss (ug/L)	6830	16600	500000
Endrin, Diss (ug/L)	<0.010	<0.010	20
Lindane, Diss (ug/L)	<0.002	<0.002	400
Methoxychlor, Diss (ug/L)	<0.1	<0.1	10000
2,4-D, Diss (ug/L)	<10	<10	10000
2,4,5-TP, Diss (ug/L)	<10	<10	1000
Gross Beta, Diss (ug/L)	132	426	100000
Radium 226, Diss (ug/L)	0.7	0.7	300
pH (Corrosivity)	12.2	10.6	2->12.5
Ignitability	>212°F	>212°F	>212°F
Reactivity	Neg/Pos*	Neg/Pos*	Neg
Toxaphene, Diss (ug/L)	<0.5	<0.5	500

* See explanation in attached letter

Karen Hatfield

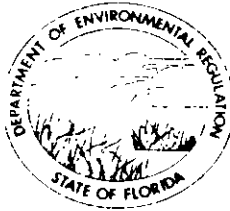
Karen Hatfield, Project Manager

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575
JUN 23 1983

PINELLAS COUNTY
SOLID WASTE SYSTEM

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241



BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY

April 21, 1983

Mr. Peter Hessling
Environmental Engineer
Pinellas County Department of
Environmental Management
Air and Water Quality Division
St. Petersburg-Clearwater Airport
Clearwater, Florida 33520

Dear Mr. Hessling:

Your letter of April 13, 1983 to Mr. Hamilton S. Oven, Jr., P.E., subject: Pinellas County Resource Recovery Facility Compliance Test Protocol has been received by this office for comments. It is our understanding that EPA issued a PSD permit for the construction of this facility in September 1979. According to the EPA permit, the facility is subject to 40 CFR Part 60 Subpart E which is NSPS for incinerators. In addition, the State's certification document on page 5 levies additional emission standards for SO₂, VE's and odor.

There is a caveat in the certification document that FAC 17-2 will apply in addition to emission limitations, ESP, air monitoring and reporting requirements.

FAC 17-2.700 Table I states that NSPS sources will be tested in accordance with 40 CFR 60. Therefore, the units will be tested in accordance with Subpart E (0.08 gr/dscf corrected to 12 percent CO₂).

In order for the Pinellas County Resource Recovery Facility to show compliance with 40 CFR Part 60 Subpart E, FAC 17-2.700 and item 2 on page 5 of the conditions in the certification document, EPA methods 1-6 must be conducted on each unit. Since the sampling ports are in the stack which serves both units, one unit must be down while the other is tested for compliance.

EPA requires that the facility shows compliance within 90 days after startup and does not require being annually tested.

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO.

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

Clay Fancy

INITIAL

DATE

2.

Ed Palagin

INITIAL

DATE

3.

permit file

INITIAL

DATE

4.

INITIAL

DATE

REMARKS:

INFORMATION

REVIEW & RETURN

REVIEW & FILE

INITIAL & FORWARD

DISPOSITION

REVIEW & RESPOND

PREPARE RESPONSE

FOR MY SIGNATURE

FOR YOUR SIGNATURE

LET'S DISCUSS

SET UP MEETING

INVESTIGATE & REPT

INITIAL & FORWARD

DISTRIBUTE

CONCURRENCE

FOR PROCESSING

INITIAL & RETURN

FROM:

DATE

PHONE

Mr. Peter Hessling
April 21, 1983
Page two

However, DER does require annual testing while operating under an operating permit. Therefore during annual compliance verification, compliance will be in accordance with methods 1-6 and with the emission limitations as specified by the certification document which are:

- (1) Particulate matter: 0.08 grains per standard cubic foot dry gas corrected to 50% excess air;
- (2) SO₂: 1.2 lbs of Sulfur Dioxide/MBTU of heat input
- (3) Odor: there shall be no objectionable odor.
- (4) Visible emissions: opacity shall be no greater than 20% except as provided in paragraph 17-2.600(1) [formerly 17-2.05(1)], FAC.

If you have any questions regarding the above, please give me or Jim Manning a call.

Sincerely,



William J. Blommel
Environmental Administrator
Bureau of Air Quality Management

WJB/dt

cc: Dan Williams - Tampa District Office
Craig McArthur - Tampa District Office
Jim Manning
Clair Fancy
Buck Oven

April 18, 1983

Mr. Gene Jordan, Director
Pinellas County Public Works and Utilities
315 Haven Street
Clearwater, Florida 33516

Dear Mr. Jordan:

The Department of Environmental Regulation has reviewed the draft supplemental power plant site certification application presented on March 30, 1983. The following comments come from the staff who reviewed the draft documents:

A. Air Quality Analysis

1. All calculations for determining the emission rates (maximum hourly and annual) of all the emitted pollutants should be shown. References for emission factors should be given.
2. The PTDIS and PTMTP models should be updated to be equivalent to the UNAMAP 4 version of the CRSTER algorithm.
3. All computer printouts (or copies) of the model runs should be submitted.
4. The receptor grids used in the modeling should satisfactorily resolve the maximum concentrations. The refined modeling in hot spot areas should use a 0.1 kilometer resolution.
5. All significant upwind sources should be included in the modeling along with all sources at the facility itself. Background levels should be added for comparison to ambient air quality standards (AAQS).
6. Background levels of all pollutants emitted should be estimated from monitoring data when it exists or from other methods if needed. These data should be tabulated and submitted.
7. Table II-5 indicates at least one exceedance of the SO₂ AAQS. This table is not very understandable; e.g., over what averaging time is the plant-site (receptor 1) measuring?

Page Two
Mr. Jordan
April 18, 1983

8. The maximum impact analysis used to determine the values to compare with the de minimus levels does not use a fine enough grid resolution to adequately estimate maximum values. The concentrations developed for this comparison should be based on the net emissions increase for the current project.

9. The wind speeds used in the downwash analysis are unrealistically high. Values over the range of actual readings should be used.

10. The impact of the net emissions increase on the particulate nonattainment area in Tampa and the SO₂ nonattainment area in Pinellas County should be quantified.

B. Groundwater

1. We tentatively agree that the slurry trench method of leachate containment might be a valid option. This slurry wall, which would ring the entire facility, would tie into the "in situ" clays at some 20 feet beneath land surface. The preliminary soil investigation with borings on 500 ft. centers, together with construction of the slurry trench itself, should yield some information regarding the continuity, thickness, and hydraulic characteristics of these clays. These characteristics at present are not sufficiently well defined whereby one could call the clays a "bottom liner".

2. The hydraulic performance characteristics, leachate adsorption characteristics, exact dimensions, and exact compositions of the "bentonite/native soil mixture" that would comprise the slurry trench, together with assurances that the slurry trench would properly intersect the in situ clays beneath the facility and provide a hydraulic "seal" thereto, constitute a second and third level of unknowns.

3. Of primary importance (and at this time a fourth unknown) would be the relationships of water levels inside and outside the hydraulically contained facility.

4. In the light of the extensive land additions to the facility, and in the absence of a comprehensive ground water monitoring plan, we can only suggest that monitoring outside (and possibly beneath) the hydraulically confined facility would be required by rule as a check of the efficacy of the leachate containment system.

Page Three
Mr. Jordan
April 18, 1983

5. It is unclear how the quality of "runoff" would be monitored and/or treated should water levels build up inside the confined facility. In the absence of a completed modeling program, the stormwater management system must comprise the 6th level of unknowns.

6. While existing ground water quality information provides a reasonable feel for ground water conditions beneath the sludge disposal area (Sod Farm, between 28 Street N and I-75, near 110 Avenue N) and the leachate treatment facility (in the NE corner of the intersection of 28 Street N and 118 Avenue), it appears to be inadequate for most of the rest of the facility. Background ground water quality for the entire facility would be required, and same constitutes the seventh level of unknowns.

7. The permanent leachate control proposed for the expanded resource recovery facility area, installation of a bentonite slurry wall surrounding the whole area and tied into the subsurface clay layer, may be a valid technique. However, some precautions should be observed, possibly as permit conditions.

8. The continuity of the subsurface clay layer proposed as a bottom liner should be well established as well as the permeability. Since a 30 year leachate control, at minimum, is proposed, the permeability should be equivalent to 1×10^{-7} cm/s for the anticipated leachate head that may be contained by the basin that will be created by the bottom liner and slurry trench.

9. It must be recognized that common bentonite may deteriorate when exposed to high ionic strength leachates. It is suggested that if such leachates are detected, a periodic testing of the slurry barrier should be accomplished to determine if its integrity is being maintained. Testing at 2 or 5 year intervals may be useful if high ionic strength leachate is detected and approaching the barrier.

10. The County's contentions that the area has been one of dumping et al for many decades seems to be substantiated by this data. While ground waters beneath the facility are classified G-II, no one would want to drink them. Among the grossest and all prevailing constituents in violation are: coliforms, turbidity, colour and Fe. Problem constituents are: NO_3 , Na, Cl, pH, Cr, and Pb, with occasional violations of: As, Cd and Hg. It is unclear how "free forms" would be

Page Four
Mr. Jordan
April 18, 1983

addressed since it can be known only categorically which pollutants can be expected among the landfill materials. A zone of discharge to the property lines is assumed, since the entire area will be the site of dumping.

11. More ground water quality information appears to be in order for the: Windich, Brush Fill, Trash Fill, Landfill and Trash and Garbage Fill areas (so identified on the airphoto flown March 10, 1982).

C. Other

1. We need an explanation of how the originally proposed hyacinth water treatment/oxidation lagoon is working, how well the cattails work, and monitoring results.
2. We need an update on the quality of sewage used in the cooling tower including turbidity and levels of chlorination.
3. Maps outlining the new property boundaries should be provided. Also show new and proposed developments on surrounding lands use maps.
4. Describe uses of newly acquired land and the subsequent scheduling of proposed uses.
5. Update the amount of area originally planned for combustion residue disposal which has been consumed by the putrescible materials landfilled in the past few years.

As additional comments are received from the staff, I will forward them to you.

Sincerely,

Hamilton S. Oven, Jr., P.E.
Administrator
Power Plant Siting Section

RSO/sb

cc: Bob Van Deman
Ed Snipes

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee		
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
From: _____	Date: _____	
Reply Optional []	Reply Required []	Info. Only []
Date Due: _____	Date Due: _____	

TO: Buck Oven
FROM: Andy Feinstein *af 4-15-83*
DATE: April 15, 1983
SUBJECT: Pinellas County Resource Recovery Project

The information package doesn't adequately describe the relationship of this unit to waters of the State. There is a reference to surface water monitoring in a wetland system and a proposal to discharge wastewater to a mangrove area. I feel we should ask for drawings or better descriptions showing the relationship of the wetland proposed for monitoring to nearby waterbodies and the method of conveyance (ditch, canal, sheetflow etc.) of wastewater to the mangroves.

AF/js

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee		
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
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Reply Optional []	Reply Required []	Info. Only []
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TO: Buck Oven
THRU: Larry George *LG*
FROM: Tom Rogers *TR*
DATE: April 13, 1983
SUBJ: Pinellas County Resource Recovery Facility

I have reviewed the preliminary air quality analysis submitted by the subject applicant. The following comments are offered.

1. All calculations for determining the emission rates (maximum hourly and annual) of all the emitted pollutants should be shown. References for emission factors should be given.
2. The PTDIS and PTMTP models should be updated to be equivalent to the UNAMAP 4 version of the CRSTER algorithm.
3. All computer printouts (or copies) of the model runs should be submitted.
4. The receptor grids used in the modeling should satisfactorily resolve the maximum concentrations. The refined modeling in hot spot areas should use a 0.1 kilometer resolution.
5. All significant upwind sources should be included in the modeling along with all sources at the facility itself. Background levels should be added for comparison to ambient air quality standards (AAQS).
6. Background levels of all pollutants emitted should be estimated from monitoring data when it exists or from other methods if needed. These data should be tabulated and submitted.
7. Table II-5 indicates at least one exceedance of the SO₂ AAQS. This table is not very understandable; e.g., over what averaging time is the plant-site (receptor 1) measuring?
8. The maximum impact analysis used to determine the values to compare with the de minimus levels does not use a fine enough

Memorandum
Page Two
April 13, 1983

grid resolution to adequately estimate maximum values. The concentrations developed for this comparison should be based on the net emissions increase for the current project.

9. The wind speeds used in the downwash analysis are unrealistically high. Values over the range of actual readings should be used.

10. The impact of the net emissions increase on the particulate nonattainment area in Tampa and the SO₂ nonattainment area in Pinellas County should be quantified.

If the applicant has any questions on the air quality analysis please have them call me or Larry so that any confusion may be cleared up quickly.

TR/ks

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

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TO: Frank Andrews

FROM: John A. Reese *JAR*

DATE: April 13, 1983

SUBJECT: Pinellas County Resource Recovery Project

The permanent leachate control proposed for the expanded resource recovery facility area, installation of a bentonite slurry wall surrounding the whole area and tied into the subsurface clay layer, is a valid technique. However, some precautions should be observed, possibly as permit conditions.

The continuity of the subsurface clay layer proposed as a bottom liner should be well established as well as the permeability. Since a 30 year leachate control, at minimum, is proposed, the permeability should be equivalent to 1×10^{-7} cm/s for the anticipated leachate head that may be contained by the basin that will be created by the bottom liner and slurry trench.

It must be recognized that common bentonite may deteriorate when exposed to high ionic strength leachates. It is suggested that if such leachates are detected, a periodic testing of the slurry barrier should be accomplished to determine if its integrity is being maintained. Testing at 2 or 5 year intervals may be useful if high ionic strength leachate is detected and approaching the barrier.

JAR/dt

cc: Buck Oven
Ed Snipes
Greg Parker
Robert McVety

TO: Frank Andrews
FROM: John A. Reese
DATE: April 13, 1983
SUBJECT: Pinellas County Resource Recovery Project

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JAR/dt

cc: Buck Owen
Ed Snipes
Greg Parker
Robert McVety

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To: <u>Andrews, F</u>	Loctn.:	
To: <u>Oven, B</u>	Loctn.:	
To: _____	Loctn.:	
From: <u>Don Keel</u>	Date:	<u>4/12/83</u>
Reply Optional []	Reply Required []	Info. Only []
Date Due: _____	Date Due: _____	

TO: Buck Oven, Professional Engineer
Permitting

THROUGH: Frank Andrews, Administrator *FA*
Programs

Rodney DeHan, Administrator *RSD*
Groundwater Section

FROM: Don Kell, Engineer *DK*
Groundwater Section

DATE: April 12, 1983

SUBJECT: Pinellas County Resources Recovery Project - Materials
Received for Review

Ostensibly no changes were made by the County to the Geology and Hydrology sections of the original application we reviewed on January 24, 1979 and again on March 26, 1979.

However, the present addition of the Bridgeway Acres and Sod Farm parcels and the borrow pits to the NW and the open lands N of the plant represent a very considerable increase in the land area of the facility. The Windich site is evidently also included.

Furthermore:

1. Public housing now exists some 250 ft. from the facility.
2. The new land areas added to the facility represent removals from surface water storage and might cause flooding of said public housing.
3. Depending on water levels within and without the facility, hydraulic confinement of the new land areas might allow salt water intrusion under the facility from the N.
4. The facility is currently in violation of existing conditions of certification. (We commented on this July 9, 1982, in response to an inquiry from the SW District).
5. While the Sod Farm land area will not be used as a landfill until the 21st century, present permits dictate otherwise.

Regarding specifically the materials received during the last month:

1. We tentatively agree that the slurry trench method of leachate containment might be a valid option. This slurry wall, which would ring the entire facility, would tie into the "in situ" clays at some 20 ft. beneath land surface. The preliminary soil investigation with borings on 500 ft. centers, together with construction of the slurry trench itself, should yield some information regarding the continuity, thickness, and hydraulic characteristics of these clays - which characteristics at present are not sufficiently well defined whereby one could call the clays a "bottom liner".
2. The hydraulic performance characteristics, leachate adsorption characteristics, exact dimensions, and exact compositions of the "bentonite/native soil mixture" that would comprise the slurry trench, together with assurances that the slurry trench would properly intersect the in situ clays beneath the facility and provide a hydraulic "seal" thereto, constitute a second and third level of unknowns.
3. Of primary importance (and at this time a fourth unknown) would be the relationships of water levels inside and outside the hydraulically contained facility.
4. In the light of the extensive land additions to the facility, and in the absence of a comprehensive ground water monitoring plan, we can only suggest that monitoring outside (and possibly beneath) the hydraulically confined facility would be required by rule as a check on the efficacy of the leachate containment system.
5. It is unclear how the quality of "runoff" would be monitored and/or treated should water levels build up inside the confined facility. In the absence of a completed modeling program, the stormwater management system must comprise the 6th level of unknowns.
6. While existing ground water quality information provides a reasonable feel for ground water conditions¹ beneath the sludge disposal area (Sod Farm, between 28 Street N and I-75, near 110 Avenue N) and the leachate treatment facility (in the NE corner of the intersection of 28 Street N and 118 Avenue), it appears to be inadequate for most of the rest of the facility². Background ground water quality for the entire facility would be required, and same constitutes the seventh level of unknowns.

Mr. Buck Oven
April 12, 1983
Page 3

The Application

We have commented as specifically as we can on the materials received from time to time since 1979. The application and changes thereto have come in so piecemeal that it is difficult to tell which pieces of the "puzzle" have been received, which are yet missing; for not knowing for sure what specially is being commented upon, it is difficult to determine, first, the completeness, second, the sufficiency, and finally, recommendations appropriate to the "application". Therefore, until a completed application is received, all at one time, it shall difficult to do more than provide a continual commentary upon materials received through time.

However, such policy is as time consuming, in an understaffed bureacracy, as it is confusing, and requires more than an order of magnitude more review time, coordination, and legwork. Furthermore, the department is being cast in the role of design engineers for the facility, which is an untenable posture for a regulatory agency.

Finally, the facility itself is beginning to resemble less and less a power plant siting application. The first 2 units are not yet in operation; and in any case, boiler ash would constitute some 2% of the total landfill materials. At the very least, the facility should be looked at as a completely new application.

DK/cs
cc: Ed Snipes

FOOTNOTES

¹The County's contentions that the area has been one of dumping et al for many decades seems to be substantiated by this data. While ground waters beneath the facility are classified G-II, no one would want to drink them. Among the grossest and all prevailing constituents in violation are: coliforms, turbidity, colour and Fe. Problem constituents are: NO₃, Na, Cl, pH, Cr, and Pb, with occasional violations of: As, Cd and Hg. It is unclear how "free forms" would be addressed since it can be known only categorically which pollutants can be expected among the landfill materials. A zone of discharge to the property lines is assumed, since the entire area will be the site of dumping.

²More ground water quality information appears to be in order for the: Windich, Brush Fill, Trash Fill, Landfill and Trash and Garbage Fill areas (so identified on the airphoto flown March 10, 1982).

cc Bill Dean

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TO : Buck Oven, Administrator, Power Plant Siting
 FROM : Karen Anthony, Power Plant Siting Section *KWA*
 DATE : April 7, 1983
 SUBJECT: Pinellas County Resource Recovery Facility; PA79-11
 Expansion Plans

I have reviewed the materials submitted by the County as well as the State Staff Analysis on the original certification and the new Chapter 17-7, and have the following comments or questions:

- Pinellas County intends to expand their site boundaries and generate an additional 25 MW via an additional boiler. We have determined that the County would need to file a new application rather than a supplemental one since the site was not previously given ultimate megawattage certification. However, since the megawattage is less than 50, is the County exempt from the requirement to go through certification? If so, do we need a formal written request from them to be allowed to go through the process as is allowed by the Siting Act?

- We will need a clear explanation of how the originally proposed hyacinth water treatment pond is functioning, how well the cat-tails work, and the results of the monitoring surrounding the stormwater treatment lagoon.

- We will also need updates on the issue of using treated sewage effluent (land disposal quality) in the expanded cooling tower system.

- Updates needed on the amount of area originally planned for residue disposal which has been consumed by the putrescible materials landfilled there in the past few years.

- I note pH problems in the groundwater data supplied.

- Their remark in the monitoring section that Conditions of Certification are being complied with seems overly optimistic.

- My main concern will be the practical and legal technicalities of intermixing the existing landfill and sod farm permits with the certification, and enforcement of the same; this has already been cause for some confusion. My recommendation would be to develop an in-house guidance letter during the certification review (since the issues will be fresh in our minds then); this letter could be similar to the one Steve Fox prepared on 'who was to do what and how' for the Duval-Poinsett Transmission Line site-specific dredge/fill information review processing.

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TO: Mr. Frank Andrews, Administrator, Grants Coordination

THROUGH: Dr. G. J. Thabaraj, Chief, BWA *GDJ*
Mr. Steve Palmer, Special Projects *CA for SP*

FROM: Cindy Hilty, Special Projects *CH*

DATE: April 5, 1983

SUBJECT: Pinellas County Resource Recovery Project

As requested in the cover memorandum on the above referenced project from Mr. Hamilton S. Oven, Jr., I am submitting my comments to you.

The material indicates that a discharge to surface water may occur from the detention basins on a periodic basis. Since the discharge is covered by the existing site certification (Section XIV. D-1 COC), I have no comments on the expansion of this facility.

CH/dpm

Received DER

APR 8 1983

R.P.S