

503

Inspecting Engineer: FORD

Inspection Type:	Construction
Permitting	QA/QC

Facility Type: Class I GF

SW-2 currently being
lined
CETLO GCL
4 Textured Geomembrane
1 Composite Geomembrane

A-3: Round CRAPERS only
no liner yet

Fill out the above documenting all inspections of facilities for permitting and/or construction QA/QC purposes. Please place in my basket within 3 days of inspections.



W. PASCO CLASS I (SW2 & A3), [REDACTED]
(camera misdated) 12/18/01
PASCO COUNTY SIS, KBF

W. PASCO CLASS I (SW2 & A3), [REDACTED]
(camera misdated) 12/18/01
PASCO COUNTY SIS, KBF

W. PASCO CLASS I (SW2 & A3), [REDACTED]
(camera misdated) 12/18/01
PASCO COUNTY SIS, KBF

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(camera misdated) 12/18/01
PASCO COUNTY SIS, KBF



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PASCO COUNTY SIS, KBF

W. PASCO CLASS I (SW2 & A3), [REDACTED]
(camera misdated) 12/18/01
PASCO COUNTY SIS, KBF

Photo made 12/18/01

Time _____

Location W. Pasco Class I (SW 2 & A3)

~~_____~~

Photo Taken By KBF, SIS

Ford, Kim

From: Ford, Kim
Sent: Friday, October 12, 2001 10:19 AM
To: Butera, Robert
Subject: Comments on the recent W. Pasco revised draft certification



WpascoNewSiteCert0
CT12.doc

To: Bob Butera
From: Kim Ford
Date: October 12, 2001

Subject: West Pasco Power Plant Site Certification
Comments on Tallahassee's recent draft modification

1. A new Table of Contents with Sections and headings is needed for the draft;
2. Section I was changed – the new revision states “No change”;
3. Section IV was not changed – the new revision has two Section IVs;
4. Section X was changed – the new revision does not include Section X;
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6. Section XIII.A. heading not shown;
7. Section XIII.A.1. –corrected , no comment;
8. Some sections not included or listed as no change. The entire document should be reprinted to identify all sections to show all changes or no change;
9. Some new sections not underlined and some highlighted. All new draft changes should be consistently underlined or highlighted for the same identification;
10. The document should be reviewed by the SW district's Air Section for all air related changes;
11. Section XIV.C. may need to reference 40D-4;
12. Section XIV.D. should not be deleted;
13. Section XXIII as proposed by the SW district was included, but the new sections in the certification have been renumbered and don't match Section XXIII.

I would like to review a new draft after these changes are made.

KBF/

To: Bob Butera
From: Kim Ford
Date: October 12, 2001

Subject: West Pasco Power Plant Site Certification
Comments on Tallahassee's recent draft modification

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I would like to review a new draft after these changes are made.

KBF/

Ford, Kim

From: Butera, Robert
Sent: Thursday, October 11, 2001 4:20 PM
To: Ford, Kim
Subject: FW: Revised Mod Order for Pasco RRF


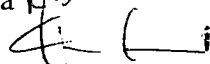
For your review.....hopefully it is complete. I have not reviewed.

-----Original Message-----

From: Oven, Hamilton
Sent: Thursday, October 11, 2001 4:10 PM
To: Butera, Robert; Ford, Kim; Goorland, Scott
Cc: Cascio, Tom; Linero, Alvaro; Layne, David
Subject: Revised Mod Order for Pasco RRF



PasmodA.doc

To: Bob Butera 
From: Kim Ford 
Date: October 12, 2001

Subject: West Pasco Power Plant Site Certification
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KBF/

Ford, Kim

From: Oven, Hamilton
Sent: Thursday, October 04, 2001 11:04 AM
To: Butera, Robert
Cc: Ford, Kim
Subject: RE: Comments - Conditions of Certification - West Pasco

What I sent you was a draft Order that will modify the Conditions of Certification. The Underline/strikethrough shows the changes to be made. I appreciate the comments on updating the rule references. After the Order is signed by the Secretary, we will then prepare a new, revised set of conditions. Some of the District's suggestions may have been relocated to fit standard practice. We will add XXIII. There will be no Table of Contents in the Order. That will be revised when the Conditions are revised. Will send a revised Order soon. The Air portion comes from the 1999 Title V Permit. We may reference that permit in the conditions and attach it to reduce the length of the Order.

-----Original Message-----

From: Butera, Robert
Sent: Wednesday, October 03, 2001 2:10 PM
To: Oven, Hamilton
Cc: Ford, Kim
Subject: Comments - Conditions of Certification - West Pasco

I am forwarding you comments from Kim relating to the subject noted. It appears all of the requested changes for Solid Waste Issues have not been addressed, especially adding Section XXIII. When the noted items have been resolved please send a complete Power Plant Siting Document to us for review.....the current draft appears to be confusing as noted in Item 9. Is this a new issuance of the Power Plant Siting document or is it a modification of the existing document?

<< Message: To: >>

Ford, Kim

From: Butera, Robert
Sent: Wednesday, October 03, 2001 2:10 PM
To: Oven, Hamilton
Cc: Ford, Kim
Subject: Comments - Conditions of Certification - West Pasco

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To:

To: Bob Butera
From: Kim Ford
Date: October 3, 2001

Subject: West Pasco Power Plant Site Certification
Comments on Tallahassee's recent draft modification

- * 1. A new Table of Contents is needed;
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7. Section XIII.A.1. may need to reference 62-330 to replace 17-25;
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12. Section XIV.C.3.h. should reference Condition XIV.C.3. not D.;
- * 13. Section XXIII as proposed by the SW district was not included.

I would like to review a new draft after these changes are made.

KBF/

Ford, Kim

From: Ford, Kim
Sent: Wednesday, October 03, 2001 12:32 PM
To: Butera, Robert
Subject: To:



WpascoNewSiteCert.d
oc

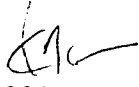
To: Bob Butera
From: Kim Ford
Date: October 3, 2001

Subject: West Pasco Power Plant Site Certification
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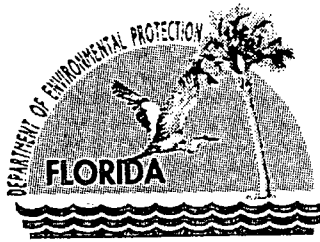
To: Bob Butera
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Date: October 3, 2001

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Comments on Tallahassee's recent draft modification

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KBF/



Department of Environmental Protection

Jeb Bush
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

Mr. Douglas Bramlett, Assistant County Administrator
Pasco County Utilities Services
7530 Little Road, S-204
New Port Richey, FL 34654

September 26, 2001

RE: Financial Assurance Cost Estimates
West Pasco Class I Landfill, PA 87-23, GMS #4051M30035, Pasco County
Cells A1, A2 and SW-1

Dear Mr. Bramlett:

This letter is to acknowledge receipt of the inflation-adjusted cost estimates, dated August 28, 2001 (received August 29, 2001), for closing and long-term care of the West Pasco Class I Landfill, Cells A-1, A-2 and SW-1. The following cost estimates, received August 29, 2001, are **APPROVED for 2001**:

	<u># Acres</u>	<u>Closing, \$</u>	<u>Long-Term Care, \$/yr</u>	<u>Total LTC, \$</u>
A-1, A-2	20	\$1,110,853.10	\$178,859.47	\$5,365,784.10
SW-1	10	\$ 803,234.88	\$119,949.38	\$3,598,481.40

The next annual update (revised or inflation-adjusted estimates) is due no later than September 1, 2002.

A copy of these estimates will be forwarded to Mr. Fred Wick, Solid Waste Section, FDEP, 2600 Blair Stone Road, Tallahassee, Florida 32399-2407. Please work with him directly to assess the facility's compliance with the funding mechanism requirements of Rule 62-701.630, F.A.C. If you have any questions, you may contact me at (813) 744-6100 ext. 386.

Sincerely,

Susan J. Pelz, P.E.
Solid Waste Section
Southwest District

sjp
cc:

Robert J. Sigmond, Pasco County, 7530 Little Road, New Port Richey, FL 34654
John Powers, Pasco County, 14230 Hays Road, Spring Hill, FL 34610
Fred Wick, FDEP, Tallahassee, w/attachment
Robert Butera, P.E., FDEP Tampa
Kim Ford, P.E., FDEP Tampa

"More Protection, Less Process"

Printed on recycled paper.

Ford, Kim

From: Black, Anna
Sent: Thursday, September 06, 2001 11:57 AM
To: Oven, Hamilton
Cc: Ford, Kim; Butera, Robert
Subject: THE CORRECTED ONE - 5-30-01



PA 87-23 7th Revision
05-30-0...

Ford, Kim

From: Butera, Robert
Sent: Wednesday, September 05, 2001 4:50 PM
To: Oven, Hamilton
Cc: Ford, Kim
Subject: RE: West Pasco Site Certification

In a May 30th letter we responded to Doug Bramlett and copied you. It approved our portion of the of the site certifications conditions and identified only 3 conditions I believe were associated with you or the air section. Kim will be faxing you a copy of a July letter specifically approving the operations plan for the facility that you were not copied on. We have resolved all our issues so let us know when the certification will be issued. Thanks.

-----Original Message-----

From: Oven, Hamilton
Sent: Wednesday, September 05, 2001 1:26 PM
To: Butera, Robert
Subject: RE: West Pasco Site Certification

No. Was not aware that you District Staffers and Pasco had agreed on the Solid Waste language for the Conditions of Certification. If you have, please send me the language.

-----Original Message-----

From: Butera, Robert
Sent: Wednesday, September 05, 2001 10:11 AM
To: Oven, Hamilton
Cc: Ford, Kim
Subject: West Pasco Site Certification

What is the status of the site certification for West Pasco WTE facility? Has it been issued yet?

WASTE MGT TAMPA SWD

IX:8137446125

** Transmit Conf. Report **

P.1

Sep 6 2001 8:02

Telephone Number	Mode	Start	Time	Pages	Result	Note
82917250	NORMAL	6, 8:01	0'49"	2	* O K	

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

3804 Coconut Palm Drive
Tampa, FL 33619-8318

FAX

Date:

9/5/01

Number of pages including cover sheet:

2

To:

Book Over

Faster plant some

Phone:

Fax phone:

921-7250

CC:

From:

Jim Ford

Phone:

(813) 744-6100 x 382

Fax phone:

(813) 744-6125

REMARKS:

☐

Urgent

☒

For your review

☐

Reply ASAP

☐

Please comment

W) DASC

Approval of ops plan

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

3804 Cocon. Palm Drive
Tampa, FL 33619-8318

FAX

Date:

9/5/01

Number of pages including cover sheet:

2

To:

Buck Over

Power Plant Site

Phone:

Fax phone:

921-7250

CC:

From:

Jim Ford

Phone:

(813) 744-6100 x 382

Fax phone:

(813) 744-6125

REMARKS:

☐ Urgent

☒ For your review

☐ Reply ASAP

☐ Please comment

W Dasep
Approval of eps plan



Jeb Bush
Governor

Department of Environmental Protection

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

July 10, 2001

Mr. Douglas S. Bramlett
Assistant County Administrator
Pasco County Utilities Services Branch
7530 Little Road, S-213
New Port Richey, FL 34654

Re: Construction of Disposal Units SW-2 and A-3
West Pasco Landfill - #PA87-23, Pasco County

Dear Mr. Bramlett:

The Department has no objection to construction of disposal units SW-2 and A-3 as described in related documents, in accordance with Department rules (effective date – May 27, 2001) and the conditions of certification (pending 7th revision date – May 30, 2001). The related documents reviewed by the Department include:

- Engineering Report by CDM dated December 2000 and supporting information received December 6, 2000;
- Responses and supporting information by CDM received January 16, February 19, and March 30, 2001;
- Construction plans dated April 2001 received April 20, 2001; and
- Letter of clarification by CDM dated April 27, 2001 received April 27, 2001.

Upon completion, prior to operation of these new units, the following documents are required:

- 1) Certification of Construction Completion (form attached), and record drawings;
- 2) Construction Quality Assurance final report;
- 3) Operations Plan (revised) to include all operational procedures for disposal units SW-2 and A-3;
- 4) Topographic maps of proposed fill areas, including cross-sections of lifts and special drainage devices (or reference for previously approved documents containing necessary details); and
- 5) Financial assurance – updated cost estimates and proof of adequate funding.

In addition, the Landfill Operations Plan dated June 2001 received on June 14th, with replacement Figure 2B received by fax on July 5th, is hereby considered the current Department-approved operations plan. If you have any questions you may call me at (813) 744-6100, extension 353.

Sincerely,

William Kutash
Waste Program Administrator

Attachment

cc: Vincent Mannella, P.E., Pasco County Solid Waste Resource Recovery
Daniel E. Strobridge, QEP, Camp Dresser & McKee, Inc.
Robert Butera, P.E., FDEP Tampa

"More Protection, Less Process"

Printed on recycled paper.

Florida Department of
Environmental Protection

Southwest District

CONVERSATION RECORD

Date August 6, 2001 **Subject** West Pasco Class I Leachate
Time 10:30am **Permit No.** PA87-23
County Pasco
Mr. Ron Walker **Phone No.** 727-861-3004

Representing Pasco County

☒ **Phoned Me** ☐ **Was Called** ☐ **Scheduled Meeting** ☐ **Unscheduled Meeting**

Other Individuals in Conversation/Meeting _____

Summary of Conversation/Meeting:

Ron called to let the Department know that Pasco County has been transporting leachate from their tank to the Howard F. Kern waste water treatment plant in Tampa since Friday, August 3, 2001. Mr. Walker said that the tank level was approximately 27 feet at last check. The on-site Waste Water Treatment plant has been up and running since approximately July 23, 2001.

Signature _____

Sara I. Smithee

Title _____

E.S. I, Solid Waste Section

Florida Department of
Environmental Protection

Southwest District

CONVERSATION RECORD

Date July 12, 2001

Subject West Pasco SW1

Time 8:45am

Permit No. PA87-23

County Pasco

Mr. Ron Walker

Phone No. 727-861-3004

Representing Pasco County Solid Waste

☒ [X] Phoned Me ☐ [] Was Called ☐ [] Scheduled Meeting ☐ [] Unscheduled Meeting

Other Individuals in Conversation/Meeting Kim Ford, Susan Pelz & Steve Morgan of FDEP

Summary of Conversation/Meeting:

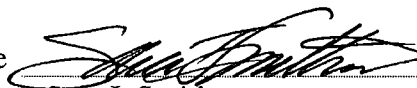
Mr. Walker called to inform DEP that his berm to prevent stormwater from eroding the slopes of SW1 had washed out yesterday due to 4 inches of rain. He had replaced the berm, but had run a pipe underneath in the low area to drain the excess stormwater and prevent another washout. He had placed the berm around the top of the cell to slow stormwater run-off and to promote vegetative growth. He stated that the cell had 6 inches of cover and had approximately 1 inch of growth from the recent seeding of the top.

Department personnel wanted assurances that Pasco County understands the difference between leachate and stormwater. Mr. Walker assured DEP that there was no waste exposed and that the water draining to the stormwater swale through the pipe was indeed stormwater and not leachate.

Mr. Walker asked if he had to put a berm around the area where the glass cutlet from the MRF would be dumped weekly. Department personnel stated that this was required because the glass cutlet is a class I waste and must be bermed to prevent mixing of stormwater & leachate. Mr. Walker assured DEP that a berm would be placed around the working face to prevent leachate getting into the stormwater system.

Mr. Walker also stated that the next scheduled outage at the WTE would be in October. He expected that more waste would be by-passed to SW1 during the outage. Mr. Walker also mentioned that the pit of the WTE looked good and that everything was up and running in the plant.

Signature


Sara I. Smithee

Title

E.S. I, OPS, Solid Waste Section

CDM Camp Dresser & McKee Inc.

RECEIVED
JUL 12 2001

Department of Environmental Protection
BY _____
SOUTHWEST DISTRICT

Memorandum

To: Kim Ford

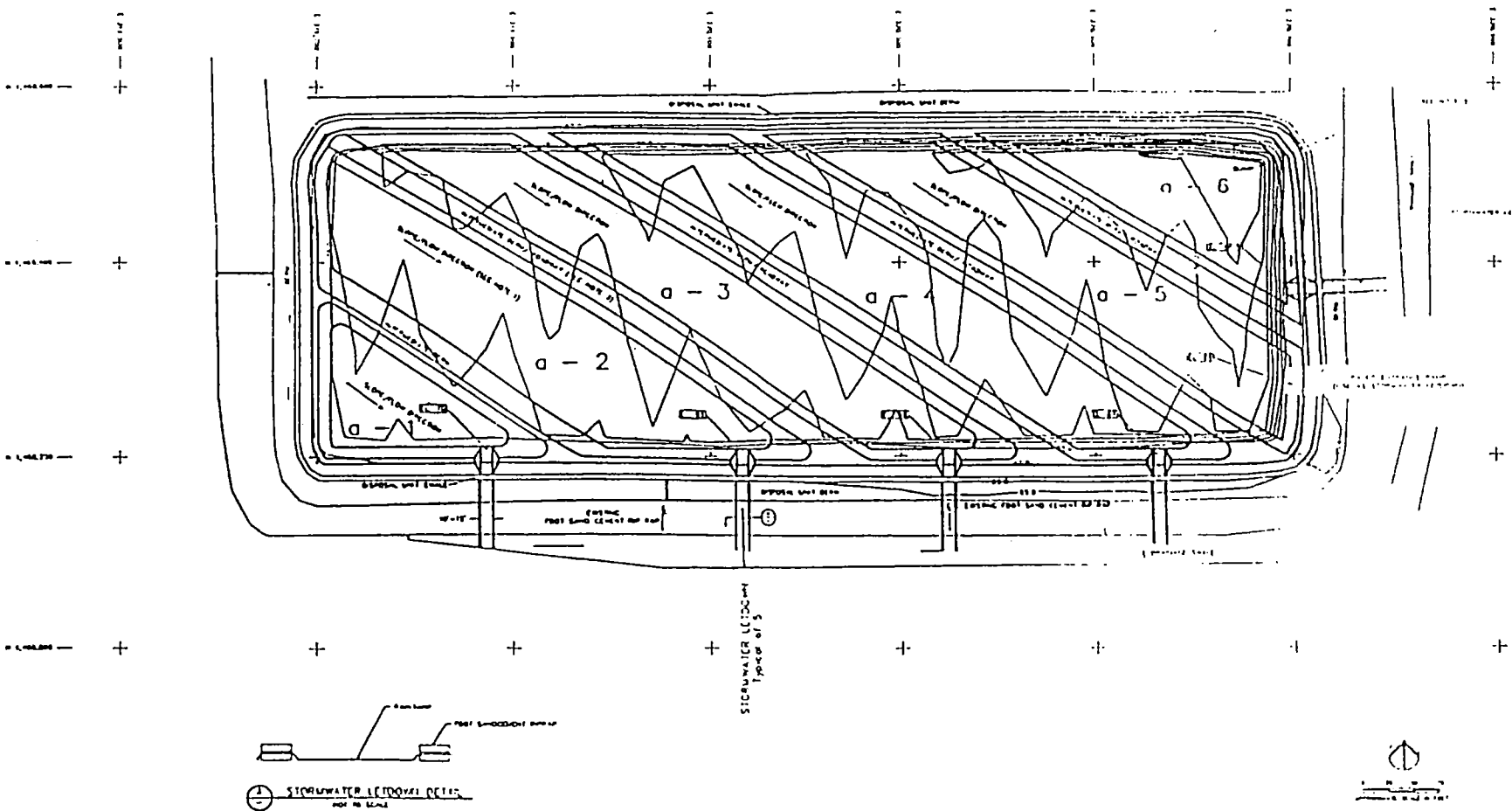
From: Dan Strobbridge *DS*

Date: July 5, 2001

Subject: Pasco County Operations Plan Figure 2B

Transmitted, herewith, is a revised Figure 2B for the West Pasco Landfill Operations Plan. Please remove the existing Figure 2B and replace it with the attached.

c: D. Bramlett



WASTE MGT TAMPA SWD

:8137446125

** Transmit Conf. Report **

P.1

Jul 10 2001 9:53

Telephone Number	Mode	Start	Time	Pages	Result	Note
92888787	NORMAL	10, 9:52	0'40"	3	# O K	

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

3804 Coconut Palm Drive
Tampa, FL 33619-8318

FAX

Date:

7/10/01

Number of pages including cover sheet:

3

To:

TAN STORBRIDGE
AND
ASD S.

Phone:

2812900

Fax phone:

2888787

CC:

From:

for FORD

Phone:

(813) 744-6100

x 362

Fax phone:

(813) 744-6125

REMARKS:

☐

Urgent

☒

For your review

☐

Reply ASAP

☐

Please comment

DEPS 7/10 Green
on apr plan, SW 24A-3

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

3804 Coconut Palm Drive
Tampa, FL 33619-8318

FAX

Date:

7/10/01

Number of pages including cover sheet:

3

To:

TAN STORBRIDGE

AND

ABDUL S.

Phone:

2812900

Fax phone:

2868287

CC:

From:

for FORD

Phone:

(813) 744-6100

x 362

Fax phone:

(813) 744-6125

REMARKS:

☐

Urgent

☒

For your review

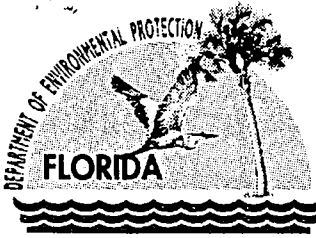
☐

Reply ASAP

☐

Please comment

DDP's 7/10 Green
on ops plan, SW21A-3



Jeb Bush
Governor

Department of Environmental Protection

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

July 10, 2001

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Assistant County Administrator
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Florida Department of Environmental Protection
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, FL 32399-2400

DEP Form # 62-701.900(2)
Form Title Certification of Construction Completion
Effective Date May 19, 1994
DEP Application No. _____
(Filled by DEP)

Certification of Construction Completion of a Solid Waste Management Facility

DEP Construction Permit No: _____ County: _____

Name of Project: _____

Name of Owner: _____

Name of Engineer: _____

Type of Project: _____

Cost: Estimate \$ _____ Actual \$ _____

Site Design: Quantity: _____ ton/day Site Acreage: _____ Acres

Deviations from Plans and Application Approved by DEP: _____

Address and Telephone No. of Site: _____

Name(s) of Site Supervisor: _____

Date Site inspection is requested: _____

This is to certify that, with the exception of any deviation noted above, the construction of the project has been completed in substantial accordance with the plans authorized by Construction

Permit No.: _____ Dated: _____

Date: _____
Signature of Professional Engineer

** Transmit Conf. Report **

P.1

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FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

3804 Coconut Palm Drive
Tampa, FL 33619-8318

FAX

Date:

7/2/01

Number of pages including cover sheet:

4

To:

ABDULCDM

Phone:

Fax phone:

2888787

CC:

From:

Jim Ford

Phone:

(813) 744-6100

x 382

Fax phone:

(813) 744-6125

REMARKS:

☐ Urgent.☒ For your review☒ Reply ASAP☐ Please commentFaxW pnsco

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

3804 Coconut Palm Drive
Tampa, FL 33619-8318

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☒ Reply ASAP

☐ Please comment

Fax
in process

To:

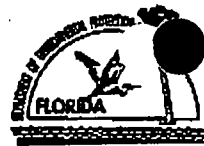
JASON GORRIE

COM

Phone:

Fax phone: 288-8787

CC:



ROBERT J. BUTERA, P.E.
SOLID WASTE MANAGER
SOUTHWEST DISTRICT

DEPARTMENT OF
ENVIRONMENTAL PROTECTION
3804 COCONUT PALM DRIVE
TAMPA, FL 33619

TELEPHONE:
(813) 744-6100
SUNCOM: 542-6100
EXT 451

Fax phone: (813) 744-6125

REMARKS:

☐ Urgent

☒ For your review

☐ Reply ASAP

☐ Please comment

FIGURE 2B IN THE 6/11/01 OPERATIONAL PLAN SUBMITTAL IS INCORRECT
THE CORRECT FIGURE IS THE FIGURE PREVIOUSLY IDENTIFIED AS
FIGURE 8.2B

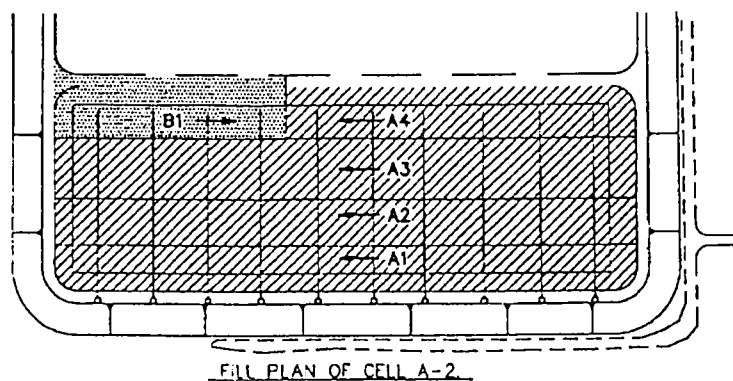
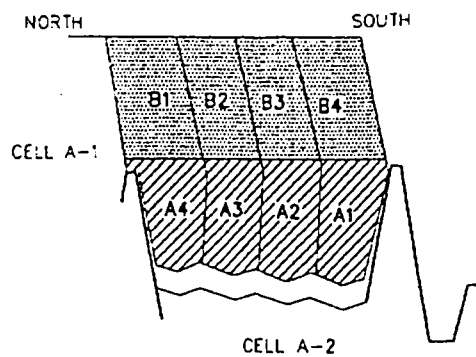
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Telephone Number	Mode	Start	Time	Pages	Result
Note					

Jun 18 2001 13:57

P.1

** Transmit Conf. Report **

WASTE MGT TAMPA SWD Fax:8137446125



LEGEND

- LIFT A
- LIFT B
- FILL DIRECTION



NOT TO SCALE

Figure 2B

Letter to approve
existing OPS plan on
SW-1 A-2 dated?

and authorize construction
for A-3 & SW-2.

I identify need for revised
OPS plan for A3-SW2

Boh



Jeb Bush
Governor

Department of Environmental Protection

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

June 21, 2001

Mr. Douglas S. Bramlett
Assistant County Administrator
Pasco County Utilities Services Branch
7530 Little Road, S-213
New Port Richey, FL 34654

DRAFT

Saved!
WEST PASCO
BRAMLETT 6-21-01
6-21-01

Re: Construction of Disposal Units SW-2 and A-3 and Approval of the Operational Plan for
Active Cells A-2 & SW-1
West Pasco Landfill - #PA87-23, Pasco County

Dear Mr. Bramlett:

The Department has no objection to construction of disposal units SW-2 and A-3 as described in related documents, in accordance with Department rules (effective date – May 27, 2001) and the conditions of certification (pending 7th revision date – May 30, 2001). The related documents reviewed by the Department include:

- Engineering Report by CDM dated December 2000 and supporting information received December 6, 2000;
- Responses and supporting information by CDM received January 16, February 19, and March 30, 2001;
- Construction plans dated April 2001 received April 20, 2001; and
- Letter of clarification by CDM dated April 27, 2001 received April 27, 2001.

The Department also approves the Operations Plan dated June 11, 2001 as modified on June 21, 2001 by the Department for the current phases being operated specifically Cells SW-1 and A-2.

Upon completion, prior to operation of these new units, the following documents are required:

- 1) Certification of Construction Completion (form attached), and record drawings;
- 2) Construction Quality Assurance final report;
- 3) Comprehensive (updated) Operations Plan to include all operational procedures for disposal units SW-2 and A-3; and
- 4) Topographic maps of proposed fill areas, including cross-sections of lifts and special drainage devices (or reference for previously approved documents containing necessary details).

If you have any questions you may contact William Kutash at (813) 744-6100, extension 353.

Sincerely,

DRAFT

Deborah A. Getzoff
Director of District Management
Southwest District

Attachment

cc: Vincent Mannella, P.E., Pasco County Solid Waste Resource Recovery
Daniel E. Strobbridge, QEP, Camp Dresser & McKee, Inc.
Robert Butera, P.E., FDEP Tampa



Florida Department of Environmental Protection
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, FL 32399-2400

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Cost: Estimate \$ _____ Actual \$ _____

Site Design: Quantity: _____ ton/day Site Acreage: _____ Acres

Deviations from Plans and Application Approved by DEP: _____

Address and Telephone No. of Site: _____

Name(s) of Site Supervisor: _____

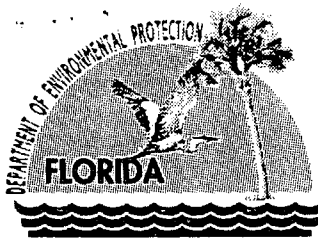
Date Site inspection is requested: _____

This is to certify that, with the exception of any deviation noted above, the construction of the project has been completed in substantial accordance with the plans authorized by Construction

Permit No.: _____ Dated: _____

Date: _____

Signature of Professional Engineer



Department of Environmental Protection

Jeb Bush
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

June 14, 2001

Mr. Douglas S. Bramlett
Assistant County Administrator
Pasco County Utilities Services Branch
7530 Little Road, S-213
New Port Richey, FL 34654

SECRET

for
READY for
signature
for

Re: Construction of Disposal Units SW-2 and A-3 + APPROVAL OF OPS PLAN SUBMITTED
West Pasco Landfill - #PA87-23, Pasco County

Dear Mr. Bramlett:

The Department has no objection to construction of disposal units SW-2 and A-3 as described in related documents, in accordance with Department rules (effective date - May 27, 2001) and the conditions of certification (pending 7th revision date - May 30, 2001). The related documents reviewed by the Department include:

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- 4) Topographic maps of proposed fill areas, including cross-sections of lifts and special drainage devices (or reference for previously approved documents containing necessary details).

If you have any questions you may call me at (813) 744-6100, extension 353. ^{WILL KUTASH} ^{ISS}

Sincerely,

WAG

William Kutash
Waste Program Administrator

Attachment

cc: Vincent Mannella, P.E., Pasco County Solid Waste Resource Recovery
Daniel E. Strobridge, QEP, Camp Dresser & McKee, Inc.
Robert Butera, P.E., FDEP Tampa

W. KUTASH

correcting fig. 2-15

THE DEPARTMENT ALSO APPROVES THE OPERATIONS PLAN SUBMITTED JUNE 11th
AND RECEIVED JUNE 14th FOR CURRENT PHASES OPERATING AND
REVISED SHEET
"More Protection, Less Process"
Printed on recycled paper.
DATED

Ford, Kim

From: Butera, Robert
Sent: Monday, June 18, 2001 2:10 PM
To: Ford, Kim
Cc: Kutash, William; Pelz, Susan
Subject: West Pasco - Information required to correct Figure 2B Reference

I called Jason Gorrie at CDM.....Dan is out on vacation this week and Abdul is out for the next two days....but by week's end (June 22, 2001) please follow up on the fax Steve Morgan sent requesting the corrected page to insert in the OPS plan. Try to get it by weeks end so that I can modify the letter you drafted that Bill Kutash requested be sent from DAG to Doug approving the construction of the new cells and the current submitted OPS plan.



Camp Dresser & McKee Inc.

consulting
engineering
construction
operations

Westshore Center
1715 North Westshore Boulevard, Suite 875
Tampa, Florida 33607
Tel: 813 281-2900 Fax: 813 288-8787

June 11, 2001

Mr. Kim Ford, P.E.
Solid Waste Section
Division of Waste Management
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

RECEIVED
JUN 14 2001

Department of Environmental Protection
SOUTHWEST DISTRICT
BY _____

Subject: West Pasco County Landfill Operation Plan

Dear Mr. Ford:

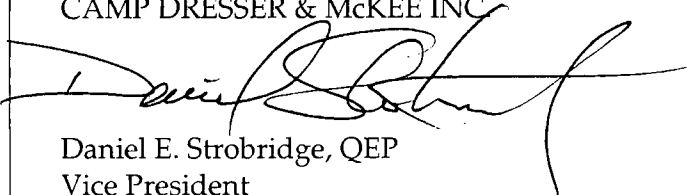
Transmitted herewith are three copies of the referenced operations plan. It is the Law Engineering Plan as modified by the Department. We have simply reformatted it as a stand-alone document. As I discussed with Mr. Kutash, this operation plan will be revised prior the commencement of the operation of new cells A-3 and SW-2 to reflect operational changes necessary for those cells and associated leachate collection and monitoring systems.

I trust that this will assist in expediting the Department's issuance of an approval for construction of cells A-3 and SW-2.

If you have any questions or comments, do not hesitate contacting Mr. Adbul Mulla Saleh or me.

Very truly yours,

CAMP DRESSER & MCKEE INC


Daniel E. Strobridge, QEP
Vice President

cc: Doug Bramlett, Pasco County
Vince Mannella, Pasco County
David Dee, Landers and Parsons
William Kutash, FDEP, Southwest District
Robert Butera, FDEP, Southwest District

LANDFILL OPERATIONS PLAN

JUNE 2001

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LANDFILL OPERATIONS

This Operations Plan is for the West Pasco Class I Landfill. It is an integral unit of the Pasco County Solid Waste System ("System"). The System is comprised of: a mass-burn Resource Recovery Facility (the plant), the West Pasco Class I Landfill, the West Pasco Class III Landfill and Recycling Center, the East Pasco Transfer Station and Recycling Center, and the East Pasco Class I Landfill. The West Pasco Class I Landfill, and the West Pasco Class III Landfill are co-located on an 800-acre site. The entire 160-acre West Pasco Class I Landfill and the Resource Recovery Facility are permitted under the Florida Electrical Power Plant Siting Act, while the West Pasco Class III Landfill was permitted separately under Chapter 62-701, F.A.C.

The West Pasco Class I Landfill is conceptually designed and permitted to be constructed in a phased series of individual disposal units, with a total of 16 disposal units. Six disposal units (A-1 through A-6) are planned for ash disposal, eight disposal units (SW-1 through SW-8) for non-processible or by-pass waste, and two disposal units (I-1 and I-2) were left undesignated. The layout of the disposal units is shown on **Figure 1**. The disposal area covers approximately 160 acres; each disposal area is approximately 10 acres in size. The initial phase of construction was completed in 1991, with the construction of disposal units SW-1 and A-1, eastern portion of the perimeter access road, retention ponds 1 and 2, an equipment maintenance building, and other associated drainage work.

Processible Municipal Solid Waste (MSW) is combusted in the plant. The residual ash is quenched and screened to remove large materials and passes through a magnetic separator to remove ferrous metal before hauling to the ash disposal unit. Process residue (MSW ash) from the plant is loaded into trucks for disposal in the active ash monofill disposal unit at the adjacent West Pasco Class I Landfill.

Non-processible waste such as reject glass from recycling operations is disposed in SW-1. Non-processible waste is disposed at the base of the lift in solid waste disposal unit(s). By-pass waste is disposed on top of the non-processible waste.

Whenever processible waste is being bypassed from the plant to the Active Solid Waste Disposal Unit, the Landfill Supervisor will have the staff at the scale house direct incoming haulers to the Active Solid Waste Disposal Unit. Some of the trained spotter staff may be re-assigned to the Active Solid Waste Disposal Unit receiving the waste as spotters. When plant capacity is available, the scale house will direct the haulers to the plant. The Landfill Supervisor will initiate removal of the solid waste from the Active Solid Waste Disposal Unit and begin hauling to the plant for burning as soon as it is practical when capacity is available, see Section 7.1 for mining procedures.

The entire 800-acre site is enclosed by a 6-foot high chain-link and barbed wire fence to limit access. Entrance to the site is limited to one gate and it is monitored by the county staff located in the scale house along the entrance road. To further limit

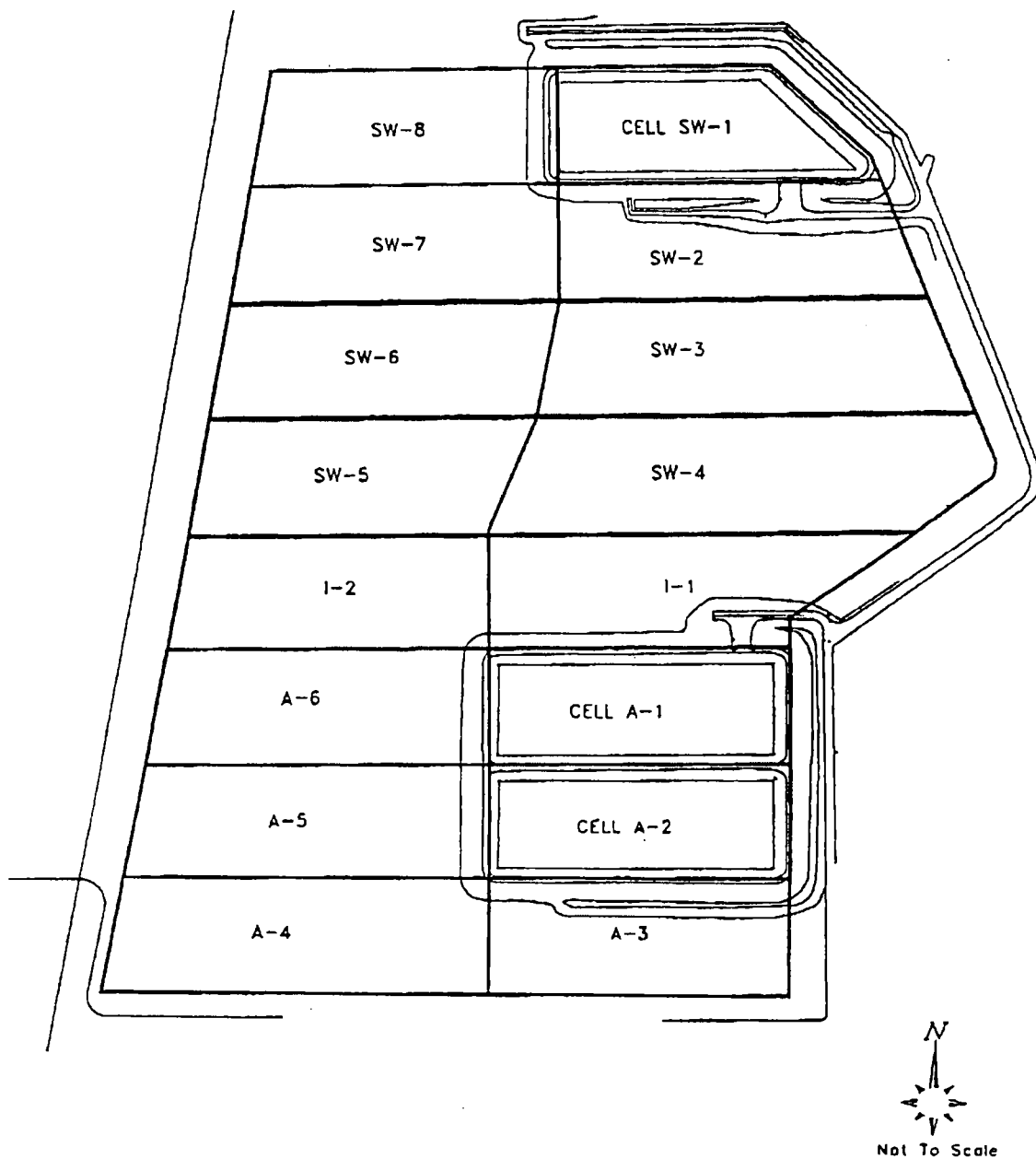


Figure 1

access, the West Pasco Class I Landfill, and the West Pasco Class III Landfill are separated internally by a chain-link and barbed wire fence to control movement between the units.

1 Operating Personnel Training

The Pasco County Utilities Services Branch (PCUSB) has a pro-active approach to training and certification of all landfill personnel and currently has trained operators who have satisfied the requirements of Chapter 62-701, F.A.C. Additionally, Pasco County currently has other staff members who have been trained and are certified through or by the TREEO Solid Waste Landfill Operator Short Course and are used as trained spotters at the landfill and elsewhere in the solid waste management system. Copies of their course completion certificates are kept on file. The landfill will have at least one trained operator at the landfill during all times when the landfill receives waste. At least one trained spotter will be at each working face at all times when the landfill receives waste other than ash to detect unauthorized wastes.

2 Landfill Operations Plan

2.1 Designated Responsible Operating and Maintenance Personnel

The Pasco County Board of County Commissioners sets policy for the administration and management of the disposal of solid waste in the County. Douglas S. Bramlett, Assistant County Administrator, Utilities Services Branch, coordinates solid waste management in the County. He is assisted by Vince Mannella, Solid Waste Facilities Manager, who manages the operation and maintenance of the solid waste management facilities.

The following current schedule is typical of the staffing for the West Pasco Class I Landfill.

<u>Certified Landfill Operators</u>	<u>Six Days*</u>
First Shift Supervisor	MTWTF
Second Shift Supervisor	TWTFS
<u>Equipment Operator/Spotters</u>	
First Shift Operator	MTWT
Second Shift Operator	__WTFS
*Landfill is closed on Sundays. No ash is hauled to ashfill disposal unit.	

Either of the Certified Landfill Operators and Equipment Operators are qualified to substitute for the other and perform the duties. This cross training allows for a backup operator when one can't be at the site.

2.2 Contingency Operations for Emergencies

2.2.1 Fire Emergency Procedures

In the highly unlikely event that an uncontrollable fire does occur at the landfill site:

- Field staff will contact scale attendant by two-way radio and provide details;
- Scale attendant will contact 911 to request fire department assistance;
- Scale attendant will contact Landfill Supervisor;
- Landfill Supervisor will direct additional equipment and manpower to the scene as necessary.

If the fire is controllable:

- Field staff will contact scale attendant by two-way radio and provide details;
- Field staff will snuff out fire using landfill equipment and soil from an on-site stockpile maintained for suppressing fires;
- Scale attendant will contact Landfill Supervisor;
- Landfill Supervisor will inspect scene.

If necessary, solid waste will be directed to other permitted disposal facilities as appropriate, in Pasco County.

2.2.2 Natural Disasters Procedure

If notice is available of a pending natural disaster (tornado, hurricane, etc.), the Landfill Supervisor will direct staff to:

- Check stormwater management system for any blockages at culverts, pipes, etc.;
- Check leachate management system levels, pumping units, etc.;
- Apply daily cover to working face where appropriate;
- Secure equipment where appropriate.

After the natural disaster has occurred, the Landfill Supervisor will direct staff to assess damage to and operational status of:

- Access roads;
- Stormwater management system;
- Leachate management system;
- Landfill equipment;
- Disposal units.

The Landfill Supervisor will report findings to the Solid Waste Manager.

If the storm results in an inflow of debris that when combined with the normal daily rate is in excess of the system capacity, the materials can be stockpiled/disposed of in the active Solid Waste Disposal Unit. The Class III landfill can be used to the extent needed for a staging area. If required, debris stored outside of lined areas shall be authorized by FDEP.

Once the rate of inflow decreases to below the system capacity of the plant, begin to feed the debris into the plant. Storage of debris is a temporary measure.

2.2.3 Equipment Failure Procedures

If equipment fails, the Landfill Supervisor will be notified so that arrangements can be made for the equipment's repair. If the downtime is expected to hinder landfill operations, the Landfill Supervisor will obtain backup equipment under established cooperative lending agreements with other solid waste management facilities or other County departments.

2.2.4 End of Work Week Procedures

At the end of the work week, prior to shut down, the Landfill Supervisor will direct staff to:

- Check stormwater management system for any blockages at culverts, pipes, etc.;
- Check leachate management system levels, pumping units, etc.;
- Secure equipment.

At the beginning of the work week, immediately after opening, the Landfill Supervisor will direct staff to observe the conditions of and record deficiencies of:

- Access roads;
- Stormwater management system;
- Leachate management system;
- Landfill equipment;
- Disposal units.

Particular attention is to be paid to the leachate management system pumps, operability and the leachate levels in the disposal units, and leachate storage tank.

2.3 Controlling Types of Waste Received at Landfill

One spotter will be located at the solid waste disposal unit working face receiving wastes to inspect waste being dumped at the working face. A dumpster will be provided near the working face to facilitate removal of unacceptable waste.

If in the highly unlikely case a hot load of ash is spotted, the vehicle will be directed to return to the ash handling facility for quenching and be allowed to cool.

If prohibited types of waste are observed by the spotter in any by-pass waste, the Landfill Supervisor will be notified so that arrangement for the observed wastes can be removed.

Batteries, tires, and used oil will be removed to the Recycling Center, which has facilities for handling these prohibited wastes. Hazardous and medical wastes can be removed under existing arrangements for the proper handling and disposal. These wastes should be removed under the direction of the County Hazardous Waste Coordinator in compliance with the solid waste rule. The County Health Department will also be contacted.

2.4 Weighing Incoming Waste

No waste can enter the site without passing across the scales to be weighed. The Landfill Supervisor will periodically check ash trucks to see if they are crossing the scale by observing them as they leave the ash handling facility.

2.5 Vehicle Traffic Control and Unloading

Private refuse haulers are not allowed in the West Pasco Class I Landfill except when non-processible waste or by-pass waste are being delivered to the solid waste disposal unit. During these exceptions, the Landfill Supervisor will assign additional landfill staff to control traffic and direct unloading.

2.6 Method and Sequence of Filling Waste

The West Pasco Class I Landfill will be developed using 16 disposal units as shown on **Figure 1**. Each disposal unit is approximately 10 acres. As this sheet indicates, the liner and leachate collection system will be constructed one disposal unit at a time with temporary roads and swales for access and surface-water management. **Figure 2** depicts the sequence of filling waste and progression of lifts within a typical disposal unit. A modified sequence of filling for Disposal Unit A-2 is shown on **Figure 2B**.

Ash will be monofilled. Solid waste and ash will not be co-disposed.

Solid Waste Disposal Units - The method of filling wastes in an individual disposal unit is described as follows. The edge of liner at the top of berm will be flagged or marked with traffic cones except at berms common between the new operating disposal unit and the adjacent filled disposal unit. Waste will not be placed within two feet of this flagged or marked line. All incoming waste will be directed to the working face. (Berms will be maintained around the entire working disposal area to intercept and contain leachate and divert storm water to the surface-water management system (see **Figure 3**).) Solid waste will be placed against the side slope of the previous day's refuse. The first row will act as a guide for the placement of refuse for the remaining rows. In each row, cells will be constructed having a minimum length working face to control the operation and leachate quantities, yet of

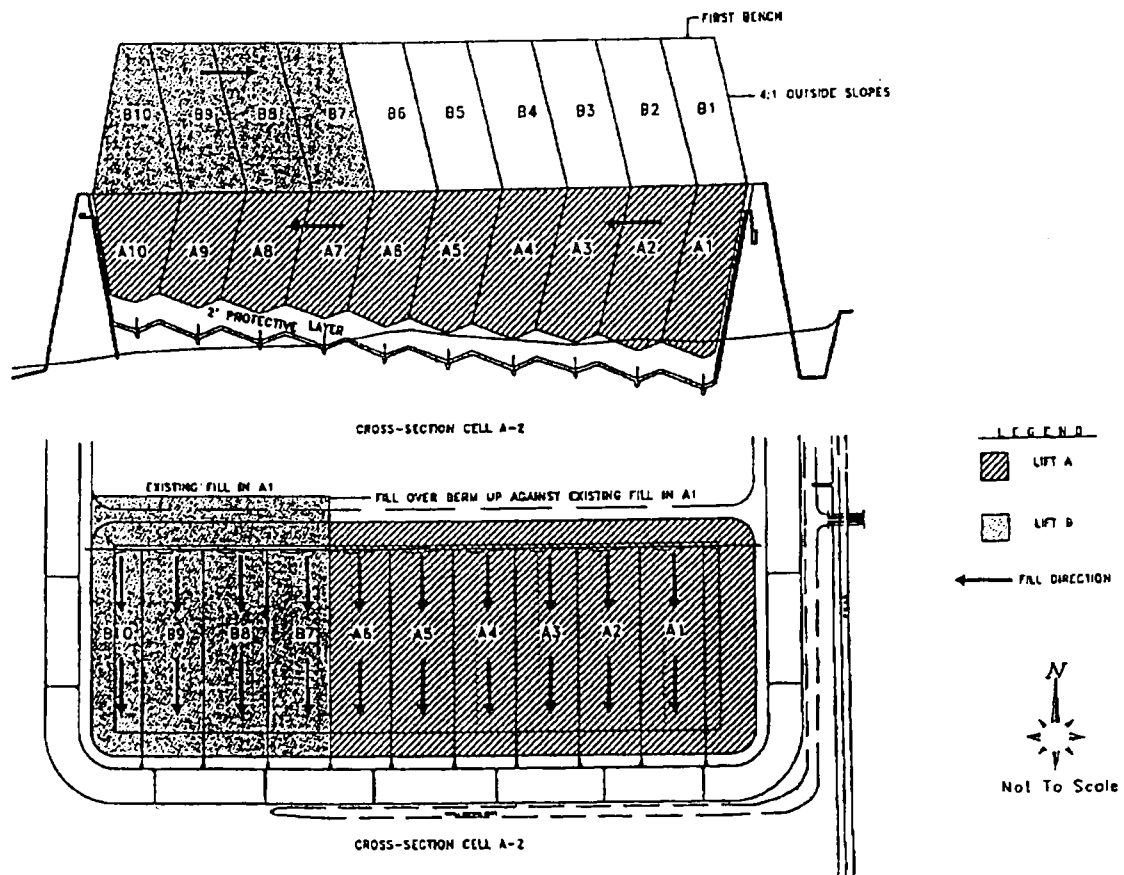
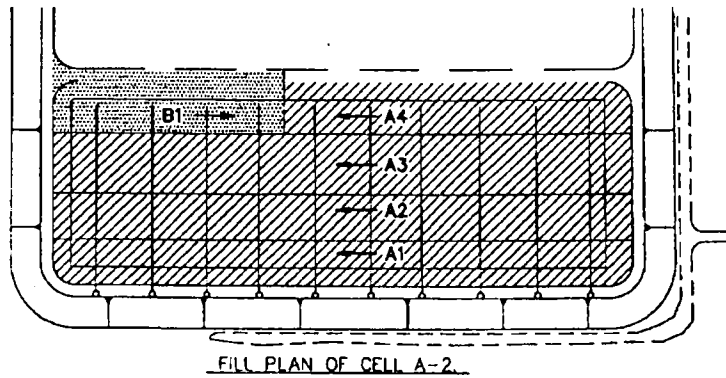
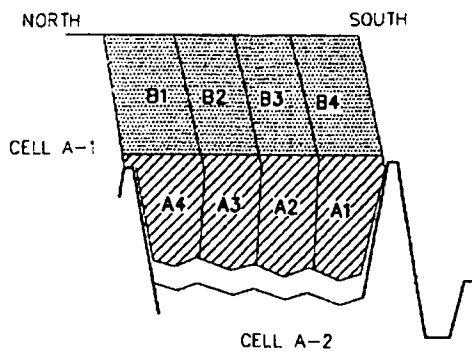





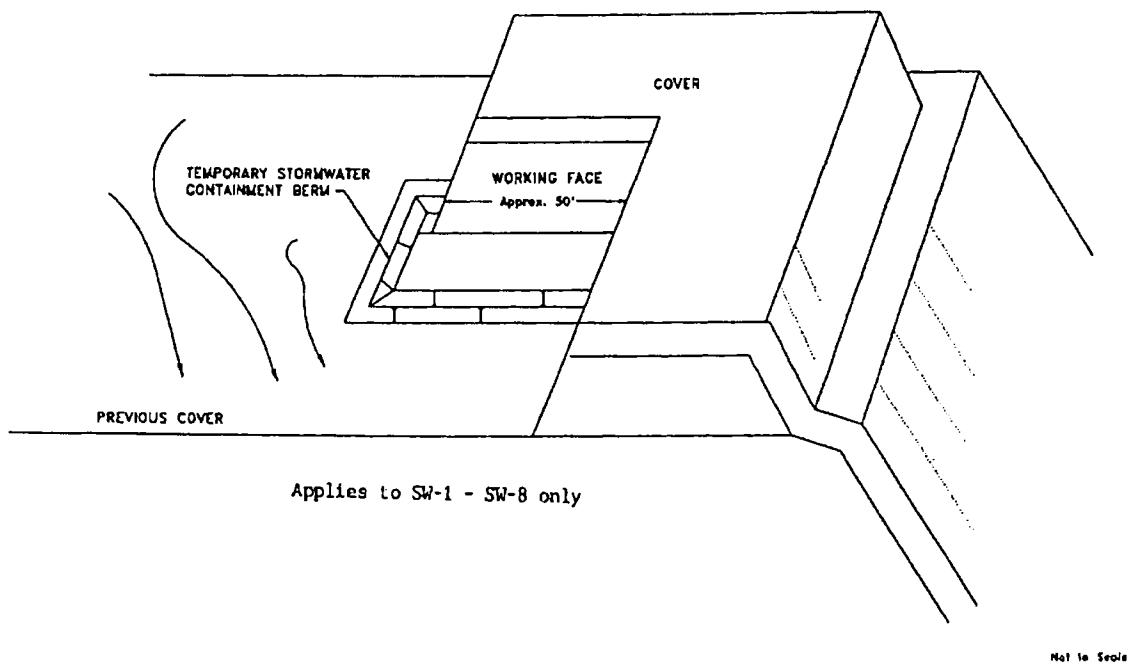
Figure 2



LEGEND

 LIFT A
 LIFT B
 FILL DIRECTION





sufficient length to provide adequate dumping areas and room for the landfill equipment to operate (50 to 100 feet) (**Figure 3**). A slope of 3:1 on a working face will provide for centralization of operations, while providing maneuvering area for large private and commercial vehicles unloaded each day.

A-2 Filling Sequence - The filling of Disposal Unit A-2 will begin in the west portion of the unit and proceed east to the portion of the unit. The area will be divided into approximately six subareas (refer to **Figure 2B**). A berm will be constructed around the entire subarea while filling is underway to prevent runoff that has been in contact with the ash from spilling out of the lined area of the disposal unit. Area 6 (the sump area) will remain at a lower elevation than the remainder of the ash. The surface of each subarea will be graded to slope to an area in the southeast corner. A temporary rain tarp (20 mil geomembrane) will be secured in place by a 10-foot grid of tires to minimize the formation of leachate to the extent possible. A spillway will be formed in the southeast corner to capture runoff from the subarea once the rain tarp is in place. Six inches of soil, or wood chips will be placed over the ash before the rain tarp is used.

The filling sequence is as follows:

Phase I

1. Construct berms around Subarea A-1 fill and grade surface to drain toward the southeast corner of the subarea (maintain the perimeter swale constructed between the disposal unit berm and the subarea berm).
2. Place rain tarp on A-1.
3. Once the rain tarp is in place, construct a 10 to 15 foot-wide spillway for storm water to exit the subarea. This spillway is constructed by creating an opening in the subarea berm, filling the perimeter swale with soil or wood chips, covering any exposed ash on the side slopes with four to six inches of soil or wood chips, placing the rain tarp down the slope to the elevation of the stormwater swale located at the toe of the disposal unit berm. The rain tarp will be secured using sand cement riprap bags along both sides of the spillway. The rain tarp will be sandwiched between two bags: one row on each side of the spillway down the slope. Refer to **Figure 2B**.

Phase II

1. Construct berms around Subarea A-2 and start filling this subarea.
2. As the water level recedes and the dozer is available, level the irregularities in Subarea A-3. Grade surface to drain to the southeast corner of this subarea. Also construct a berm (ash) between Subareas A-3 and A-4.
3. Cover A-3
4. Repeat cycle for Subareas A-4, A-5, and cover.

Phase III

1. Remove rain tarp from Subarea A-3.
2. Place rain tarp from Subarea A-3 over Subarea A-2.
3. Create stormwater outlet per procedure described above.
4. Repeat the steps above for Subareas A-4, 5, and part of 6.

The finished elevation for Subareas A-1 through A-6 will vary from elevation 70 to 65.5.

Phase IV

1. Remove cover from Subareas A-1 and A-2 and repeat fill sequence described above in Phases I and II.

The sequence of filling lined disposal unit areas with installed leachate collection systems will meet the following objectives:

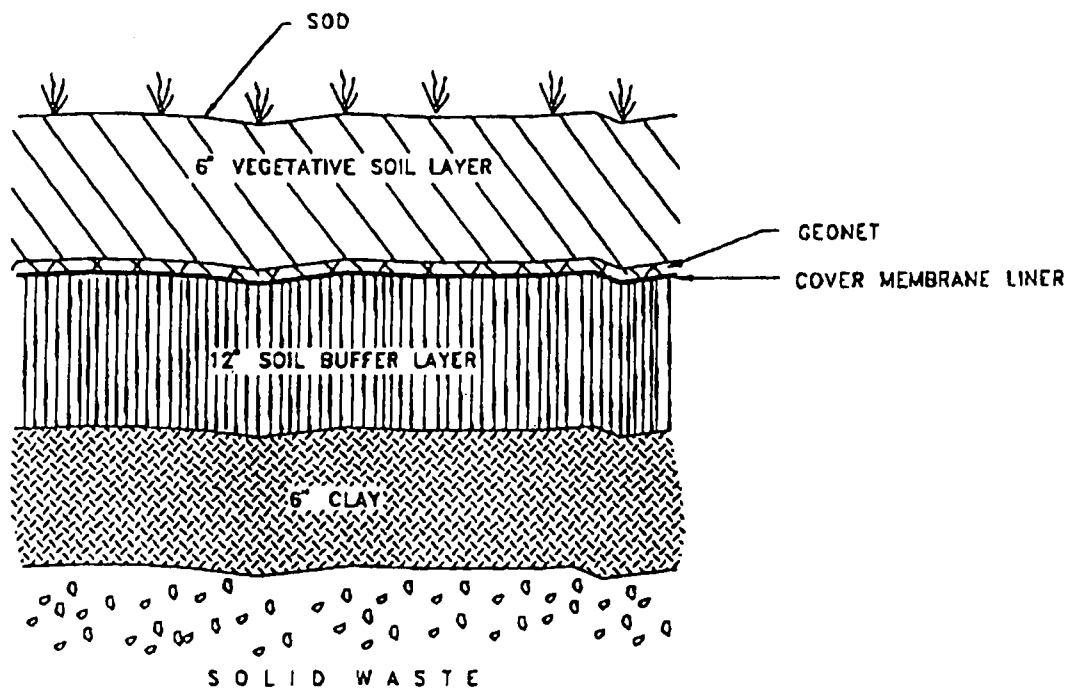
- Complete subsequent lifts over lower lifts frequent enough to minimize infiltration and conserve the field capacity of the lower lift in solid waste disposal units.
- Direct the surface runoff from unused portions of disposal units away from ash/solid waste using control valves, berms and tarps.
- Design landfill slopes during operation to maximize surface runoff away from the working face and minimize leachate generation.
- Provide bench terraces along side slopes to minimize erosion.

Efficient use of these techniques will reduce the need for intermediate cover and decrease leachate volumes.

Final cover will be applied over disposal units within 180 days after the final lift is completed. Intermediate cover will consist of 12 inches of soil or an approved mix of wood chips and soil for cover with 6 another inches of native soils to support vegetation. The top six inches of final cover will be uncompacted and vegetated with native grasses or other vegetation to promote evapotranspiration (see **Figure 4**). Placement of a rain tarp to limit infiltration of rain may be used for ash monofills.

2.7 Waste Compaction and Application of Cover

In the solid waste disposal unit, sufficient cover material (soil or shredded waste tires) will be stockpiled near the working face to provide an adequate supply for at least one week of operation. No daily cover is required in the ash monofill disposal units. The solid waste is to be placed at the bottom of the working face, within the bermed working areas, and spread up toward the top in two-foot layers. The solid waste will be compacted with a minimum of three to five passes of a compactor. The ash will be compacted as necessary by a front-end loader or bulldozer.



Not To Scale

Figure 4

Application of initial, intermediate, and final cover is to be performed as required per Chapter 62-701, F.A.C. Six inches of initial cover will be applied to the working face of the solid waste disposal unit at the end of each working day. The ash monofill cell will not require initial cover. Intermediate cover will be applied within seven days of disposal unit completion if final cover or an additional lift is not to be applied within 180 days. Top areas with intermediate cover will be seeded or sodded to avoid slope erosion and sloped at least two percent to allow stormwater to drain off and be removed from the disposal unit or as an alternate ash monofills will be covered by a 20 mil geomembrane secured in place by tires.

The initial, intermediate and final slope on top of landfill areas will be a minimum of two percent and will not exceed four percent. The perimeter sides of all completed disposal units will have a slope of 4:1 to minimize erosion. Final cover material will be applied to the landfill once the final grades are reached in accordance with an approved closure plan.

2.8 Operations of Gas, Leachate, and Stormwater Control

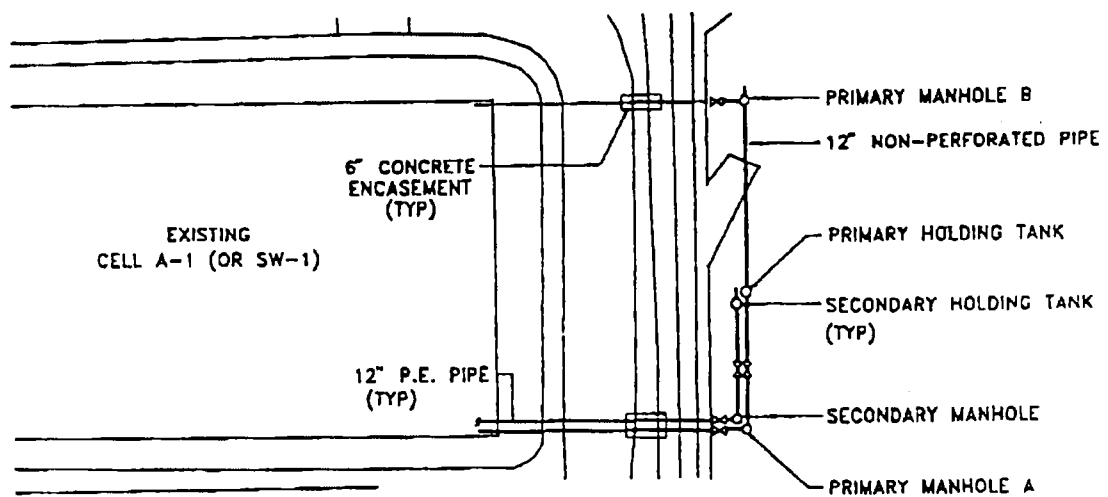
Since the site closure plan will include a low permeability top cap, the gas venting system in the solid waste disposal units will be installed when the disposal units are filled. Gas vents will not be installed in the ash monofill disposal units. The detail of this gas vent will be provided to DEP for review and approval prior to closure. The vents will provide an escape route for gases, such as methane, to prevent lateral migration of these potentially explosive gases.

The leachate collection and transmission system consists of gravity drains, sumps (manholes), and isolation valves in Disposal Units SW-1 and A-1. The normal operation is by gravity drain to the leachate pump station (see **Figure 5**). When the leachate reaches a pre-determined level, leachate is automatically pumped to the treatment/disposal facility. Leachate from SW-1 is pumped to the Pasco County Shady Hills Subregional Wastewater Treatment Plant. Leachate from A-1 and A-2 is pumped to the on-site leachate management (treatment) facility.

The leachate collection system in Disposal Unit A-2 consists of gravity drains to sumps inside the primary and inside the secondary liner and isolation valves. The leachate is pumped up out of the sump through a pipe to the top of the berm into a double-walled transmission pipe to a lift station at Disposal Unit A-1 (see **Figure 5**).

The stormwater controls will be operated to collect and convey runoff to surface-water management areas for sedimentation control in accordance with Chapter 62-3 and 62-4, F.A.C. Surface-water management areas will be maintained by periodic removal of sediments. Surface-water control devices, such as weirs and culverts, will be checked and cleaned to assure proper performance after each major storm event and once per week.

All water coming into contact with solid waste will be intercepted and contained by berms, and will be handled as leachate. Only storm water that has not contacted ash or solid waste may be discharged to the surface-water management system.



Not To Scale

Figure 5

2.9 Water Quality Monitoring

The water quality monitoring will be performed by the Pasco County Environmental Laboratory or other approved laboratory, if necessary. The water quality monitoring plan shall meet the requirements of Chapter 62-701.510, F.A.C. for each disposal unit.

If any of the groundwater monitoring wells are damaged or found to be damaged, they will be reported immediately to the Landfill Supervisor who will note the occurrence in his daily operational log. The Landfill Supervisor will also notify the Solid Waste Manager of the damage. The Department will also be notified in accordance with Conditions of Certification Section II. New well construction details will be provided to the Solid Waste Section for review and approval prior to implementation.

3 Operating Record

The Operating Record shall consist of all records, reports, analytical results, demonstrations, and notifications described by Chapter 62-701, F.A.C., including permits, site certification, engineering drawings, and supporting information, and the landfill operator training verifications. The record is considered part of the operation plan and is kept at the Pasco County Government Center Utilities Services Branch office located in New Port Richey. Duplicates of permits, conditions of certification, engineering drawings, and the operating plan are kept onsite at the office of the Solid Waste Manager.

The Operating Record will be available during business hours for inspection by Department personnel.

4 Waste Record

All solid waste will be weighed as it is received at the weighing facilities located at the entrance to the site. Additionally, all ash residue transported from the plant to the West Pasco Class I Landfill will be weighed at the same weighing facilities. All solid waste weights will be recorded in tons per day.

The amount of solid waste received by the type of waste will be estimated as listed under Chapter 62-701.500(4)(b), F.A.C. Where possible, such as ash-residue, actual weights in tons per day will be recorded. Waste reports will be completed monthly, and copies will be provided quarterly to the Department in accordance with 62-701.500(4)(a), F.A.C.

5 Access Control

To prevent unauthorized access to the 800-acre site in West Pasco, the entire site is enclosed with either barbed wire or chain-link fencing at least 6 feet high. Access to the site is through one gate and entrance road. The county staff located in the scale house located along this road monitors traffic. Interior fencing separates the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center.

Entrance gates at the Class I Landfill and the West Pasco Class III Landfill are chain link and are closed and secured during non-working hours. The entrance gate from the Class III Landfill to the Class I Landfill is internal.

The Landfill Supervisor will check or have checked the integrity of the perimeter fencing on a monthly basis. The Landfill Operators will secure the entrance gates at the end of the operating day. The Landfill Supervisor will ensure that the existing signs indicating the hours of operation and types of waste accepted are maintained.

6 Monitoring of Waste

In the event that waste is being directed to an active solid waste unit, the Landfill Supervisor will establish random examination of solid waste deliveries at least three times per week. Randomly, at least three loads of solid waste will be examined by the assigned spotters.

If unauthorized wastes are detected, the spotter will notify the Landfill Supervisor who will contact the generator, hauler, or other party responsible for shipping the waste to the County facility. The Landfill Supervisor will attempt to determine the identity of the waste sources and facilitate its removal, proper disposal, and correct handling in the future.

If the Landfill Supervisor or other trained personnel determines the detected unauthorized waste to be hazardous waste, the area where the wastes are deposited will be cordoned off from public access until proper clean-up, transportation to, and/or disposal at a permitted hazardous management facility has been assured. The Landfill Supervisor will promptly notify the Department of the person responsible for shipping the wastes to the facility, and the generator of the wastes, if known.

The information and observations resulting from each random inspection will be recorded in writing and retained at the site for at least three years. The recorded information will include the following:

- Date and time of inspection;
- Name of the hauling firm or vehicle owner;
- Driver of the vehicle;
- Vehicle license plate number;
- Source of waste;
- Observations made;
- Name and signature of the inspector.

7 Procedures for Spreading and Compacting Waste

7.1 Waste Layer Thickness, Compaction, and Mining

All solid waste accepted for disposal will be spread in layers of approximately two feet in thickness and compacted to as thin a layer as practical, depending on the type of waste received, before the next layer is applied. Ash residue will require only one or two passes with the heavy equipment. By-pass waste will require three to five passes with the heavy equipment. Because the waste in the Solid Waste Disposal Unit may be removed, compaction requirements may be less than would be for a solid waste unit used for disposal only at a municipal landfill. By-pass waste designated for removal (mining) will require only one to three passes with heavy equipment and will be segregated in an area with active leachate collection and covered with waste tire chips. By-pass waste may be removed to no closer than four feet above the protective soil layer within 180 days or relocated for disposal and compacted in two foot layers as required.

7.2 Special Considerations for First Layer of Waste Placed in a Disposal Unit

An additional foot of protective layer soil material for a total of three feet thick over the geomembrane will be placed on the side slopes and covered with a geotextile. The first layer of waste will be selected to be free of large rigid objects that may damage the liner or leachate collection system. Large objects will be removed from the ash prior to disposal. The thickness of the first layer will be at least four feet of compacted waste for each solid waste disposal unit. Placement of the first layer will be conducted by a trained operator.

7.3 Construction of Lifts

Solid waste will be placed in lifts. The working face will be interior of the disposal unit, with side slopes graded; not greater than three feet horizontal to one-foot vertical rise. Lift thickness should not exceed 10 feet. A temporary berm will be constructed around the working face to minimize the formation of leachate (see Figure 3). The temporary berm will be moved as the working face/lift progresses.

All waste lifts will follow the construction lifts as shown on Figure 2 and described in Section 2.6.

7.4 Working Face Width

The working face will be only wide enough to accommodate vehicles dumping waste. In the ashfill disposal units and solid waste disposal units, the working face under normal operating conditions should be at a minimum of 50 feet and a maximum of 100 feet. During periods when the volume of by-pass waste is high, the size of the working face will be greater to accommodate the increased traffic.

7.5 Initial Cover

Initial cover will be applied to solid waste in order to minimize any adverse environmental, safety, or health effects such as those resulting from birds, blowing litter, odors, disease vectors or fires. Initial cover will not be necessary for the ash monofill disposal units. However, a temporary rain tarp will be used as discussed in Section 2.6.

Initial cover of the solid waste disposal units will be applied at the end of each working day. The initial cover will be six inches in compacted thickness unless a tarp is used.

7.6 Intermediate Cover

Intermediate cover, in addition to six-inch initial cover in SW-1 only, will be applied and maintained within seven days if additional solid waste will not be deposited within 180 days. The intermediate cover, will be graded to provide a surface slope and will either be seeded or sodded with grass. The ash disposal units may be covered with a 20 mil geomembrane secured by a 50-foot grid of tires to further promote runoff and minimize infiltration. When disposal activity is resumed in the disposal unit, the intermediate cover will be pushed aside within the disposal unit and stockpiled within the active disposal unit for use as initial cover for the resumed disposal activity.

7.7 Final Cover

Once the solid waste disposal units have been filled to the final grades, final cover will be applied in accordance with an approved closure plan. The top of the landfill area will be convex with an outward slope of two to four percent from the center. The side will be completed with slopes of 4:1. Areas with final cover will be seeded or sodded with grass.

7.8 Litter Policing Methods

Litter generated within the landfill site is expected to be nominal. In the event the litter becomes an issue, the Landfill Supervisor will initiate the following litter control methods:

- Require delivery vehicles remain covered until entry into the active disposal unit;
- Routine clean-up around disposal unit and access roads;
- Maintain small working face and effective initial cover.

Clean-up along the site access roads, Hays Road, and within the Facility grounds, particularly around the private drop-off area, will be maintained. County crews will routinely police these areas. Litter will be collected daily on operating days.

7.9 Erosion Control Procedures

Grass vegetative cover will be established and maintained on all landfill berms outer slopes, stormwater retention pond outer slopes, and along interior access roads. The Landfill Supervisor or his designee will conduct once a week inspections (twice per week during the wet seasons) and immediately after heavy storms to detect any emerging erosion. Detected erosion will be repaired by landfill staff.

8 Operational Procedures for Leachate Management Plant

8.1 Leachate Level Monitoring, Sampling, Analyses and Data Results Submitted to the Department

The leachate sampling and analysis will be performed semi-annually by the Pasco County Environmental Laboratory as part of the Water Quality Monitoring Plan. The results will be reported to the Department. Leachate level monitoring will be performed daily (except for non-operational days). Results, including leachate generation rates, pumpage, and rainfall data will be reported to the Department upon request. A copy of the form that will be used to record the data is included in Report Forms 1 and 2.

8.2 Operation and Maintenance of Leachate Collection and Removal System, and Treatment as Required

The Landfill Supervisor will review daily the leachate collection and removal system data to insure that the head over the liner is maintained below 12 inches and that generation rates measured in the secondary leachate collection system are not excessive, i.e., above 1,000 gallons per acre per day. If exceedance is detected of more than 1,000 gallons per acre per day, the Solid Waste Manager will be notified so the exceedances can be addressed promptly and the Department notified of corrective actions.

Leachate Management Facility

The Leachate Management Facility (LMF) has capacity to treat the leachate from up to 10 acres of open ash disposal units.

8.3 Procedures for Managing Leachate if it Becomes Regulated as a Hazardous Waste

Pasco County will comply with State and Federal rules if it becomes regulated as hazardous waste.

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
CALENDAR YEAR END 3/31/00

1	2		3		4	5	6	7	8	9	10	11	12	13	14		15	16
MONTH & DAY	LEACHATE (GALLONS) PUMPED TO CROWN TANK UNIT A-1		LEACHATE (GALLONS) PUMPED TO CROWN TANK UNIT A-1		LEACHATE (GALLONS) PUMPED TO CROWN TANK UNIT A-1	LEACHATE (GALLONS) PUMPED TO CROWN TANK UNIT A-1	TOTAL GALLONS PUMPED TO CROWN TANK	PROCESSED LEACHATE G. L.M.E.	PUMPED & TRUCKED FROM A-1 SURFACE	LEACHATE TRUCKED FROM CROWN TANK	TOTAL GALLONS TRUCKED OR PROCESSED	RETURN TO CROWN TANK A-1	CROWN TANK - START OF MO	HEAVY RAIN	LEACHATE (GALLONS) PUMPED TO CROWN TANK UNIT A-1		PUMPED TO CROWN TANK UNIT A-1	Monthly Balance
	PRIMARY	SECONDARY	PRIMARY	SECONDARY	PRIMARY	SECONDARY							ROLL IN		PRIMARY	SECONDARY	Roll In	
1-Mar	300	0	3,300	0	3,600	0	0	0	0	0	0	3,800	572,300	0.000	3,100	0	3,100	
2-Mar	1,510	0	0	0	1,510	0	0	0	0	0	0	1,510	573,810	0.000	0	0	0	
3-Mar	1,180	0	3,800	0	4,980	0	0	0	0	0	0	4,900	578,710	0.000	0	0	0	
4-Mar	2,070	0	2,300	0	4,370	0	0	0	0	0	0	4,370	583,170	0.000	3,210	0	3,210	
5-Mar	0	0	0	0	0	0	0	0	0	0	0	0	583,170	0.000	0	0	0	
6-Mar	280	0	3,200	0	3,480	0	0	0	0	0	0	3,480	586,650	0.000	0	0	0	
7-Mar	2,100	0	0	0	2,100	0	0	0	0	0	0	2,100	588,750	0.000	3,200	0	3,200	
8-Mar	300	0	3,100	0	3,400	0	0	0	0	0	0	3,490	592,240	0.000	3,930	0	3,930	
9-Mar	1,510	1,570	0	200	2,280	0	0	0	0	0	0	3,280	595,520	0.000	0	3,530	3,530	
10-Mar	2,110	0	0	0	2,110	0	0	0	0	0	0	2,110	597,630	0.000	2,800	0	2,800	
11-Mar	2,270	0	2,700	0	4,970	0	0	0	0	0	0	4,970	602,600	0.000	3,180	0	3,180	
12-Mar	0	0	0	0	0	0	0	0	0	0	0	0	602,600	0.000	0	0	0	
13-Mar	470	0	2,200	0	2,670	0	0	0	0	0	0	2,670	605,270	0.000	0	0	0	
14-Mar	2,100	0	0	0	2,100	0	0	0	0	0	0	2,100	607,370	0.000	0	0	0	
15-Mar	730	0	2,900	0	3,130	0	0	0	0	0	0	3,130	610,450	0.000	3,190	0	3,190	
16-Mar	2,100	0	0	0	2,100	0	0	0	0	0	0	2,100	612,550	0.000	0	0	0	
17-Mar	840	0	2,900	0	3,540	0	0	0	0	0	0	3,540	616,090	0.000	0	0	0	
18-Mar	2,010	0	0	100	2,110	0	0	0	0	0	0	2,110	618,200	0.000	3,190	0	3,190	
19-Mar	0	0	0	0	0	0	0	0	0	0	0	0	618,200	0.000	0	0	0	
20-Mar	1,560	0	2,900	0	4,460	0	0	0	0	0	0	4,400	622,600	0.000	3,350	0	3,350	
21-Mar	0	0	0	0	0	0	0	0	0	0	0	0	622,600	0.000	0	0	0	
22-Mar	80	0	3,400	0	3,480	0	0	0	0	0	0	3,480	626,140	0.000	0	0	0	
23-Mar	2,100	0	0	0	2,100	0	0	0	0	0	0	2,100	628,240	0.000	0	0	0	
24-Mar	0	0	0	0	0	0	0	0	0	0	0	0	628,240	0.000	3,180	0	3,180	
25-Mar	2,870	0	2,700	0	5,370	0	0	0	0	0	0	5,370	633,760	0.000	0	0	0	
26-Mar	0	0	0	0	0	0	0	0	0	0	0	0	633,760	0.000	0	0	0	
27-Mar	2,770	0	2,900	0	5,670	0	0	0	0	0	0	5,670	639,430	0.000	4,270	0	4,270	
28-Mar	770	0	4,000	0	4,770	0	0	0	0	0	0	4,770	644,200	0.500	950	0	950	
29-Mar	600	0	3,900	0	4,500	0	0	0	0	0	0	4,500	648,780	0.000	0	0	0	
30-Mar	1,910	0	4,700	0	6,610	0	0	0	0	0	0	6,610	655,390	0.000	3,200	0	3,200	
31-Mar	180	0	2,300	0	2,480	0	0	0	0	0	0	2,480	657,870	0.000	0	0	0	
March-00	34,130	1,370	53,200	300	89,700	0	0	0	0	0	0	89,700		0.740	40,830	3,830	44,660	189
										A-2 SURFACE		TOTAL COLLECTION						
										0		0						
										0		0						

* Disposal of "Drain Concepts" from the Leachate Management Facility.

- ** West Fence Class I Landfill has a total of 29 acres, which are comprised of three cells. The cells consist of the following:
- Ash Cell 1 - 10 acres INTERMEDIATE COVER (ORAL Occurrence)
 - Ash Cell 2 - 6 acres NOT LINED, 13 acres OPEN
 - Solid Waste Cell 1 - 10 acres OPEN

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
CALENDAR YEAR END 12/31/2000

MONTH & DAY	MEASURED RADTAL	WEST PASCO CLASS I LEACHATE REMOVED						TOTAL LEACHATE REMOVED	STUDY HILLS WWTP	OTHER OFF-SITE WWTP	ON-SITE LEACHATE MANAGEMENT PLANT	TOTAL LEACHATE DISPOSAL	Beginning Balance 323,018 COMPUTED BALANCE	CROWTANK INVENTORY 480,840 657,835 848,030
		ASH CELL I	ASH CELL II	ASH CELL III	ASH CELL IV	ASH CELL V	ASH CELL VI							
Jan-2000	1,100	41,015	1,565	65,900	100	72,180	3,090	183,850	75,270	0	0	78,270	431,800	
Feb-2000	1,000	36,830	100	81,800	100	82,900	0	181,730	82,900	0	0	82,900	568,870	
Mar-2000	0,500	34,130	1,570	53,200	300	40,830	3,500	133,560	44,360	0	0	44,360	657,870	
Apr-2000	0,000	0	0	0	0	0	0	0	0	0	0	0		
May-2000	0,000	0	0	0	0	0	0	0	0	0	0	0		
Jun-2000	0,000	0	0	0	0	0	0	0	0	0	0	0		
Jul-2000	0,000	0	0	0	0	0	0	0	0	0	0	0		
Aug-2000	0,000	0	0	0	0	0	0	0	0	0	0	0		
Sep-2000	0,000	0	0	0	0	0	0	0	0	0	0	0		
Oct-2000	0,000	0	0	0	0	0	0	0	0	0	0	0		
Nov-2000	0,000	0	0	0	0	0	0	0	0	0	0	0		
Dec-2000	0,000	0	0	0	0	0	0	0	0	0	0	0		
2000	3,200	111,975	3,235	180,900	500	195,910	6,670	499,140	207,530	0	0	207,530		

XX See Attached (Lombardi Report) Reconciliation of Crown Tech Inventory.

Due to the corrosive characteristics of the leachate as well as the high concentration of solids flowing thru the various meters and pumps, manual inspection is not recommended.

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8.4 Agreements for Off-Site Discharge and Treatment of Leachate

City of Tampa Advanced WWTP Co-Treatment

Pasco County has an agreement to transport ash leachate to the Tampa WWTP. If this source is needed in the future, the county will negotiate to haul leachate to this or another facility.

Shady Hills and Hudson WWTP Co-Treatment

The County is permitted to pump or haul leachate generated from solid waste generated in SW-1 and Class III to the Shady Hills and Hudson facilities.

8.5 Contingency Plan for Managing Leachate during Emergencies or Equipment Problems

Solid Waste

If equipment problems occur (such as pump failure) so that leachate cannot be removed from the leachate pump station, holding tank or leachate sumps, the Landfill Supervisor will be notified immediately, so that arrangements can be made for equipment repair or replacement. If problems occur with the leachate transmissive pipeline or with the WWTP, the Landfill Supervisor will be notified so that arrangements can be made to correct the problem and, if necessary, to transport leachate by tanker truck to the Shady Hills WWTP or the Hudson WWTP.

Ash Disposal Units

If equipment problems occur (such as pump failure) so that leachate cannot be removed from the leachate pump station holding tank or leachate sumps, the Solid Waste Manager will be notified immediately so that arrangements can be made for equipment repair or replacement. If problems occur with the leachate transmission pipeline or with the Leachate Management Plant, the Landfill Supervisor will be notified so that arrangements can be made to correct the problem and, if necessary, to transport leachate by tanker truck to approved disposal sites identified in Section 4.

8.6 Procedures for Recording Quantities of Leachate Generated in Gallon/Day

The Landfill Supervisor will direct staff to daily record the leachate levels measured in the Crom tank (the large storage tank integral to the on-site leachate treatment facility) at the leachate treatment facility and flow meter readings. Quantities will be measured and recorded daily for each primary and secondary liner system and submitted to FDEP upon request.

8.7 Procedures for Comparing Precipitation Experienced at the Landfill with Leachate Generation Rates

The Landfill Supervisor will direct staff to daily check and record rainfall collected in an on-site rain gauge. The data will be recorded along with the leachate generation data. Leachate generation rates for each disposal unit measured and the amount of rainfall will be recorded and compared as shown on the monthly leachate generation summaries.

9 Routine Gas Monitoring Program for the Landfill

Gas monitoring will be initiated after the burial of waste in any solid waste disposal unit in compliance with 62-701.400(10) and 62-701.500(9). No gas monitoring will be conducted relative to the ash monofill disposal units.

10 Procedures for Operating and Maintaining the Landfill Stormwater Management

The access road encompassing the landfill area and the disposal unit berms are elevated above existing ground elevations to prevent surface water from entering the waste-filled area.

Additionally, a large swale is located at the base of the landfill slope on the interior side of the access road. The swale is designed to receive runoff from the pre-developed and any closed-out areas of the landfill and direct it to one of our major retention basins.

The bottom of the landfill disposal units are lined and positioned above the seasonable high water table to prevent any lateral flow into the waste-filled areas, if in the unlikely event that standing water was to occur in the swales.

The Landfill Supervisor will routinely inspect the stormwater management system. Particular attention will be given to inspecting the culverts under the access road for any blockage. The stormwater management system will also be inspected prior to a natural disaster if sufficient notice is available, and after any natural disaster (see Sections 2.2.2 and 2.8).

11 Equipment and Operation Feature Requirements

11.1 Sufficient Equipment for Excavating, Spreading, Compacting and Covering Waste

The West Pasco Class I Landfill has been operating since 1990. Existing equipment has proved sufficient. The equipment available at the West Pasco Landfill is as follows:

Compactor	1
Bulldozer	2
Front-end loaders	2
Leachate Transport Truck and 6,000-gallon tanker	1
Dump truck	1
Leachate pumps	3

11.2 Reserve Equipment or Arrangements to Obtain Additional Equipment within 24 Hours of Breakdown

Reserve equipment is available from the County's Public Works Division. All equipment on the list, with the exception of the compactor, are available from Public Works on a temporary basis. Additionally, the County provides for the replacement of equipment through a replacement account funded monthly during the expected life of the equipment.

11.3 Communication Equipment

Communication between personnel in the West Pasco Landfill Maintenance Building, Scalehouse, the West Pasco Class III Scalehouse, and landfill staff operating equipment is maintained by two-way radios and the master communication system maintained for all County departments. Additionally, landfill staff can contact each other by two-way radios. Telephones are available on site.

11.4 Personnel Shelter and Sanitary Facilities, First Aid Equipment

The West Pasco Landfill Maintenance Building provides the nearest shelter to the West Pasco Class I Landfill staff. The building includes office space, restrooms, and showers as well as two equipment/vehicle bays. Basic first aid is available at the maintenance building and all vehicles on site have first-aid kits.

11.5 Dust Control Methods

The access road is paved. Unpaved, interior roads will be wet down with water using a spray truck on an as-needed basis. Heavy equipment is enclosed and air conditioned. Dust masks, goggles, and hard hats are available to personnel working in excessively dusty areas.

11.6 Fire Protection

Fire extinguishers are provided on all heavy equipment operating in the wastefill areas. Staff are directed to contact the Fire Department as discussed under Section 2.2.1 Fire Emergency Procedures.

11.7 Litter Control

Private refuse haulers are not allowed in the West Pasco Class I Landfill except when non-processible or by-pass waste are being delivered to the solid waste disposal unit. During these exceptions, the landfill supervisor will require loads be covered, working face be kept to a minimum, cover applied efficiently, and routine clean-up occur to control litter.

11.8 Signage

Signage indicating operating authority, traffic flow, hours of operation, disposal restrictions are provided at the entrances to the site and the West Pasco Class III Landfill and Recycling Center. The landfill supervisor will ensure the signage is maintained.

11.9 Access Road

All roads providing access to the landfill disposal units are paved with asphalt. These roads include access roads from the site, the West Pasco Class III Landfill and Recycling Center, a perimeter road, and entrance ramps to the constructed disposal units. The Landfill Supervisor will insure that the access roads are maintained.

12 Additional Recordkeeping and Reporting Requirements

Records and construction plans used for developing new disposal units and other supplemental information will be maintained for the design period of the landfill in the Utilities Services Branch files. Reports required by the conditions of certification and this operations plan will be maintained for at least 10 years in the Utilities Services Branch files. Background water quality records will be maintained for the design period of the landfill in the Utilities Services Branch files.

The Solid Waste Manager will submit annually to the Department estimates of remaining capacity of the constructed and unconstructed, waste disposal units. Estimates will be maintained in the Utilities Services Branch files.

A technical report, prepared, signed and sealed by a P.G. or P.E. with experience in hydrogeologic investigations, will be submitted to the Department every two years. The report will summarize and interpret the water quality data and water level measurements collected during the previous two years.

The report will also include tabular and graphical displays of any parameters detected and water level hydrographs for all monitoring wells. The report will further show trends and comparisons between zones or aquifers, comparisons between upgradient and downgradient wells, correlations between related parameters, any discussions of erratic and/or poorly correlated data. Groundwater contour maps will be interpreted as to groundwater flow direction and rates. The report will further evaluate the adequacy of the water quality monitoring frequency and sampling locations based upon the site conditions. The report will be signed, dated, and sealed by a P.G. or P.E.

To:

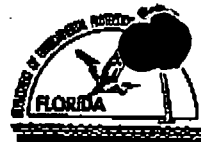
JASON GORRIE

COM

Phone:

Fax phone: 288-8787

CC:



ROBERT J. BUTERA, P.E.
SOLID WASTE MANAGER
SOUTHWEST DISTRICT

DEPARTMENT OF
ENVIRONMENTAL PROTECTION
3804 COCONUT PALM DRIVE
TAMPA, FL 33619

TELEPHONE:
(813) 744-6100
SUNCOM: 542-6100
EXT 451

Fax phone: (813) 744-6125

REMARKS:

☐ Urgent

☒ For your review

☐ Reply ASAP

☐ Please comment

FIGURE 2B IN THE 6/11/01 OPERATING PLAN SUBMITTAL IS INCORRECT
THE CORRECT FIGURE IS THE FIGURE PREVIOUSLY IDENTIFIED AS
FIGURE 8.2B

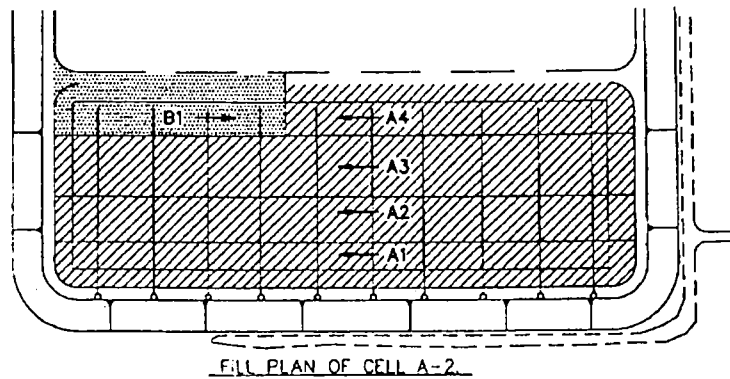
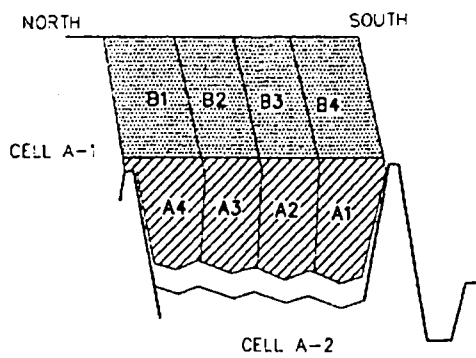
92888787	NORMAL	18,13:56	0'38"	3	# 0 K	
Telephone Number	Mode	Start	Time	Pages	Result	Note

Jun 18 2001 13:57

P.1

** Transmit Conf. Report **

WASTE MGT TAMPA SWD Fax: 8137446125



LEGEND

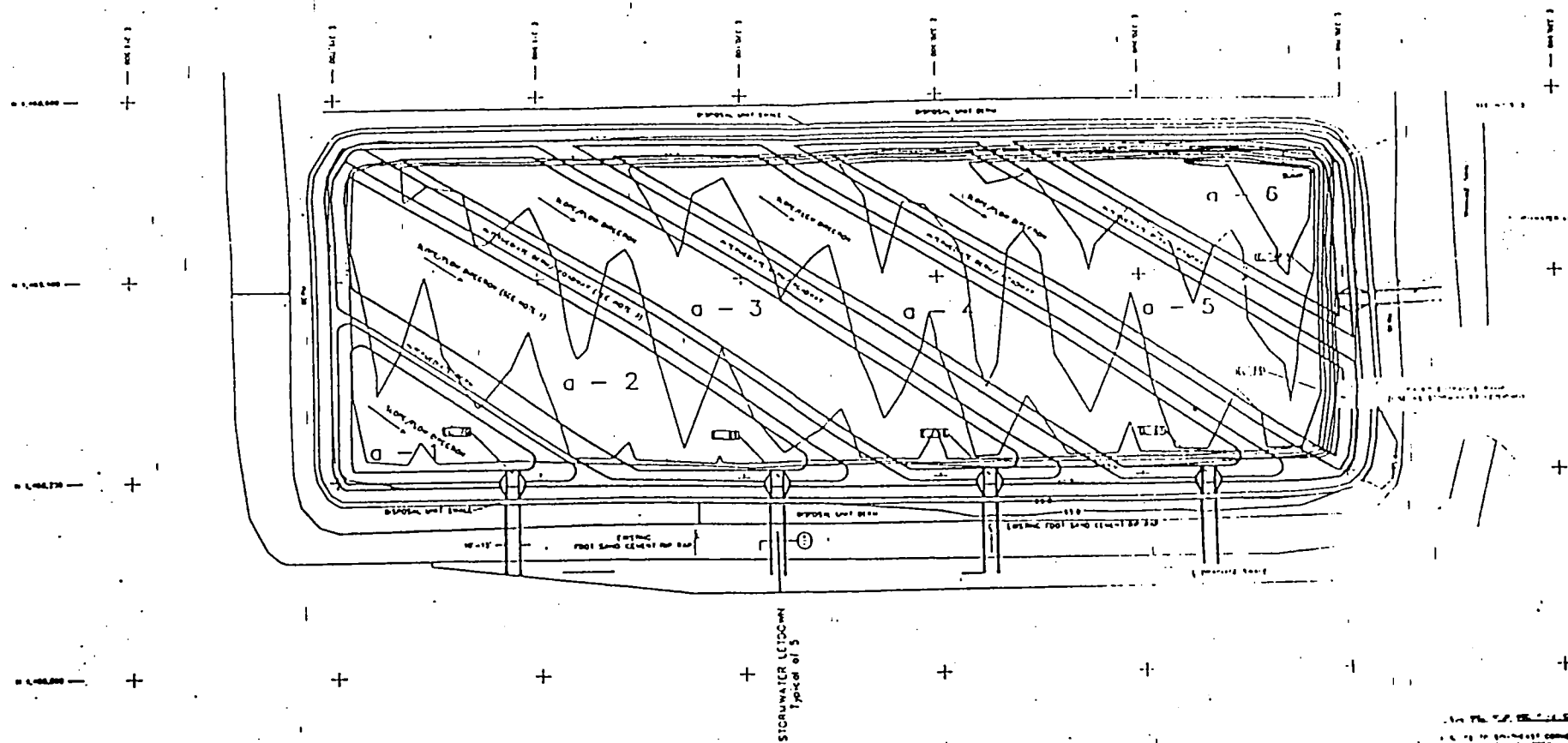
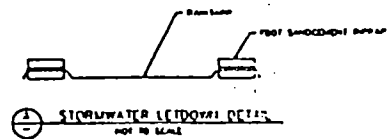
▨ LIFT A

▤ LIFT B

→ FILL DIRECTION



Figure 2B

[illegible]

										PASCO COUNTY BOARD OF COUNTY COMMISSIONERS UTILITY SERVICES BRANCH		A-3 OPERATIONS PLAN PASCO COUNTY, FLORIDA		AS NOTED	
												LAW		40141-7-0317	
												TRILING PLAN		8.28	

Department of Environmental Protection

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619-8318

INFORMATION REQUEST

TO: Dan Strobbridge
CDM
Westshore Center
1715 N. Westshore Blvd, Suite 875
Tampa FL 33607

We are pleased to send the enclosed information you requested.

If we can be of further service, please contact:

Kim B. Ford, P.E.
Solid Waste Section
Waste Management Division
3804 Coconut Palm Drive
Tampa, FL 33619-8318
(813) 744-6100, ext. 382

COMMENTS:

(N) pasco Class I LF
ops plan 'figures'
As you requested
for 6/11/01

REPORT FORMS-TABLE

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
CALENDAR YEAR END 3/31/00

1 MONTH & DAY	2 LEACHATE (GALLONS) PUMPED TO CROM TANK UNIT A-1		3 LEACHATE (GALLONS) PUMPED TO CROM TANK UNIT A-2		4 TOTAL GALL. PUMPED TO CROM TANK	5 PROCESSED LEACHATE @ LMZ	6 PUMPED & TRUCKED FROM A-1 SURFACE	7 LEACHATE TRUCKED FROM CROM TANK	8 TOTAL GALLONS TRUCKED OR PROCESSED	9 RESIDUAL TO CROM TANK - A PER DAY	10 CROM TANK INVENT. START OF MO. END OF	11 MEASURED BARFALL	12 LEACHATE (GALLONS) PUMPED FROM UNIT SW 1		13 PUMPED TO DASH MILL YARD	14 M3
	PRIMARY	SECONDARY	PRIMARY	SECONDARY									PRIMARY	SECONDARY		
1-Mar	390	0	3,300	0	3,690	0	0	0	0	3,690	572,360	0.000	3,190	0	3,190	
2-Mar	1,510	0	0	0	1,510	0	0	0	0	1,510	573,870	0.000	0	0	0	
3-Mar	1,180	0	3,800	0	4,980	0	0	0	0	4,980	578,850	0.000	0	0	0	
4-Mar	2,020	0	2,300	0	4,320	0	0	0	0	4,320	583,170	0.000	3,210	0	3,210	
5-Mar	0	0	0	0	0	0	0	0	0	0	583,170	0.000	0	0	0	
6-Mar	280	0	3,200	0	3,480	0	0	0	0	3,480	586,650	0.000	3,200	0	3,200	
7-Mar	2,100	0	0	0	2,100	0	0	0	0	2,100	588,750	0.000	3,930	0	3,930	
8-Mar	390	0	3,100	0	3,490	0	0	0	0	3,490	592,240	0.000	0	3,530	3,530	
9-Mar	1,510	1,570	0	200	3,280	0	0	0	0	3,280	595,520	0.000	2,860	0	2,860	
10-Mar	2,110	0	0	0	2,110	0	0	0	0	2,110	597,630	0.000	3,180	0	3,180	
11-Mar	2,270	0	2,700	0	4,970	0	0	0	0	4,970	607,600	0.000	0	0	0	
12-Mar	0	0	0	0	0	0	0	0	0	0	607,600	0.000	0	0	0	
13-Mar	420	0	2,200	0	2,620	0	0	0	0	2,620	605,270	0.000	0	0	0	
14-Mar	2,100	0	0	0	2,100	0	0	0	0	2,100	607,370	0.000	3,190	0	3,190	
15-Mar	230	0	2,800	0	3,030	0	0	0	0	3,030	610,450	0.000	0	0	0	
16-Mar	2,100	0	0	0	2,100	0	0	0	0	2,100	612,550	0.000	0	0	0	
17-Mar	640	0	2,900	0	3,540	0	0	0	0	3,540	616,090	0.000	3,190	0	3,190	
18-Mar	2,010	0	0	100	2,110	0	0	0	0	2,110	618,200	0.000	0	0	0	
19-Mar	0	0	0	0	0	0	0	0	0	0	618,200	0.000	0	0	0	
20-Mar	1,560	0	2,900	0	4,460	0	0	0	0	4,460	622,660	0.000	3,350	0	3,350	
21-Mar	0	0	0	0	0	0	0	0	0	0	622,660	0.000	0	0	0	
22-Mar	80	0	3,400	0	3,480	0	0	0	0	3,480	626,140	0.000	0	0	0	
23-Mar	2,100	0	0	0	2,100	0	0	0	0	2,100	628,240	0.000	3,180	0	3,180	
24-Mar	0	0	0	0	0	0	0	0	0	0	628,240	0.000	0	0	0	
25-Mar	2,820	0	2,700	0	5,520	0	0	0	0	5,520	633,760	0.000	0	0	0	
26-Mar	0	0	0	0	0	0	0	0	0	0	633,760	0.000	4,270	0	4,270	
27-Mar	2,770	0	2,900	0	5,670	0	0	0	0	5,670	638,430	0.000	950	0	950	
28-Mar	770	0	4,000	0	4,770	0	0	0	0	4,770	644,200	0.500	0	0	0	
29-Mar	680	0	3,900	0	4,580	0	0	0	0	4,580	648,780	0.000	0	0	0	
30-Mar	1,810	0	4,700	0	6,510	0	0	0	0	6,510	655,390	0.000	3,200	0	3,200	
31-Mar	180	0	2,300	0	2,480	0	0	0	0	2,480	657,870	0.000	0	0	0	
March-00	34,130	1,570	53,700	300	89,700	0	0	0	0	89,700		0.500	40,830	3,530	44,360	89,200
A-2 SURFACE																
TOTAL COLUMN 10																
0																

- Disposal of "Drine Concentrate" from the Leachate Management Facility.
- West Peace Class I Landfill has a total of 79 acres, which are comprised of three cells. The cells consist of the following:
 - Ash Cell I - 10 acres INTERMEDIATE COVER (OMM Concentrate)
 - Ash Cell II - 6 acres NOT USED, 2.5 acres OPEN.
 - Solid Waste Cell I - 10 acres OPEN

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
CALENDAR YEAR END 12/31/2000

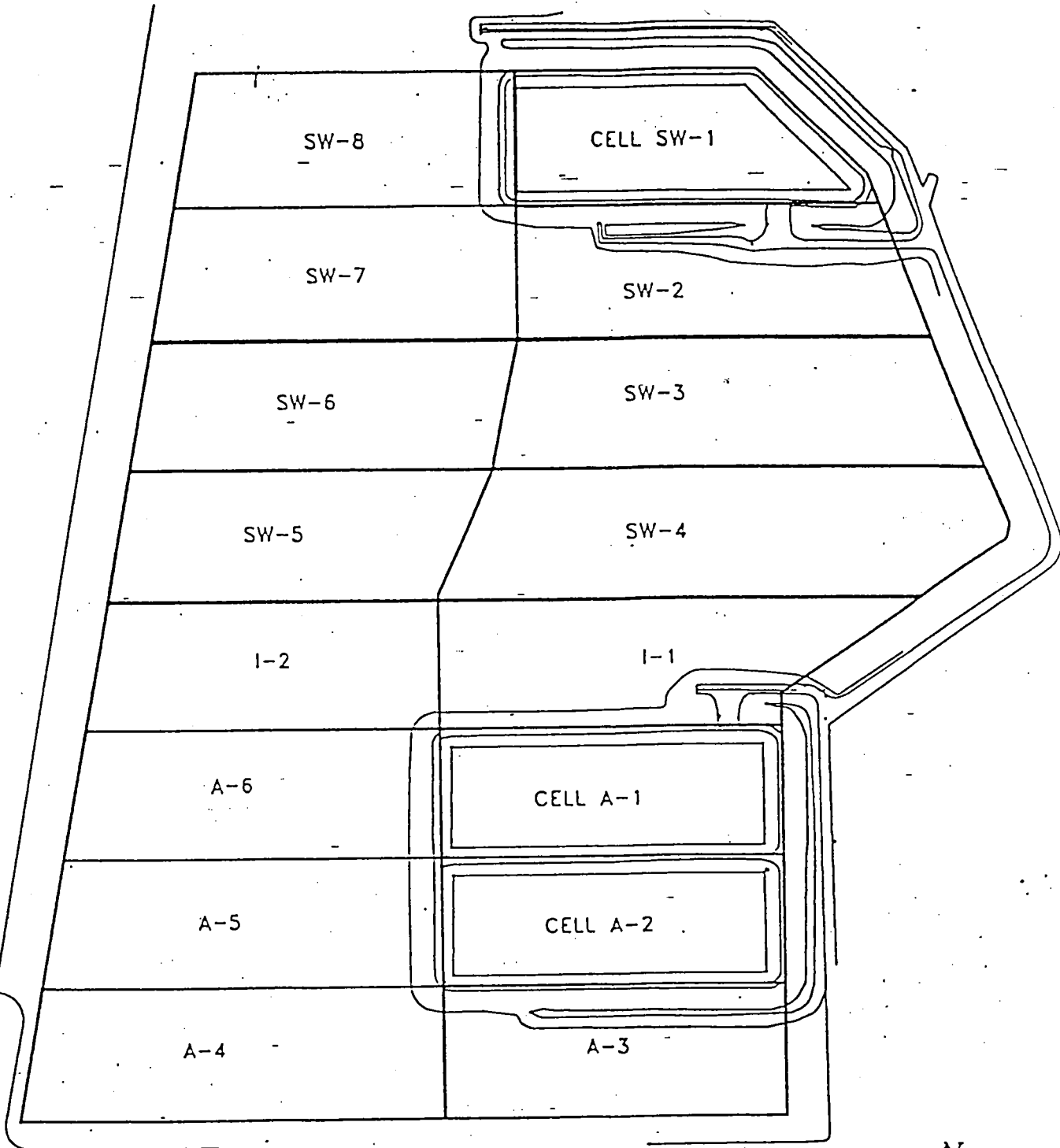
MONTH & DAY	MEASURED RAINFALL	WEST PASCO CLASS I LEACHATE REMOVED						TOTAL LEACHATE REMOVED	SHADY HILLS WWTP	OTHER OFF-SITE WWTP	ON-SITE LEACHATE MANAGEMENT PLANT	TOTAL LEACHATE DISPOSAL	Beginning Balance 323,018 COMPUTED BALANCE
		ASH CELL I	ASH CELL II	ASH CELL II	SOLID WASTE CELL	ASH CELL II	ASH CELL II						
Jan-2000	1,100	41,015	1,565	65,900	100	72,180	3,090	183,850	75,270	0	0	75,270	431,605
Feb-2000	1,600	36,830	100	81,800	100	82,900	0	181,730	82,000	0	0	82,000	508,670
Mar-2000	0,500	34,130	1,570	53,200	300	40,830	3,530	133,560	44,300	0	0	44,300	657,870
Apr-2000	0,000	0	0	0	0	0	0	0	0	0	0	0	0
May-2000	0,000	0	0	0	0	0	0	0	0	0	0	0	0
Jun-2000	0,000	0	0	0	0	0	0	0	0	0	0	0	0
Jul-2000	0,000	0	0	0	0	0	0	0	0	0	0	0	0
Aug-2000	0,000	0	0	0	0	0	0	0	0	0	0	0	0
Sep-2000	0,000	0	0	0	0	0	0	0	0	0	0	0	0
Oct-2000	0,000	0	0	0	0	0	0	0	0	0	0	0	0
Nov-2000	0,000	0	0	0	0	0	0	0	0	0	0	0	0
Dec-2000	0,000	0	0	0	0	0	0	0	0	0	0	0	0
2000	3,200	111,975	3,235	180,900	500	195,910	6,620	499,140	202,530	0	0	202,530	

X
CROW TANK
INVENTORY
400,840
667,835
848,000 XX

XX See Attached (Leachate Report) Remediation of Crow Tank Inventory.
X Due to the corrosive characteristics of the leachate as well as the high concentration of solids flowing thru the various meters and pumps, month end adjustment to the manual leachate tank sight glass readings are necessary.

C:\WINDOWS\DESKTOP\REP Reports\Leachate\LEI15134-00.xls LEI15134-00

FIGURES



ACAD=48356501

Pasco County
Board of County
Commissioners
Utility Services Branch
Pasco County, Florida



LAW

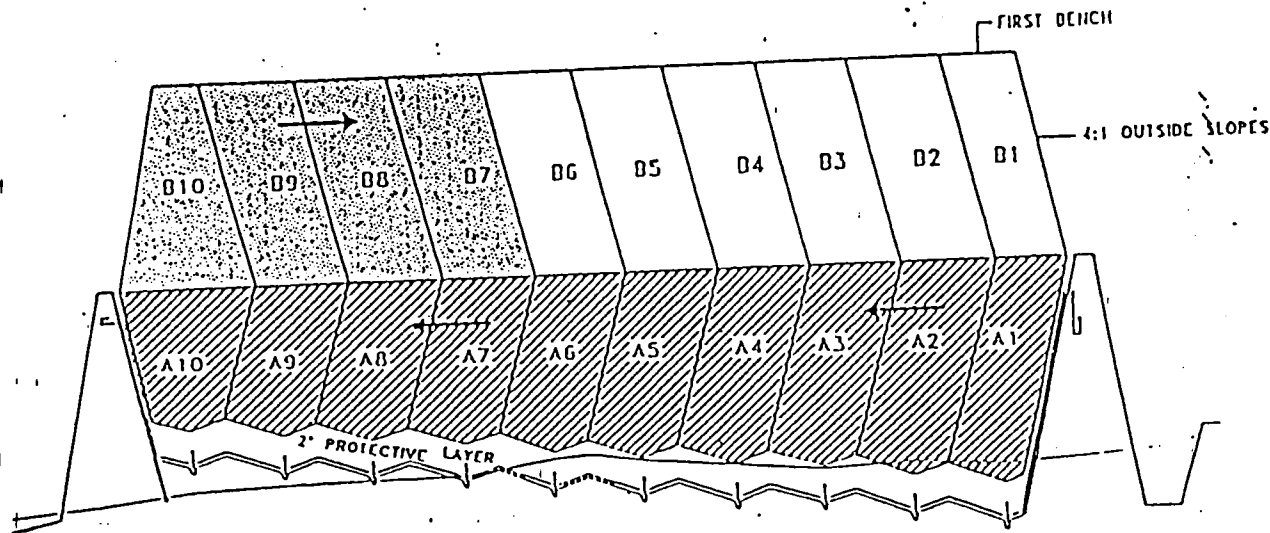
ENGINEERING AND ENVIRONMENTAL SERVICES

Resource Recovery Facility
Pasco County, Florida

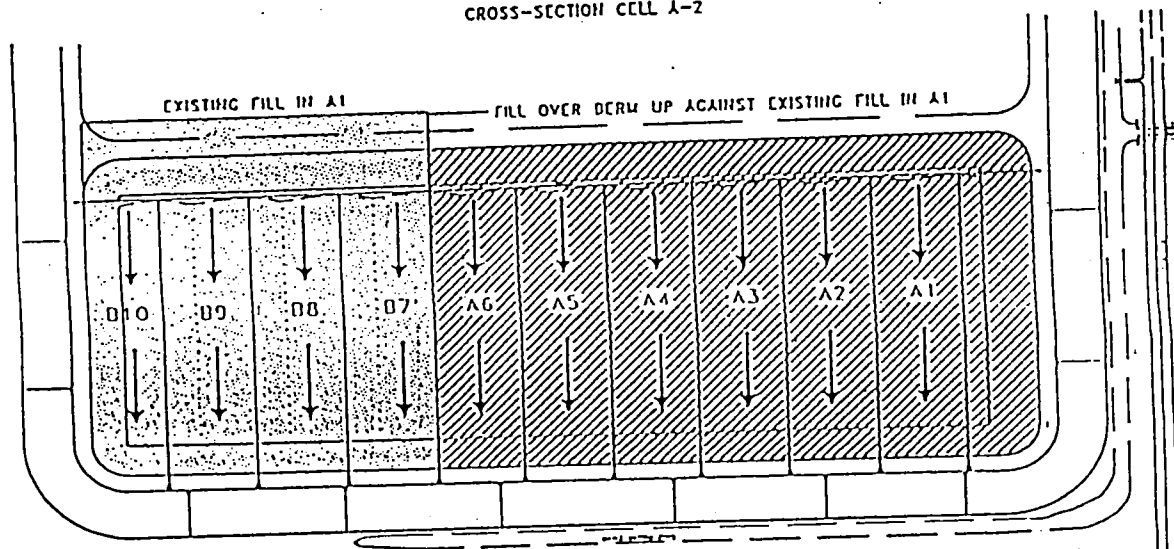
West Pasco Class I
Landfill Footprint Schematic

Project 464-83565.01 Figure 8.1

Prepared/Date:
Checked/Date:



CROSS-SECTION CELL A-2



CROSS-SECTION CELL A-2

LEGEND



LIFT A



LIFT B

← FILL DIRECTION



Not To Scale

Prepared/Date:
Checked/Date:

Resource Recovery Facility
Pasco County, Florida

Fill Sequence Schematic

Project 464-R3565.01

Figure 8.2

Pasco County
Board of County Commissioners
Utility Services Branch
Pasco County, Florida

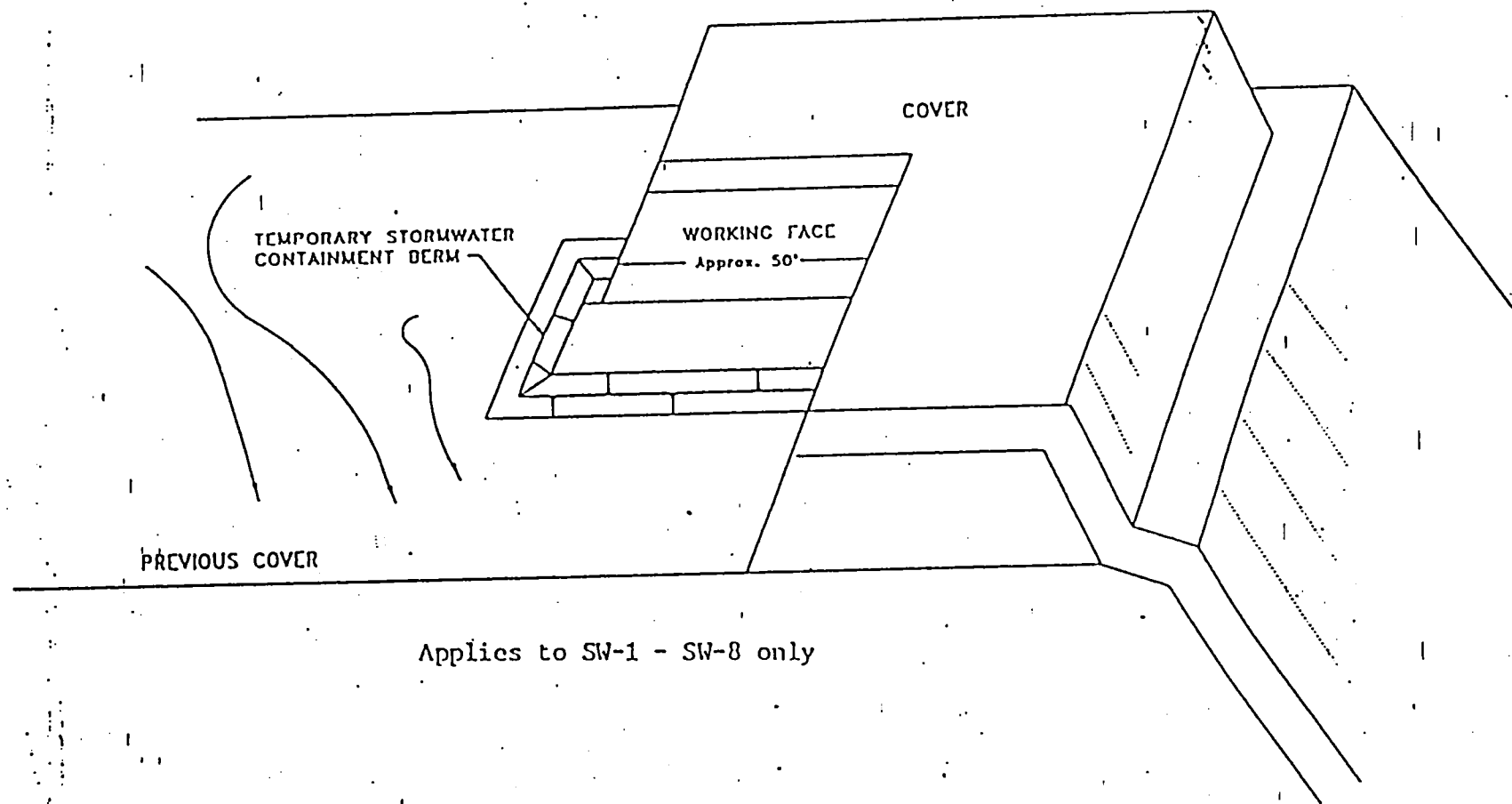


LAW

ENGINEERING AND ENVIRONMENTAL SERVICES

ACAD=49355322

ACAD=48356SF3



PREVIOUS COVER

Applies to SW-1 - SW-8 only

Not to Scale

Prepared/Date:
Checked/Date:

Pasco County
Board of County Commissioners
Utility Services Branch
Pasco County, Florida



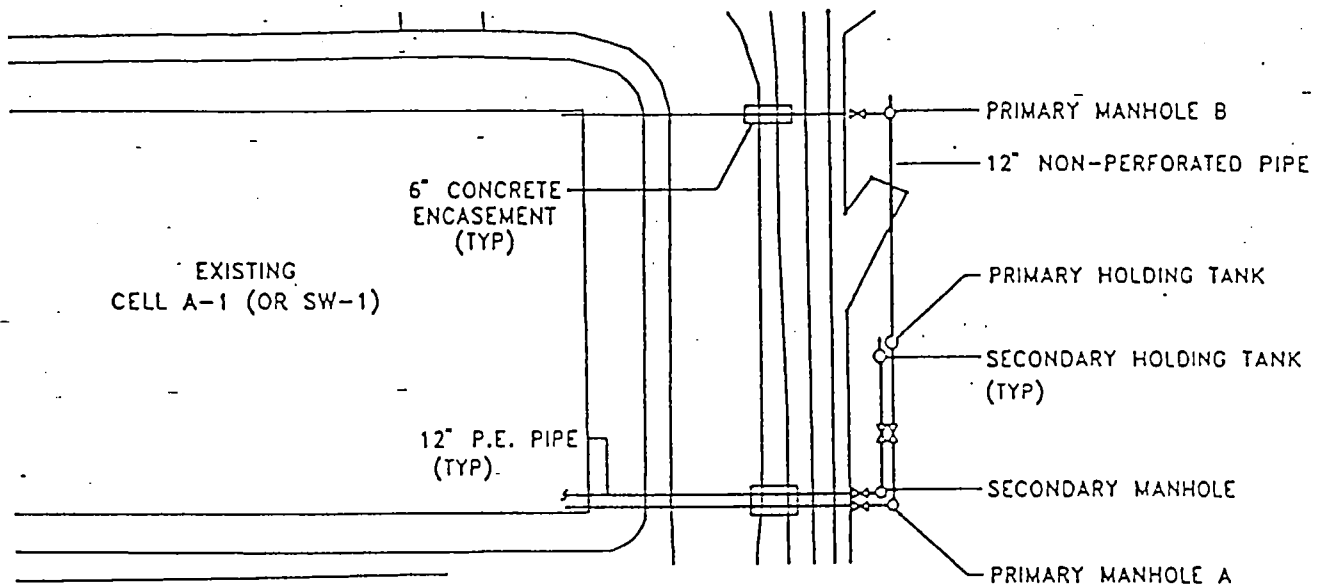
LAW
ENGINEERING AND ENVIRONMENTAL
SERVICES

Resource Recovery Facility
Pasco County, Florida

Working Face Schematic

Project 464-83565.01

Figure 8.3



Not To Scale

Prepared/Date:
Checked/Date:

Pasco County
Board of County
Commissioners
Utility Services Branch
Pasco County, Florida



LAW
ENGINEERING AND ENVIRONMENTAL SERVICES

Resource Recovery Facility
Pasco County, Florida
Leachate Collection System
Schematic
Cell SW-1 and Cell A-1-

Project 464-83565.01 Figure 8.6

Ford, Kim

From: Ford, Kim
Sent: Monday, June 04, 2001 11:59 AM
To: Butera, Robert
Subject: W. Pasco - Other leachate treatment - Meeting on 5/3/01

Bob:

I spoke to Leonard Casson- PhD, PE, Univ. of Pittsburgh -the presenter for the meeting (before the meeting) and explained due to time constraints I would not be able to attend the entire meeting and that any Solid Waste related questions should be directed to Bob Butera. Mr. Casson expressed an interest in knowing what permits may be required from the Solid Waste section. I requested that he ask the question in writing and present the design concept with a site plan and a brief description of the proposal as part of his request so that the solid waste section can make a determination.

The comments I heard from others were concern regarding contaminants in the leachate (by Tom G.) and the quality of the final water for reuse (by Steve T.).

Kim

Ford, Kim

From: Butera, Robert
Sent: Thursday, May 31, 2001 5:48 PM
To: Ford, Kim
Subject: FW: Follow-Up to Pasco Leachate Study

Kim, I believe you attended a presentation on this matter. Please provide me with your comments to forward to Ed Snipes.

-----Original Message-----

From: Snipes, Ed
Sent: Thursday, May 31, 2001 1:18 PM
To: Butera, Robert; Angulo, Yanisa; Barrios, Stephanie; Burghardt, Pete; Camp, Sherry; Core, Simone; Duggan, Michele; Gagne, Albert; Greenwell, Jeffrey; Gucciardo, Tom; Isaac, Rudy; James, Phyllis; Leon, Patricia; MacColeman, David; Minskey, Cheryl; Squitieri, Joe; Thompson, Steve; Wajeeh, Sam; Washburn, Bill
Subject: FW: Follow-Up to Pasco Leachate Study

-----Original Message-----

From: BILL EDGAR [mailto:bedgar@fuseinc.com]
Sent: Tuesday, May 29, 2001 8:13 PM
To: Snipes, Ed
Subject: Follow-Up to Pasco Leachate Study

Good Morning Ed,

We are preparing a rough draft report for Pasco County and would like to know, if you have any concerns or if the Solid Waste Department had any comments pertaining to our presentation. This is a reminder, to the below e-mail.
I would appreciate your suggestions.

Bill Edgar
bedgar@fuseinc.com

----- Original Message -----

From: BILL EDGAR
To: Snipes, Ed
Cc: Casson, Leonard - Florida ; Kennedy, Bruce
Sent: Friday, May 04, 2001 10:59 AM
Subject: Pasco Leachate Study

Good Morning Ed,

6/4/01

Thank You for the opportunity to present our latest Pilot Testing on the Shady Hills Leachate material.

During the meeting, some of the comments which we will follow-up on are:

- * mass balancing of the leachate/Hypo material
- * further define the quality of leachate
- * compare the commercial Hypo to our leachate Hypo:
 - * metals concentration

We would appreciate any other concerns or issues which you or the Solid Waste Division have, in order to address these comments into our Final Report. Upon review with the County, we will forward a copy of the Final Report to you.

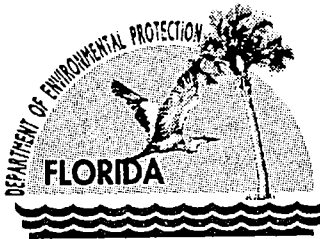
Again, we appreciate the opportunity to visit with you and the Department.

Have a Nice Day,

William W. Edgar

<http://www.fuseinc.com>

<http://www.ceuplan.com>



Jeb Bush
Governor

Department of Environmental Protection

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

May 30, 2001

Mr. Douglas S. Bramlett
Assistant County Administrator
Pasco County Utilities Services Branch
7530 Little Road, S-213
New Port Richey, FL 34654

Re: Revised Conditions of Certification and Operations Plan
West Pasco Landfill - #PA87-23, Pasco County

Dear Mr. Bramlett:

Our progress on the Conditions of Certification for the West Pasco Solid Waste Facility has proceeded positively, and we are hopefully at a point where the attached revisions will be ready to forward to Buck Oven with the County's concurrence. The Department has updated several of the Conditions of Certification to correctly reference the current Department-approved water quality monitoring plan and to reference recently revised solid waste rule citations. Items 1, 6, and 7 on the County's list of remaining issues attached to Mr. Gallagher's September 11, 2000 letter must be discussed directly with the Power Plant Siting staff in Tallahassee as they pertain to air issues.

The revised Conditions of Certification reference the "current Department-approved" Operations Plan. The purpose of drafting the conditions in this manner was to allow the County to modify the Operations Plan at the district level. The latest version of the landfill operations plan, with suggested revisions by Department staff was included as an attachment to Ms. Getzoff's August 3, 2000 letter for review and comment by county staff. The Department wants to finalize the Operations Plan concurrently with the revised conditions of certification as the plan is referenced in the conditions of certification, and in many other ways the two documents are interdependent. Please note that the plan received on January 17, 1995 is the current Department approved operations plan until a new version is approved as a replacement. An updated Operations Plan must be resolved so that the plan complies with the current rules and reflects the current operations prior to issuing the Conditions of Certification.

"More Protection, Less Process"

Printed on recycled paper.

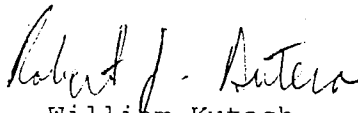
Mr. Douglas Bramlett
Pasco County Utilities

May 30, 2001
Page Two

The review of the County's construction plans for the disposal units SW-2 and A-3 is complete. The Department intends to provide authorization for construction of these two units upon receipt of the new conditions of certification from Tallahassee's Power Plant Siting Program. The new conditions are needed to clearly identify regulatory authority and related compliance activities.

The Department appreciates the County's efforts to resolve these final issues. Please contact me at (813) 744-6100, extension 353 if you have any questions.

Sincerely,


for William Kutash
Waste Program Administrator

Enclosure

cc: John Gallagher, County Administrator
Vincent Mannella, P.E., Resource Recovery Facility Manager
Daniel Strobbridge, CDM
Buck Oven, P.E., Power Plant Siting, Tallahassee
Deborah Getzoff, Director of District Management, SW District
Robert Butera, P.E., Solid Waste Manager, SW District
Kim Ford, P.E., Solid Waste Permitting, SW District

State of Florida
Department of Environmental Regulation
Pasco County Resource Recovery Facility
Case No. PA 87-23
CONDITIONS OF CERTIFICATION

TABLE OF CONTENTS

I.	Change in Discharge
II.	Non-Compliance Notification
III.	Facilities Operation
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V.	Right of Entry
VI.	Revocation or Suspension
VII.	Civil and Criminal Liability
VIII.	Property Rights
IX.	Severability
X.	Definitions
XI.	Review of Site Certification and <i>Post Certification Submittals</i>
XII.	Modification of Conditions
XIII.	Construction
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	1. Stormwater Runoff
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	4. Solid Wastes
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	6. Dust and Odors
	7. Transmission Lines
	8. Protection of Vegetation
	9. Dewatering Operations
	B. Environmental Control Program
	C. Reporting
	D. Solid Waste Disposal Unit Construction
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	A. Air
	1. Emission Limitations
	2. Emission Control Equipment
	3. Air Monitoring Program
	4. Reporting
	5. Unconfined Emissions
	B. Fuel
	C. Wastewater and Leachate Disposal
	D. Water Discharges
	1. Surface Water
	2. Groundwaters
	3. Water <u>Groundwater</u> Quality and Leachate Monitoring Plan
	E. Solid Waste Disposal Units and Leachate Management
	F. Operational Safeguards
	G. Transmission Lines
	H. Noise
	I. Resource Recovery Facility

State of Florida
Pasco County Resource Recovery Facility
Case No. PA 87-23
CONDITIONS OF CERTIFICATION

- XV. SWFWMD - Surface Water Permitting
 - A. Land Development
 - B. Stormwater Control
 - C. Well Plugging
 - D. Pond Slopes
 - E. Liability
 - F. Plan Review
- XVI. SWFWMD - Consumptive Use Permitting
 - A. Accuracy of Information
 - B. Reasonable Use
 - C. Reservations
 - D. Withdrawal Limits
 - E. Water Shortage
 - F. Sampling
 - G. Access
 - H. Reconsideration
 - I. Minimum Water Levels
 - J. Conservation
 - K. Flow Measurement
 - L. Reporting
 - M. Water Quality Sampling
- XVII. SWFWMD - Ashfill/Landfill
 - A. Preoperational Limitation
 - B. Unprocessed Waste Limitation
 - C. Waste Segregation
 - D. Leachate Monitoring
 - E. Appliances and Machines
- XVIII. Operational Contingency Plans
- XIX. Transfer and/or Assignment
- XX. Propriety Documents or Information - Confidentiality
- XXI. Gopher Tortoise Management Plan
- XXII. Cooling Tower
- XXIII. Solid Waste Submittal Summary

State of Florida
Pasco County Resource Recovery Facility
Case No. PA 87-23
CONDITIONS OF CERTIFICATION

I. CHANGE IN DISCHARGE

All discharges or emissions authorized herein shall be consistent with the terms and conditions of this certification. The discharge of any pollutant not identified in the application or any discharge more frequent than, or at a level in excess of, that authorized herein shall constitute a violation of this certification. Any anticipated facility expansions beyond the certified initial nameplate capacity of 1,200 TPD, production increases, or process modifications which may result in new, different or increased discharges of pollutants, change in type of fuel as described in XIV.8., or expansion in steam generating capacity must be reported by submission of a supplemental application pursuant to Chapter 403, F.S.

II. NONCOMPLIANCE NOTIFICATION

If, for any reason, the Permittee (defined as the Applicant or its successors and/or assigns) does not comply with or will be unable to comply with any limitation specified in this certification, the permittee shall notify the Southwest Florida District Office of the Department of Environmental Protection (Southwest District Office) by telephone within a working day that said noncompliance occurs and shall confirm this situation in writing within seventy-two (72) hours of becoming aware of such conditions, and shall supply the following information:

- A. A description of the discharge and cause of noncompliance; and
- B. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-complying event.

III. FACILITIES OPERATION

The Permittee shall at all times maintain good working order and operate as efficiently as possible all treatment or control facilities or systems, and all landfill related components including the leachate treatment facility and monitoring systems installed or used by the Permittee to achieve compliance with the terms and conditions of this certification. Stoppages of landfill operations induced by weather conditions shall be allowed until the weather permits operations to resume. ~~In the event of a malfunction of a resource recovery boiler's pollution control system that unit's furnace emissions must be shifted to the extent feasible to one or both of the remaining units having a properly functioning pollution control system.~~ In the event of a malfunction of a resource recovery boiler's pollution control system that unit's furnace emissions must be shifted to the extent feasible to one or both of the remaining units having a properly functioning pollution control system. In the event of a prolonged (thirty (30) days or more) equipment malfunction or shutdown of air pollution control equipment, operation could be

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permitted to continue to take place under a consent order, only if the Permittee demonstrates that such operation will be in compliance with all applicable ambient air quality standards and PSD increments, solid waste rules, domestic waste rules and industrial waste rules. Additionally, during such malfunction or shutdown, the source shall comply with all other requirements of this certification and all applicable state and federal emission standards not affected by the malfunction or shutdown which is the subject of the consent order. Administrative action will not be initiated in the event of such a malfunction for 25 days following a malfunction unless there is an imminent health threat. However, if at thirty (30) days following a malfunction compliance has not been achieved by the source, an Order for Corrective Action may be immediately imposed upon the Applicant, subject to the provisions of Chapter 120 of the Florida Statutes. Operational stoppages exceeding two hours for air pollution control systems or four hours for other systems or operational malfunctions as noted below exceeding two hours for air pollution control systems or four hours for other systems and as defined in the operational contingency plans as specified in Condition XVII are to be reported as specified in Condition II. Identified operational malfunctions which do not stop operation but do compromise the integrity of the operation shall be reported to the Southwest District Office as specified in Condition II.

A. Solid Waste - General

1. Prohibitions. The prohibitions of FAC Rule 62-701.300 shall apply to operations and new structures. ~~but not the locational prohibitions do not apply to existing structures unless specified in Department rules.~~

2. Pollution Prevention. Landfills shall be designed, constructed, operated, maintained, closed and monitored throughout its design period to control the movement of waste and waste constituents into the environment so that ground water and surface water quality standards and criteria of Chapters 62-3, 62-302, 62-520, F.A.C., will not be violated beyond the zone of discharge specified for the landfill.

3. Modifications. See condition of certification XII.

4. Facility Performance. See condition of certification XI.

5. Access Control. To prevent unauthorized waste disposal, as required by F.A.C. Rule 62-701.500(5), access to and use of the facility shall be controlled by fencing, gates, or other barriers, as well as signs and facility personnel.

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6. Records Maintenance. As required by F.A.C. Rule 62-701.500(13), records shall be kept of all information used to develop or support the landfill design and any supplemental information provided to DEP pertaining to construction of the landfill. Records pertaining to the operation of the landfill shall be kept for the design period of the landfill. Records of all monitoring information, including calibration and maintenance records, all original chart recordings for continuous monitoring instrumentation, and copies of all reports required by these conditions, shall be kept for at least ten years. Background water quality records shall be kept for the design period of the landfill.

7. Financial Assurance. Financial assurance ~~for the landfill~~ shall be provided in accordance with F.A.C. 62-701.630 for the landfill. All costs for closure and long-term care shall be adjusted and submitted annually, by September 1 each year, to: Solid Waste Manager, Solid Waste Section, Department of Environmental Protection, 3804 Coconut Palm Drive, Tampa, Florida 33619-8318. Proof that the financial assurance has been funded adequately shall be submitted annually to: Financial Coordinator, Solid Waste Section, Department of Environmental Protection, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

8. Professional Certifications. Where required by Chapter 471 (P.E.) or Chapter 492 (P.G.), Florida Statutes, applicable portions of supporting documents which are submitted to the Department for public record shall be signed and sealed by the professional(s) who prepared or approved them.

9. Nuisance Conditions. Nuisance conditions shall be controlled by conducting site activities in the manner described in these conditions of certification, the operations plan, and applicable Department rules.

10. Site Maintenance and Damage Notification. See conditions of certification II and III. Routine maintenance does not require notification but shall be noted on daily reports.

IV. ADVERSE IMPACT

The Permittee shall take all reasonable steps to minimize any adverse impact resulting from noncompliance with any limitation specified in this certification, including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.

V. RIGHT OF ENTRY

The Permittee shall allow during operational or business hours the Secretary of the Florida Department of Environmental Protection and/or authorized representatives, upon the presentation of credentials:

- A. To enter upon the Permittee's premises where an effluent source is located or in which records are required to be kept under the terms and conditions of this certification; and
- B. To have access during normal business hours (Mon.-Fri., 9:00 A.M. to 5:00 P.M.) to any records required to be kept under the conditions of this certification for examining and copying; and
- C. To inspect and test any monitoring equipment or monitoring method required in this certification and to sample any discharge or pollutants; and
- D. To assess any damage to the environment or violation of ambient standards.

VI. REVOCATION OR SUSPENSION

This certification may be suspended, or revoked for violations of any of its conditions pursuant to Section 403.512, Florida Statutes.

VII. CIVIL AND CRIMINAL LIABILITY

This certification does not relieve the Permittee from civil or criminal penalties for noncompliance with any conditions of this certification, applicable rules or regulations of the Department or Chapter 403, Florida Statutes, or regulations thereunder.

Subject to Section 403.511, Florida Statutes, this certification shall not preclude the institution of any legal action or relieve the Permittee from any responsibilities or penalties established pursuant to any other applicable State Statutes or regulations.

VIII. PROPERTY RIGHTS

The issuance of this certification does not convey any property rights in either real or personal property, nor any exclusive privileges, nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

IX. SEVERABILITY

The provisions of this certification are severable, and if any provision of this certification or the application of any provision of this certification to any circumstances is held invalid, the application of such provision to other circumstances and the remainder of the certification shall not be affected thereby.

X. DEFINITIONS

The meaning of terms used herein shall be governed by the definitions contained in Chapter 403, Florida Statutes, and any regulation adopted pursuant thereto. In the event of any dispute over the meaning of a term in these conditions which is not defined in such statutes or regulations, such dispute shall be resolved by reference to the most relevant definitions contained in any other state or federal statute or regulation. Words or phrases used herein dealing with conditions of the Southwest Florida Water Management District (SWFWMD) shall be defined by reference to Chapter 373, Florida Statutes, or applicable rules of the SWFWMD.

XI. REVIEW OF SITE CERTIFICATION AND POST CERTIFICATION SUBMITTALS

A. The certification shall be final unless revised, revoked, or suspended pursuant to law. At least every five years from the date of issuance of certification the Department shall review all monitoring data that has been submitted to it during the preceding five-year period for the purpose of determining the extent of the Permittee's compliance with the conditions of this certification and the environmental impact of this facility. The Department shall submit the results of its review and recommendations to the Permittee. Such review will be repeated at least every five years thereafter.

B. In accordance with FAC Rule 62-17.191, any submittal of information required under these Conditions of Certification for post-certification compliance review shall be equivalent to that which would be submitted for permits required in the absence of certification except where the conditions of certification specify a different requirement. The procedures for post-certification submittal processing, if not otherwise specified in these conditions, are as follows:

1. All post-certification submittals of information by the licensee are to be filed with the department. Copies of each submittal shall be simultaneously submitted to any other agency indicated in a specific condition requiring a post-certification submittal.
2. The department shall review each post-certification submittal for completeness; for the purposes of post-certification reviews, completeness shall mean that the information submitted is both complete and sufficient. The department will consult with other agencies receiving the submittal, as appropriate, and note completeness problems raised by other agencies. If the submittal is found by the department to be incomplete, the licensee shall be so notified. Failure of the department to issue such a notice within 30 days after filing of the submittal shall constitute a finding of completeness.
3. Within 60 days after a post-certification submittal is found complete, the department shall give written notification to the licensee and the agencies to which the post-certification was submitted of its assessment of whether there is reasonable assurance of compliance with the conditions of certification. If it is determined that compliance with the conditions will not be achieved, the licensee shall be notified with particularity and possible corrective measures suggested. Failure of the department to notify the licensee in writing within 90 days of receipt of a complete post-certification submittal shall constitute a finding of compliance.
4. If the department does not give notification of compliance within the time period specified in sub-paragraph 3. Above, the licensee may begin construction pursuant to the terms of the conditions of certification and subsequently submitted construction details.

XII. MODIFICATION OF CONDITIONS

Pursuant to Subsection 403.516(1), F.S., the Board hereby delegates the authority to the Secretary to modify any condition of this certification dealing with sampling, monitoring, reporting, specification of control equipment, related time schedules, emission limitations, (subject to notice and opportunity for hearing), conservation easements, or any special studies conducted as necessary to attain the objectives of Chapter 403, Florida Statutes. Requests for modifications shall not be unreasonably withheld by the Department. All other modifications to these conditions shall be made in accordance with Section 403.516, Florida Statutes.

XIII. CONSTRUCTION

The facility shall be constructed, at a minimum, pursuant to the design standards presented in the application and the standards or plans and drawings submitted and signed by an engineer registered in the State of Florida. The Applicant shall present, upon request, specific facility plans, as developed, for review by the Southwest District Office prior to construction pursuant to the portions of the plans then being submitted. Specific Southwest District Office approval of plans will be required based upon a determination of consistency with the approved design concepts, regulations and these conditions prior to initiating construction of the: solid waste disposal units, air pollution control equipment, stormwater runoff system, landfill closure plans and hazardous, toxic or pathological handling facilities or areas. Review and action by the Southwest District Office on said plans shall be accomplished in no longer than thirty (30) days from the date of a complete submittal of such plans and any action may be subject to review pursuant to Chapter 120, Florida Statutes.

A. Control Measures

1. Stormwater Runoff

To control runoff during construction which may reach and thereby pollute waters of the State, necessary measures shall be utilized to settle, filter, treat or absorb silt-containing or pollutant-laden stormwater to ensure against spillage or discharge of excavated material that may cause turbidity in excess of 29 Nephelometric Turbidity Units above background in waters of the State. Control measures may consist of sediment traps, barriers, berms, and vegetation plantings. Exposed or disturbed soil shall be protected and stabilized as soon as possible to minimize silt and sediment laden runoff. The pH of the runoff shall be kept within the range of 6.0 to 8.5. The Permittee shall comply with Florida Administrative Code Chapters 17-25 and 40D-4. The Permittee shall complete the forms required by 17-25.09(1) and 40D-4 and submit those forms and the required information to the SWFWMD for any modifications that might occur.

2. Burning

Open burning in connection with land clearing shall be in accordance with Chapter 17-5, FAC, and Uniform Fire Code Section 33.101 Addendum. No additional permits shall be required, but prior to each act of burning, the Division of Forestry shall be contacted to determine if satisfactory conditions exist for burning. Open burning shall not occur if the Division of Forestry has issued a ban on burning due to fire hazard conditions.

3. Sanitary Wastes

Disposal of sanitary wastes from construction toilet facilities shall be in accordance with applicable regulations of the appropriate local health agency.

4. Solid Wastes

Solid wastes resulting from construction shall be disposed of in accordance with the applicable regulations of Chapter 62-701, FAC.

5. Noise

Construction noise shall not exceed either local noise ordinance specifications, or those noise standards imposed by zoning.

6. Dust and Odors

The Permittee shall employ proper odor and dust-control techniques to minimize odor and fugitive dust emissions. The applicant shall employ control techniques sufficient to prevent nuisance conditions on adjoining property.

7. Transmission Lines

The directly associated transmission lines from the Resource Recovery Facility electric generators to the existing Florida Power and Light Company substation shall be cleared, maintained and prepared without the use of herbicides.

8. Protection of Vegetation

The Permittee shall develop the site so as to retain a buffer of trees or shall plant a buffer of trees sufficient to minimize the aesthetic and noise impacts of the facility. The buffer, as far as practicable, shall be of sufficient height and width suitable for the purpose of mitigating both construction and operational impacts of the facility.

9. Dewatering Operations

The dewatering operations during construction shall be carried out in such a manner that all water withdrawn will be retained on site. There shall be no discharge of water off site due to dewatering operations.

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B. Environmental Control Program

An environmental control program shall be established under the supervision of a Florida registered professional engineer to assure that all construction activities conform to applicable environmental regulations and the applicable conditions of certification. If harmful effects or irreversible environmental damage not anticipated by the application or the evidence presented at the certification hearing are detected during construction, the Permittee shall notify the Southwest District Office as required by Condition II.

C. Reporting

1. Notice of commencement of construction shall be submitted to the Southwest District Office within 15 days of initiation. Starting three (3) months after construction commences, a quarterly construction status report shall be submitted to the Southwest District Office. The report shall be a short narrative describing the progress of construction.

2. Upon or immediately prior to completion of construction of the resource recovery facility or a phase thereof, the Southwest District Office will be notified of a date on which a site or facility inspection should be performed in accordance with Condition V, and the inspection shall be performed within fourteen (14) days of the date of notification by the Permittee.

D. Solid Waste Disposal Unit Construction

1. Applicable Rules. The Class I landfill disposal units associated with this site shall be constructed in accordance with all applicable requirements of Chapter 62-701, Florida Administrative Code, and in accordance with all applicable requirements of other Department rules.

2. Construction Plans. At least thirty (30) days prior to initiation of construction activities, a complete set of plans to be used for construction, shall be submitted to the Department. All changes (i.e. all additions, deletions, revisions to the plans previously approved by the Department including site grades and elevations) shall be noted on plans. Any significant changes in plans should be accompanied by a narrative indicating the cause of the deviations and a re-certification of the alternate design by the design engineer. These alternate designs must be approved by the Department prior to construction.

3. Construction Schedule. The engineer of record or another qualified professional shall make periodic inspections during construction of the facility to ensure that design integrity is maintained. An updated construction schedule or progress chart shall be submitted to the FDEP at least quarterly.

4. Construction Quality Assurance. As required by F.A.C. Rule 62-701.400(7), liner systems shall have a construction quality assurance plan to provide personnel with adequate information to achieve continuous compliance with the liner construction requirements. The plan shall include or refer to specifications and construction methods which use established engineering practices to construct a liner system and provide for quality control testing procedures and sampling frequencies. Sampling and testing shall be conducted in the field by trained personnel during construction and after construction completion. Such personnel will be under the direction of the construction quality assurance professional engineer, to assure the liner system will comply with the standards. The engineer or his designee shall be on-site at all times during liner system construction to monitor construction activities. Field and laboratory testing during the soil liner construction shall be conducted by a qualified soil testing laboratory, independent of the liner manufacturer or installer, representing the owner. A qualified field technician representing the owner shall provide full time, on-site inspection during liner construction. The field technician shall work under the supervision of a professional engineer with experience in soil liner construction.

5. Test Strips. Prior to full-scale liner installation, a field test section or test strip shall be constructed at the site above a prepared subbase. The test strip as required by 62-701.400(8)(d) shall be considered acceptable if the measured hydraulic conductivities of undisturbed samples from the test strip meet the requirements of the project specifications at the 98 percent confidence level. If the test section fails to achieve the desired results, additional test sections shall be constructed. All test sections shall be constructed in accordance with the requirements of FAC Rule 62-701.400(8)(d). Full scale liner installation may begin only after completion of a successful liner test section.

6. Certification of Construction Completion. After all specified construction has been completed and before acceptance of any solid waste into each new disposal unit, and as required by F.A.C. Rule 62-701.320(9)(a), certification of construction completion, Form 62-701.900(2), signed and sealed by a professional engineer, and record drawings showing all modifications shall be submitted to the Department and the owner shall arrange for Department representatives to inspect the facility in the company of the owner's representative, the engineer, and the proposed facility operator. The facility shall not be operated until the certification has been submitted and approved, all documentation required has been submitted, and a facility inspection by Department personnel has been conducted.

7. Liner System Report. After all specified construction has been completed, and as required by F.A.C. Rule 62-701.400(7)(d), the professional engineer in charge of construction quality assurance shall provide a signed, sealed final report and record drawings to the Department stating that the liner system has been installed in substantial conformance with the plans and specifications for the liner system.

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XIV. OPERATION

A. Air

The operation of the Resource Recovery Facility shall be in accordance with all applicable provisions of Chapters 17-2, 17-5, and 62-701, Florida Administrative Code. In addition to the foregoing, the Permittee shall comply with any and all applicable air emission standards for municipal waste incinerators adopted by the Department and the EPA under Sections 111 or 112 of the Clean Air Act, or its successor. The Permittee shall also comply with the following specific conditions of certification:

1. Emission Limitations upon Operation of Units 1-3

a. Stack emissions from each unit shall not exceed the following assuming a Btu content of 4800 Btu/lb of MSW:

- (1) Particulate Matter: 0.015 grains per standard cubic foot dry gas corrected to 12% CO₂.
- (2) SO₂: 60 ppmvd at 12% CO₂, 6-hour rolling average; or 70% reduction by weight of uncontrolled SO₂ emissions; not to exceed 100 ppmvd corrected to 7% O₂.
- (3) Nitrogen Oxides: 0.643 lbs/MBtu heat input.
- (4) Carbon Monoxide: 100 ppmvd corrected to 7% O₂, 8-hour rolling average.
- (5) Lead: 0.0007 lbs/MBtu heat input.
- (6) Mercury: 8.0 x E-4 lb/MBtu.
- (7) Odor: There shall be no objectionable odor at or outside the site boundary.
- (8) Visible emissions: opacity shall be no greater than 15% 6-minute average except that visible emissions with no more than 20% opacity may be allowed for up to three consecutive minutes in any one hour except during start up or upsets when the provisions of 17-2.250, F.A.C., shall apply. Opacity compliance shall be demonstrated in accordance with Florida Administrative Code Rule 17-2.700(6)(a)9, method 9.
- (9) Fluoride: 0.0080 lb/MBtu heat input
- (10) Arsenic: 9.1 x E-6 lb/MBtu heat input.
- (11) Beryllium: 1.35 x E-7 lb/MBtu heat input.
- (12) VOC: 0.021 lb/MBtu heat input.
- (13) Hydrogen Chloride: 0.127 lb/MBtu heat input

b. The height of the boiler exhaust stack shall not be less than 275 feet above grade.

c. The resource recovery facility's boilers shall not be loaded in excess of either 115% of their rated nameplate capacity of 29,167 pounds of MSW or 115% of 140 x 10⁶ Btu per hour each.

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d. The incinerator boilers shall have a metal nameplate affixed in a conspicuous place on the shell showing manufacturer, model number, type waste, and rated capacity.

e. Compliance with the limitations for particulates, sulfur oxides, nitrogen oxides, carbon monoxide, fluoride, VOC and lead shall be determined in accordance with Florida Administrative Code Rule 17-2.700, DER Methods 1, 2, 3; 4 and 6 and 40 CFR 60, Appendix A, Methods 5, 7 (modified with prefilter), 10, 12, 13A or 13B (or modified method 5 for fluorides), and 18 or other method as approved by the DER. The stack test for each unit shall be performed at $\pm 10\%$ of the maximum heat input rate of 140×10^6 Btu heat input per hour or the maximum charging rate of 29,167 pounds of MSW per hour. Compliance with the beryllium emission limitation shall be determined in accordance with 40 CFR 61, Method 103 or 104, Appendix B. Compliance testing for mercury shall be determined in accordance with 40 CFR 61, Method 101A, Appendix B. Particulate testing shall include one run during representative soot blowing which shall be averaged proportionally to normal daily operations. Visible emission testing shall be conducted simultaneously with soot blowing and non-soot blowing runs. Compliance with the opacity limit shall be demonstrated in accordance with Florida Administrative Code Rule 17-2.700(6)(a)9, DER method 9. Compliance with SO₂ emissions when firing supplemental oil may be determined by submission of a chemical analysis of the oil as fired.

f. Combustion efficiency shall be calculated by: $\%CE = [1 / 1 + (CO / CO_{sub>2</sub>})] \times 100$, and shall be at least 99.5% for an 8 hour average.

2. Emission Control Equipment; Boiler Units 1, 2 and 3

a. The boiler particulate control system shall be designed, constructed and operated to achieve a maximum emission rate of 0.015 grains per dscf corrected to 12% CO₂. All other particulate control devices shall be designed to meet the provisions of Section 17-2.610, FAC.

b. The facility shall be equipped with dry scrubbers which are designed, constructed and operated to remove SO₂ at an efficiency of 70% by weight or to achieve an emission rate of 100 ppmvd at 7% O₂ whichever is less stringent and to cool the flue gases to an average temperature not to exceed 300°F (3-hour rolling average).

c. The Permittee must submit to the Department within thirty (30) days after it becomes available, copies of technical data pertaining to the selected emissions control systems. These data should include, but not be limited to, guaranteed efficiency and emission rates, and major design parameters. The data shall be processed and approved or denied in accordance with Condition XIII above.

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3. Resource Recovery Facility Air Monitoring Program

a. The Permittee shall install and operate continuously monitoring devices to measure combustion temperature and flue gas temperature at the exit of the acid gas control equipment plus SO₂, CO, and CO₂ levels and opacity for each unit. The monitoring devices shall meet the applicable requirements of Chapter 17-2, section 17-2.710, FAC, and 40 CFR 60.45, and 40 CFR 60.13, including certification of each device in accordance with 40 CFR 60, Appendix B, Performance Specifications and 40 CFR 60.7 (a)(5). Re-certification shall be conducted annually from initial certification. Data on monitoring equipment specifications, manufacturer, type, calibration and maintenance needs, and its proposed location after the economizer or in the air pollution control equipment outlet duct shall be provided to the Southwest District Office for approval prior to installation, together with and subject to the same provisions as submittal of air pollution control equipment pursuant to Paragraph XIII hereof.

b. The Permittee shall provide sampling ports in the air pollution control equipment outlet duct or stack and shall provide access to the sampling ports in accordance with Section 17-2.700, FAC. Drawings of testing facilities including sampling port locations as required by Section 17-2.700 shall be submitted to the Department for approval at least 120 days prior to construction of the sampling ports and stack.

c. The Permittee shall have a sampling test of the emissions performed by a commercial testing firm within 60 days after achieving the maximum rate at which the boilers will be operated but not later than 180 days of the start of operation of the boilers and annually for particulate and NO_x from the date of testing thereafter. Thirty (30) days prior notice of the initial testing shall be provided to the Southwest District Office and fifteen (15) days' notice before subsequent annual testing. The notification requirements of 40 CFR parts 60 and 61 will also be observed.

4. Reporting

a. Two copies of the results of the emissions tests for the pollutants listed in Condition XIV A.1.a. shall be submitted within forty-five days of the last sampling run to the Southwest District Office.

b. Emissions monitoring shall be reported to the Southwest District Office on a quarterly basis in accordance with Section 17-2.710, F.A.C., 40 CFR, Part 60, Subsection 60.7 or 40 CFR Part 61 as appropriate.

c. Notice of anticipated and actual start-up dates of each incinerator boiler shall be submitted to the DER Southwest District Office.

5. Unconfined Emissions

Proper dust control techniques such as water sprays or chemical wetting agents or other containment method shall be used to control visible unconfined (fugitive) emissions to the outside air to no more than 10% opacity as determined by DER Method 9 for unconfined resource recovery facility processes. Proper techniques shall also be used to control such emissions to prevent them from crossing the property line(s) from any other unconfined sources and to limit them to no more than three (3) minutes (cumulative) in any fifteen (15) minute period as determined by 40 CFR, 60, Appendix A, Method 22, with observations being made along the property line. Visible emissions shall not include uncombined water vapor or emissions from engine exhausts.

B. Fuel

The Resource Recovery Facility shall utilize refuse such as garbage ~~and trash~~ (as defined in Chapter 62-701, FAC) as its fuel. Use of alternate fuels except for distillate fuel oil or natural gas in start-up burners would necessitate modification of these Conditions of Certification. Refuse as fuel shall not include "hazardous waste" as defined in Chapter 17-30, FAC. The alternate fuel, which may be used distillate oil, shall not contain more than 0.3% sulfur by weight and shall not be used more than required during boiler startup or shutdown.

C. Wastewater and Leachate Disposal

Plans and specifications for connections to off-site sewage and wastewater transmission systems shall be furnished to the Southwest District Office for approval 60 days prior to construction. In order to obtain approval, the receiving sewage treatment plant shall indicate its ability and willingness to accept the wastewater. Review shall be accomplished in accordance with Condition XIII. Leachate from the ash cells shall be treated at the on-site Leachate Treatment Facility.

D. Water Discharges

1. Surface Water

a. Any discharges from the site stormwater system via the emergency overflow structures which result from an 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 applicable State Water Quality Standards, Chapter 62-302, FAC, the Standards of Chapter 17-25, FAC, and Chapter 40D, FAC.

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2. Groundwaters

a. All discharges to groundwaters, such as landfill leachate, shall be collected and treated as necessary, or otherwise be of high enough quality, to be able to meet the applicable water quality standards of Sections 62-520.400 and 62-520.420, FAC, at the boundary of the site. If monitoring should indicate a violation of the standards, the Permittee shall immediately notify the Southwest District Office and SWFWMD and institute assessment monitoring/ corrective action.

3. Water Quality and Leachate Monitoring Plan

The monitoring conducted shall be in accordance with the current Department-approved Monitoring Plan and as described by Rule 62-701.510(1) and Rule 62-522.600(3), F.A.C. The currently approved Monitoring Plan is presented in the document entitled "Water Quality Monitoring Plan for the West Pasco Class I Landfill, Pasco County, Florida", prepared by Camp, Dresser & McKee, Inc., revised March 29, 2001.

The Permittee may propose changes to the Monitoring Plan by submitting requested changes to the Department for review. The Permittee must obtain written approval from the Department prior to implementation of any changes in the Monitoring Plan as described by Rule 62-522.600(5), F.A.C.

a. Water Quality Monitoring Quality Assurance.

1. All field and laboratory work done in connection with the facility's Water Quality Monitoring Plan shall be conducted by a firm possessing a Comprehensive Quality Assurance Plan (QAP) approved by the Department to meet the requirements of F.A.C. 62-160. The QAP must specifically address the types of sampling and analytical work that is required by these conditions of certification and the QAP shall be required of all persons performing sampling or analysis. The QAP shall be followed by all persons collecting or analyzing samples. Documentation of an approved QAP shall be submitted whenever a new sampling entity and/or analytical laboratory is used. QAP documentation shall be demonstrated by the completed signature page and the Table of Contents of the approved plan.

2. The field testing, sample collection and preservation and laboratory testing, including quality control procedures, shall be in accordance with methods approved by the Department in accordance with F.A.C. 62-4.246 and 62-160. Approved methods published by the Department or as published in Standard Methods, A.S.T.M., or EPA methods shall be used.

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b. Zone of Discharge.

1. The zone of discharge for this site shall extend horizontally 100 feet from the limits of the landfill liner or to the property boundary, whichever is less, and shall extend vertically to the top of the Floridan Aquifer.

2. The water quality standards and minimum criteria for Class G-II groundwaters shall not be exceeded at the boundary of the zone of discharge according to F.A.C. 62-520.420.

c. Leachate Sampling. As required by F.A.C. Rule 62-701.510(5) and (6)(c), leachate shall be sampled in accordance with the *current* Department-approved Monitoring Plan referenced in Condition XIV.D.3., or its approved successor.

d. Surface Water Sampling. There is no expected surface water discharge from the site. However, if a discharge should occur from a detention pond to a surface water or from the property, monitoring is required by Rule 62-701.510(4), F.A.C., sampling for the parameters listed in Rule 62-701.510(8)(b), F.A.C., is required by Rule 62-701.510(6)(e), F.A.C., and reporting is required by Rule 62-701.510(9)(a), F.A.C. Surface water quality results shall be submitted to the Department *within 90 days after each sampling event* semi-annually.

e. Groundwater Monitoring Well Locations. The groundwater monitoring wells shall be located as described in the current Department-approved Monitoring Plan referenced in Condition XIV.D.3, or its approved successor. All wells are to be clearly labeled and easily visible at all times. All wells should be kept locked to prevent unauthorized access.

f. Groundwater Monitoring Well Construction. Prior to construction of any new wells as part of the *current* Department-approved Monitoring Plan referenced in Condition XIV.D.3., or its approved successor, the permittee shall request and receive written approval from the Department. The following information is required to be submitted ~~within 90 days~~ *within 90 days* following new well installation.

1. Documentation of the following for each well installed:

Well Identification	Boring (Lithology) Log
Aquifer monitored	Total depth of well
Screen type and slot size	Casing diameter
Screen length	Casing type and length
Screen diameter	SWFWMD well construction
Elevation at top of casing	permit Nos.
Elevation at ground surface	Well seal and filters pack
	type and thickness

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2. Following well completion and development, each new well shall be sampled for the parameters listed in F.A.C. Rules 62-701.510(8)(a) and (d). These sample results shall be submitted to the Department, as required by Condition XIV.D.3.j.

3. A surveyed drawing shall be submitted in accordance with F.A.C. Rule 62-701.510(3)(d)(1), showing the location of all monitoring wells (active and abandoned) located in degrees, minutes and seconds of latitude and longitude, the Universal Transverse Mercator coordinates, and the elevation of the top of the well casing to the nearest 0.01 foot, National Geodetic Vertical Datum. The surveyed drawing shall include the monitor well identification number, locations and elevations of all permanent benchmarks and/or corner monument markers at the site. The survey shall be conducted by a Florida Registered Surveyor.

g. Groundwater Sampling. All detection wells and a representative sample of background wells, and the compliance wells indicated in the current Department-approved Monitoring Plan referenced in Condition XIV.D.3. or its approved successor, shall be sampled in accordance with F.A.C. 62-701.510(6)(d) and analyzed every 6 months for the groundwater monitoring parameters listed in Rule 62-701.510(8)(a), F.A.C.

Unfiltered samples shall be used for compliance with groundwater standards.

Additional samples, wells, and parameters may be required based upon subsequent analysis. ~~Method detection limits must meet, or be lower than that parameter's Maximum Contamination Level in order to demonstrate compliance with groundwater standards as indicated in Rule 62-522.300(1).~~ Method detection limits must meet, or be lower than that parameter's Maximum Contamination Level in order to demonstrate compliance with groundwater standards.

h. Well Abandonment. All wells not a part of the current Department-approved Monitoring Plan referenced in Condition XIV.D.3., or its approved successor, are to be plugged and abandoned in accordance with F.A.C. 62-532.440, and the Southwest Florida Water Management District.

i. Verification/Assessment Monitoring. If at any time monitoring parameters are detected at concentrations significantly above background water quality, or exceed the Department's water quality standards or criteria at the edge of the zone of discharge, the operator has 15 days from receipt of the laboratory data to resample the monitor well(s) to verify the original analysis. Should the operator choose not to resample, the Department will consider the water quality analysis representative of current groundwater conditions at the facility. If the data is confirmed, or if the Permittee chooses not to resample, the Permittee shall notify the Department in writing within 14 days of this finding. Upon notification by the Department, the Permittee shall initiate assessment monitoring/corrective action as described in F.A.C. 62-701.510(7).

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j. Water and Leachate Quality Reporting Requirements. All water quality monitoring and leachate analyses shall be reported on the Department Form 62-522.900(2) Ground Water Monitoring Report. The items listed in F.A.C. 62-701.510(9)(a), including but not limited to a groundwater contour map which indicates ground water elevations and flow direction at the time of groundwater sampling shall be submitted with each set of analytical results. The results of the water quality analysis shall be submitted *within 60 days following the ends of the second and fourth calendar quarters* for the semi-annual periods January-June and July-December, respectively. The results shall be sent to: Solid Waste Section, Department of Environmental Protection, Southwest District Office, 3804 Coconut Palm Drive, Tampa, Florida 33619-8318.

k. Monitoring Plan Evaluation. A technical report prepared, signed and sealed by a professional geologist or professional engineer with experience in hydrogeologic investigations shall be submitted to the Department every two years as indicated in Rule 62-701.510(9)(b), F.A.C. The report shall contain the items included in Rule 62-701.510(9)(b)1 through 8, F.A.C. The next evaluation report shall include the data collected during 2001 and 2002, and shall be submitted ~~within a reasonable period of time (approximately 90 days) following December 31, 2000~~ *by March 31, 2001, by March 31, 2003*, with subsequent reports to be submitted at two year intervals.

E. Solid Waste Disposal Units and Leachate Management

1. Operation of the associated landfill shall be in accordance with all applicable portions of Chapter 62-701, FAC, including prohibitions, procedures for closing of the landfill, and final cover requirements, or, as provided in this condition (XIV.E) in its entirety. Review shall be performed in accordance with Condition XIII. The final plans for this facility shall include provisions for the isolated temporary handling of suspected hazardous, toxic, or infectious wastes.

2. No suspected or known hazardous, toxic, or infectious wastes as defined by applicable Federal, State or local statutes, rules, regulations or ordinances shall be burned or landfilled at the site.

3. Special Wastes. The disposal or management of any "special wastes" shall be in accordance with F.A.C. 62-701.300(8), 62-701.520 and any other applicable Department rules, to protect the public safety, health and welfare. All solid wastes, recovered materials or residues shall be managed in a manner so as not to constitute a fire or safety hazard or a sanitary nuisance, and shall comply with all applicable local or state regulations. Recovered resources which may be offered for sale shall comply with applicable regulations of all appropriate state agencies.

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4. Landfill Operation Requirements. This facility shall be operated in accordance with F.A.C. 62-701.500, Landfill Operation Requirements, and the current Department-approved Operations Plan. *Changes to the Operations Plan shall be submitted to the Department for review and written approval prior to implementation. The Department shall approve or disapprove requests for minor changes to the Operations Plan within 30 days of such change request. A minor change is defined to include: changes to filling sequence, changes to equipment used, dimensions of the working face, and similar daily operational issues.*

5. Operating Personnel. As required by F.A.C. 62-701.320(15) and 62-701.500(1), at least one operator shall be at the landfill at all times when the landfill receives waste and at least one spotter shall be at the working face when the landfill receives waste. Copies of the training verifications shall be maintained at the site for the Department's review.

6. Operation Plan and Operating Record. The landfill owner and operators shall have an operations plan which meets the requirements of F.A.C. 62-701.500(2). A copy of these conditions of certification, operations plan, construction reports and record drawings, and supporting information shall be kept at the facility at all times for reference and inspections. The operating record as required by F.A.C. 62-701.500(3) is part of the operations plan, and shall also be maintained at the site.

7. Method and Sequence of Filling. The method and sequence of filling shall be in accordance with the current Department-approved Operations Plan.

8. Waste Records. Waste quantity records shall be maintained as required by F.A.C. 62-701.500(4) and submitted to the Department quarterly.

9. Control of Access. Access to, and use of, the facility shall be controlled as required by F.A.C. 62-701.500(5).

10. Monitoring of Waste. Wastes shall be monitored as required by F.A.C. 62-701.500(6). No regulated hazardous waste as identified in Chapter 62-730, F.A.C. shall be accepted for disposal at this site. Hazardous waste should be disposed of in accordance with F.A.C. 62-701.300(4) and 62-701.500(6) (b).

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11. Working Face and Waste Handling Requirements. All solid waste disposed of in the Class I area shall be covered as required by F.A.C. 62-701.500(7). As required by F.A.C. 62-701.500(7)(d), the operator shall minimize the size of the working face. The working face of a cell shall be only wide enough to accommodate vehicles discharging waste. Leachate from the working face shall be managed as described in the approved Operations Plan. Runoff from the landfill will be considered stormwater if the flow passes over only areas with no exposed waste.

a. Initial cover shall be applied and maintained in accordance with F.A.C. 62-701.500(7)(e), and as described in the approved Operations Plan.

b. Alternate cover materials not identified herein shall be approved by the Department prior to use at the facility. For those areas where solid waste will be deposited on the working face within 18 hours, initial cover may consist of a temporary cover or tarpaulin. Waste tires that have been cut into sufficiently small parts, which means that 70 percent of the waste tire material is cut into pieces of 4 square inches or less and 100 percent of the waste tire material is 32 square inches or less, and applied in a six (6) inch compacted layer, may be used as initial cover as described in the approved Operations Plan.

c. Intermediate cover shall be applied and maintained in accordance with F.A.C. 62-701.500(7)(f). An intermediate cover of one (1) foot of compacted earth in addition to the six (6) inch initial cover shall be applied within seven (7) days of cell completion at all landfills if final cover or an additional lift is not to be applied within 180 days of cell completion.

12. Final Cover. Portions of the landfill which have been filled with waste to the extent of final closure designed dimensions shall be closed (shall receive final cover) in accordance with F.A.C. 62-701.500(7)(g) and all applicable requirements of Department rules.

13. Leachate Management. Leachate shall be managed in accordance with the requirements of F.A.C. 62-701.500(8), these conditions of certification, and the current Department-approved Operations Plan.

a. Leachate storage tanks shall be inspected as required by F.A.C. 62-701.400(6)(c)9, and inspection results shall be made available to the Department upon request.

b. Each pump station shall be inspected on a semi-annual basis. Documentation of all inspections shall be kept on file at the facility.

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c. Leachate generation reports as required by F.A.C. Rule 62-701.500(8) shall be compiled monthly and submitted to the Department quarterly.

d. A report assessing the effectiveness of the *leachate collection and removal system, force mains and gravity pipe lines, leachate storage tank and treatment facility as described in the current Department approved Operations Plan* shall be submitted to the Department at least every five years. *As part of the five-year assessment, the entire leachate collection and removal system, force mains and gravity pipelines, shall be visually or video inspected or pressure tested where possible to verify adequate performance. Components not performing adequately shall be cleaned and/or repaired.* Those portions of the tank secondary containment liner which can be readily visually inspected shall be inspected for damage, and repaired if necessary. The report shall ~~also include solids testing and characterization, and the results of the inspection and any corrective measures undertaken to demonstrate adequate performance,~~ signed and sealed by a professional engineer.

14. Gas Monitoring. Gas monitoring is not required for ash disposal units. A routine gas monitoring program shall be implemented to meet the requirements of Rule 62-701.530, F.A.C. for all other disposal units accepting biodegradable waste for disposal.

15. Stormwater System Management. Stormwater shall be managed as required by F.A.C. 62-701.400(9). The system shall minimize stormwater from entering waste filled areas and avoid the mixing of stormwater with leachate.

16. Recordkeeping. Records shall be maintained as required by F.A.C. 62-701.500(13).

17. Waste Burning. Open burning of solid waste is prohibited except in accordance with F.A.C. 62-701.300(3).

18. Liner Location. The top edge of the geomembrane liner shall be clearly identified in the field to prevent waste disposal and leachate runoff outside the geomembrane liner.

19. Air Requirements.

a. An air construction permit is not required for the landfill unless landfill construction or any modification is subject to the prevention of significant deterioration (PSD) requirements of Chapter 62-212, F.A.C. A landfill for which construction or modification is subject to PSD requirements must make application to the Bureau of Air Regulation, Mail Station 5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, for an air construction permit and must obtain such permit prior to beginning any construction or modification.

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b. An air operating permit is not required unless the landfill is required to obtain a Title V air operating permit (Title V permit) pursuant to Section 403.0872, F.S. A landfill is required to obtain a Title V permit if the landfill (or the total facility, if the landfill is collocated or part of a larger facility) has the potential to emit 10 TPY of any hazardous air pollutant, 25 TPY of any combination of hazardous air pollutants or 100 TPY of any other regulated air pollutant. A landfill is also required to obtain a Title V permit if the maximum design capacity, as defined at 40 CFR 60, Subpart WWW, is equal or greater than 2.5 million Megagrams or 2.5 million cubic meters. Title V permits must be applied for in accordance with the timing and content requirements of Rule 62-204.800, F.A.C. and Chapter 62-213, F.A.C. Title V applications shall be submitted to the Bureau of Air Regulation, Mail Station 5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

c. The landfill shall comply with all applicable requirements of 40 CFR 60, Subpart WWW and Cc, as adopted by reference at Rule 62-204.800, F.A.C. Any amended design capacity report and any Non-Methane Organic Compound (NMOC) emission rate report, as applicable, pursuant to 40 CFR 60.757(a)(3) and (b) shall be submitted to the Division of Air Resources Management, Department of Environmental Protection, Mail Station 5500, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

F. Operational Safeguards

The overall design and layout of the facilities shall be such as to mitigate potential adverse effects to humans and the environment. Security control measures shall be utilized to prevent exposure of the public to hazardous conditions. The Federal Occupational Safety and Health Standards will be complied with during construction and operation. The safety standards specified under Section 440.56, Florida Statutes, by the Industrial Safety Section of the Florida Department of Commerce will be complied with during operation.

G. Transmission Lines

The directly associated transmission lines from the Resource Recovery Facility electric generators to the Florida Power and Light Company substation shall be kept cleared without the use of herbicides.

H. Noise

Operational noises shall not exceed local noise ordinance limitations nor those noise standards imposed by zoning.

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I. Resource Recovery Facility.

1. Classification. The resource recovery facility shall be operated in accordance with all applicable requirements of Chapters 62-701 and 62-702, Florida Administrative code (F.A.C.).

2. Waste Records. The owner or operator of the resource recovery facility shall record, in tons (or cubic yards) per day, the amount of waste received and ash removed for disposal. This information shall be compiled monthly and made available to the Department upon request.

3. Plans and Drawings. A copy of these conditions of certification, and record drawings, shall be kept at the facility at all times for reference and inspections.

4. Drainage and Leachate Management. All liquids from residuals shall be contained.

5. Ash Management. The ash residue from this facility shall be managed in accordance with the facility's Department-approved Ash Management Plan, and F.A.C. Chapter 62-702. ~~The results shall be submitted to the Southwest District Office, C/O the Solid Waste Section, Tampa, Florida.~~ The results of ash residue analyses required by Rule 62-702.570, F.A.C. shall be submitted annually to the Southwest District Office, C/O the Solid Waste Section, Tampa, Florida.

XV. SWFWMD - SURFACE WATER PERMITTING

A. Land Development

Except as authorized by this certification, any further land development, wetlands disturbance or other construction within the total land area of this site will require additional approval in accordance with Chapters 40D-4 and 17-25, F.A.C.

B. Stormwater Control

The applicant shall assure that erosion and sediment control measures required by rule 17-25.025(7) shall be effectively implemented continuously from beginning of project construction until completion. Project detention/retention ponds and discharge control structures which are to be constructed as part of the project should be initially built and maintained continuously during project construction to avoid adverse impact to receiving waters or off site.

C. Well Plugging

Any existing wells in the path of construction shall be properly plugged and abandoned by a licensed water well contractor in accordance with Chapter 40D-3 and Rule 62-532.440, F.A.C.

D. Pond Slopes

All retention/detention pond side slopes shall be sodded and staked as necessary to prevent erosion.

E. Liability

By issuance of this certification, the District, its employees and representatives, assume no responsibility and/or liability in regard to either the design, construction or performance of the proposed facilities.

F. Plan Review

Prior to initiating construction, the final resource recovery site plan is required to be submitted to the District for review of compliance with the conditions set forth in this recommendation and in accordance with Chapters 40D-4 and 17-25. F.A.C.

XVI. SWFWMD - CONSUMPTIVE USE PERMITTING

A. Accuracy of Information

The facility operator attests that all statements made for this certification are true and accurate and based upon the best information available, and that all conditions set forth in this authorization will be complied with. If any of the statements and/or supporting data are found to be untrue and inaccurate, or if the facility operator fails to comply with all of the conditions set forth herein, then certification for the facility may be revoked following notice and hearing.

B. Reasonable Use

Certification is predicated upon assertion by the applicant that the use of water applied for and granted is and continues to be reasonable and beneficial use as defined in Section 373.019(5), Florida Statutes (F.S.), is and continues to be consistent with the public interest, and will not interfere with any legal use of water existing on the date certification is granted.

C. Reservations

In granting certification, the District has, by regulation, reserved from use by applicant, water in such locations and quantities, for such seasons of the year, as it determines may be required for the protection of fish and wildlife and public health and safety. Such reservations are subject to periodic review and revision in light of changed conditions.

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D. Withdrawal Limits

Certification is for a combined average annual withdrawal of 720,000 gallons of water per day with a maximum combined withdrawal rate not to exceed 1,150,000 gallons during a single day. Withdrawals are shown in the table below.

USER ID	1	2
DISTRICT ID	1	2
WITHDRAWAL POINT		
LATITUDE	282157	282157
LONGITUDE	823430	823429
GPD AVERAGE	677,000	43,000
GPD MAXIMUM	1,010,000	60,000

E. Water Shortage

In the event the District declares that a water shortage exists pursuant to Rule 40D-2.511, Florida Administrative Code (F.A.C.), the District may alter, modify, or declare inactive all or parts of this authorization for water use.

F. Sampling

The District reserves the right, at any reasonable time, to collect water samples from any withdrawal for this facility. The District may require the facility operator to submit samples in mailable containers provided by the District.

G. Access

An authorized District representative may, at any reasonable time, enter the property, inspect the facility, and make environmental or hydrologic assessments. The facility operator shall either accompany District staff onto the property or make provision for access onto the property.

H. Reconsideration

If the District, after consultation with the facility operator determines that significant water quantity or quality changes, or adverse environmental impacts are occurring, the District, upon notice and hearing, may reconsider the allowed withdrawal quantities.

I. Minimum Water Levels

The District may, at a future date, establish minimum water levels in aquifers and lakes, and minimum flow in streams, which may require the facility operator to limit withdrawal from these sources when water levels or flows fall below the established minimums.

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J. Conservation

Water conservation shall be practiced by the facility operator to increase the efficiency of transport, application and use, to decrease waste and to minimize runoff from the property. At such time as the District adopts specific conservation criteria for the facility's water use classification, the facility operator will be subject to such criteria upon notice and after a reasonable period for compliance.

K. Flow Measurement

The following points, District Withdrawal No(s). 1,2, and supply from the regional waste water treatment plant, shall be equipped with totalizing flow meters or other flow measuring devices as approved in writing by the Director, Resource Regulation Department. Such devices shall have and maintain an accuracy within five percent (5%) of the actual flow. Those designated withdrawal points not equipped with such devices on the date the consumptive use is authorized shall be so equipped within one hundred twenty (120) days of the authorization date or upon completion of construction of the withdrawal facility, unless an extension is approved in writing by District staff.

L. Reporting

Total flow from each metered source shall be recorded on a monthly basis and reported to the District on District forms on or before the tenth (10th) day of the following month.

Reports shall be addressed to:

Permits Data Collection
Processing and Records Section
Southwest Florida Water Management District
2379 Broad Street
Brooksville, Florida 34609-6899

M. Water Quality Sampling

Water quality samples shall be collected and analyzed as indicated in the table below. Reports of the analyses shall be submitted to the District (on District forms) on or before the tenth (10th) day of the following month. The parameters and frequency of sampling and analysis may be modified by District staff as necessary to ensure the protection of the resource.

<u>District W/D No(s)</u>	<u>Parameters</u>	<u>Sampling Frequency</u>
1 and 2	Chloride	Monthly
1 and 2	Sulfate	Monthly
1 and 2	Total Dissolved Solids	Monthly

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Analyses shall be performed according to procedures outlined in the current edition of Standard Methods for the Examination of Water and Wastewater by the American Public Health Association-American Water Works Association-Water Pollution Control Federation, or Methods for Chemical Analyses of Water and Wastes by the United States Environmental Protection Agency.

Reports shall be addressed to:

Permits Data Collection
Processing and Records Section
Southwest Florida Water Management District
2379 Broad Street
Brooksville, Florida 34609-6899

XVII. SWFWMD - ASHFILL/LANDFILL

A. Preoperational Limitation

As far as practical, disposal of unprocessed solid waste at the ashfill/landfill site should be minimized before the resource recovery facility is operational. The disposal of unprocessed waste at the ashfill/landfill site shall be prohibited until the East Pasco County Sanitary Landfill site is filled to the maximum capacity permitted by the Florida Department of Environmental Regulation, subject to the use limitations contained in the East Pasco County Sanitary Landfill site lease or until the resource recovery facility is operational, whichever occurs first.

B. Unprocessed Waste Limitation

The disposal of by-passed unprocessed waste at the ashfill/landfill site shall be minimized when the resource recovery facility is not fully operational or when the capacity of the facility is exceeded, in accordance with the County's plans for operation contained in the application. It is further recommended that the county initiate future construction of additional capacity of the resource recovery facility as early as possible in order to avoid having the amount of incoming processible waste exceed the capacity of the facility and to avoid disposal of unprocessed waste in the ashfill/landfill.

C. Waste Segregation

In so far as practical, ash residue from the resource recovery facility shall be segregated from unprocessed waste in ashfill/landfill cells in order to insure that the ash remains in an alkaline state.

D. Leachate Monitoring

The secondary underdrain system shall be monitored weekly for the presence of leachate which would indicate leakage from the primary liner. A contingency plan will be developed for actions to be taken in event that the failure of a liner or underdrain is detected. The contingency plan shall include:

1. Methods for determining which cell is leaking,
2. Plans for immediate expansion of the monitor well network downgradient of the problematic cell for early detection of leachate in the aquifer if the secondary liner fails,
3. Plans for repair of a leaking liner, and
4. Plans for restoration of the aquifer if aquifer contamination occurs.

E. Appliances and Machines

The County, to the extent practicable, should collect and segregate appliances and machines containing or utilizing coolants, greases, or oils for recycling by a metals processor in order to minimize their danger in the ashfill/landfill.

XVIII. OPERATIONAL CONTINGENCY PLANS

A. Operating Procedures

The Permittee shall develop and furnish the Southwest District Office a copy of written operating instructions for all aspects of the operation which are critical to keeping the facility working properly. The instructions shall also include procedures for the handling of suspected hazardous, toxic, and infectious wastes.

B. Contingency Plans

The Permittee shall develop and furnish the Southwest District Office written contingency plans for the continued operation of the system in event of breakdown. Stoppages which compromise the integrity of the operations must have appropriate contingency plans. Such contingency plans should identify critical spare parts to be readily available.

C. Current Engineering Plans

The Permittee shall maintain a complete current set of modified engineering plans, equipment data books, catalogs and documents in order to facilitate the smooth acquisition or fabrication of spare parts or mechanical modifications.

D. Application Modifications

The Permittee shall furnish appropriate modifications to drawings and plot plans submitted as part of the application, including operational procedures for isolation and containment of hazardous wastes.

XIX. TRANSFER AND/OR ASSIGNMENT

If contractual rights, duties or obligations are transferred under this certification, notice of such transfer or assignment shall immediately be submitted to the Department and SWFWMD by the previous certification holder (Permittee) and the Assignee. Included within the notice shall be the identification of the entity responsible for compliance with the certification. Any assignment or transfer shall carry with it full responsibility for the limitations and conditions of this certification.

XX. PROPRIETARY DOCUMENTS OR INFORMATION - CONFIDENTIALITY

Proprietary or confidential data, documents or information submitted or disclosed to any agency shall be identified as such by the Permittee and shall be maintained as such pursuant to applicable Florida law.

XXI. GOPHER TORTOISE MANAGEMENT PLAN

A. The Permittee shall identify the proposed gopher tortoise preserve, to be located in the 170-acre southwest portion of the site, on the site master plan. The Permittee shall develop a management plan as approved by the Florida Game and Fresh Water Fish Commission staff, that will adequately ensure the maintenance and enhancement of the gopher tortoises and their commensals on this preserve area.

B. The approximately 45 acres of remnant sandhill community, located in the northeast corner of the project site, should be utilized for borrow only when other potential on-site areas have been exhausted. Should adequate borrow material be obtained elsewhere this remnant sandhill community should be incorporated into the management plan for the gopher tortoises, or incorporated into the buffer area.

XXII. COOLING TOWER

A. The Pasco County Resource Recovery Facility may utilize reclaimed water or stormwater runoff as a source of cooling water. If the Permittee is forced to use ground water for cooling due to non-availability of reclaimed water, such use shall be in accordance with Condition XVI.

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B. Prior to use in the cooling tower, reclaimed water shall be disinfected by use of chlorine or other suitable biocide to achieve a 1.0 mg/l concentration of total chlorine residual after a 15 minute contact time.

XXIII. SOLID WASTE SUBMITTAL SUMMARY

<u>CONDITION</u>	<u>SUBMITTAL SCHEDULE</u>	<u>REQUIRED ITEM</u>
III.A.7.	Annually	Financial assurance for the Landfill
XIII.D.2.	30 days prior to construction	Construction plans
XIII.D.6.	Following construction	Certification and record drawings
XIII.D.7.	Following construction	Liner System Report
XIV.D.3.g.,	Every 6 months	Groundwater sampled/analyzed
XIV.D.3.c.	Annually	Leachate sampled/analyzed for Parameters listed in Rule 62-701.510(8)(c) and (8)(d), F.A.C.
XIV.D.3.j.	Semi-Annually	Ground Water Monitoring Results
XIV.D.3.j.	Annually	Leachate monitoring results
XIV.D.3.k.	March 31, 2003, and Every two years thereafter	Evaluation of groundwater monitoring plan
XIV.E.8., 13., and 14.	Quarterly	Waste quantity reports, Leachate generation reports and Gas monitoring
XIV.I.	Annually	Ash sampling results

~~*Date given is for reference only and is not an enforceable condition of certification.~~

Gen 145

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOUTHWEST DISTRICT

CONVERSATION RECORD

Date 5/30 Subject WPAC10
Time 9:10 Permit No. _____

County _____
M ABDWL S. Telephone No. _____

Representing CDM

☒ Phoned Me ☐ Was Called ☐ Scheduled Meeting ☐ Unscheduled Meeting

Other Individuals Involved in Conversation/Meeting _____

Summary of Conversation/Meeting _____

AS ASKED ABOUT CONDITIONS OF CASE.

I explain that a letter is drafted
that asks Dade Co. to resolve

1. AIR ISSUES w/ Buck and

2. ops plan for current activities

MS. said CDM will provide a new ops plan
w/ about 6 wks for new areas.

I explained we need updated ops plan
now for current activities and
CDM revision can come after
new condition of case.

(continue on another
sheet, if necessary)

Signature [Signature]

Title _____

Ford, Kim

From: Ford, Kim
Sent: Friday, May 18, 2001 4:47 PM
To: Butera, Robert; Morris, John R.; Pelz, Susan; Morgan, Steve
Subject: W. Pasco landfill Conditions of Certification - I drafted this letter to summarize whats needed to resolve this one.



Doug Bramlett
5-17-01.doc



Jeb Bush
Governor

Department of Environmental Protection

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

May 18, 2001

DRAFT

Mr. Douglas S. Bramlett
Assistant County Administrator
Pasco County Utilities Services Branch
7530 Little Road, S-213
New Port Richey, FL 34654

Re: Revised Conditions of Certification and Operations Plan
West Pasco Landfill - #PA87-23, Pasco County

Dear Mr. Bramlett:

Our progress on the Conditions of Certification for the West Pasco Solid Waste Facility has proceeded positively, and we are hopefully at a point where the attached revisions will be ready to forward to Buck Oven with the County's concurrence. The Department has updated several of the Conditions of Certification to correctly reference the current Department-approved monitoring plan and to reference recently revised solid waste rule citations. The remaining items 1, 6, and 7 on the County's list of remaining issues attached to Mr. Gallagher's September 11, 2000 letter must be discussed directly with the Power Plant Siting staff in Tallahassee as they pertain to air issues.

The revised Conditions of Certification reference the "current Department-approved" Operations Plan. The purpose of drafting the conditions in this manner was to allow the County to modify the Operations Plan at the district level. The latest version of the landfill operations plan, with suggested revisions by Department staff was included as an attachment to Ms. Getzoff's August 3, 2000 letter for review and comment by county staff. We would like to finalize the Operations Plan concurrently with the revised conditions of certification as the plan is referenced in the conditions of certification, and in many other ways the two documents are interdependent. Please note that the plan received on January 17, 1995 is the current Department approved operations plan until we can reach agreement and a new version is approved as a replacement. An updated Operations Plan must be resolved so that the plan complies with the current rules and reflects the current operations prior to issuing the Conditions of Certification.

"More Protection, Less Process"

Printed on recycled paper.

Mr. Douglas Bramlett
Pasco County Utilities

May 18, 2001
Page Two

The review of the County's construction plans for the disposal units SW-2 and A-3 is complete. The Department intends to provide authorization for construction of these two units upon receipt of the new conditions of certification from Tallahassee's Power Plant Siting Program. The new conditions are needed to clearly identify regulatory authority and related compliance activities.

The Department appreciates the County's efforts to resolve these final issues. Please contact me at (813) 744-6100, extension 353 if you have any questions.

Sincerely,

DRAFT

William Kutash
Waste Program Administrator

Enclosure

cc: John Gallagher, County Administrator
Vincent Mannella, Pasco County Resource Recovery Facility Manager
Daniel Strobbridge, CDM
Buck Oven, P.E., Power Plant Siting, Tallahassee
Deborah Getzoff, Director of District Management, SW District
Robert Butera, P.E., Solid Waste Manager, SW District
Kim Ford, P.E., Solid Waste Permitting, SW District

** Transmit Conf. Report **

P.1

May 16 2001 15:06

Telephone Number	Mode	Start	Time	Pages	Result	Note
818509217250	NORMAL	16,15:01	1'47"	6	* O K	

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

3804 Coconut Palm Drive
Tampa, FL 33619-8318

FAX

Date:

5/15/01

Number of pages including cover sheet:

6

To:

Buck over

pass plane same

Phone:

Fax phone: 921-7250

CC:

From:

fun fond

Phone: (813) 744-6100

Fax phone: (813) 744-6125

REMARKS:

☐ Urgent☒ For your review☐ Reply ASAP☐ Please comment

W. PASCOS
REVIEWED CONDITIONS OF CONTRACT
PLEASE SEE ATTACHED
THX

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

3804 Coconut Palm Drive
Tampa, FL 33619-8318

5/16/01

FAX

Date:

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Number of pages including cover sheet:

6

To:

Buck over

for a plan review

Phone:

Fax phone: 921-7250

CC:

From:

fun for

Phone:

(813) 744-6100

382

Fax phone:

(813) 744-6125

REMARKS:

☐

Urgent

☒

For your review

☒

Reply ASAP

☐

Please comment

W. PASCO
REVIEWED COORDINATIONS OF CIRCLES
PLEASE SEE ATTACHED
THX

INTEROFFICE MEMORANDUM

Sensitivity: COMPANY CONFIDENTIAL

Date: 06-Oct-2000 01:55pm

From: Robert Butera TPA
BUTERA_R

Dept: Southwest District Office

Tel No: 813/744-6100

To: Hamilton Oven TAL (OVEN_H @ A1 @ EPIC1)
CC: Kim Ford TPA (FORD_K)
CC: Susan Pelz TPA (PELZ_S)

Subject: Request for Responses - Sept. 11, 2000 Letter - Pasco County

The District will be drafting a response to Pasco County relating to their comments on the Conditions of Certifications. We will be revising the Certification to incorporate most of their comments and clarify their concerns relating to modifying their certification relating to changes to the GWM plan or their Operations Plan. Modifying the conditions of certification was not our intent so we will clarify. Bill Kutash requests that you provide us with language or comments relating to Item 1., 6., and 7. on the attachment to their September 11, 2000 letter so we may hopefully resolve all the remaining issues. Thanks in advance.



PASCO COUNTY, FLORIDA

D.E.P.
SEP 18 2000
Southwest District Tampa

DADE CITY (904) 521-4120
LAND O'LAKES (813) 996-7341
WEST PASCO (813) 847-8115
FAX (813) 847-8021

COUNTY ADMINISTRATOR'S OFFICE
WEST PASCO GOVERNMENT CENTER, S-340
7530 LITTLE ROAD
NEW PORT RICHEY, FL 34654

September 11, 2000

Ms. Deborah Getzoff
Director of District Management
Florida Department of Environmental Protection
3804 Coconut Palm Drive
Tampa, FL 33619-8318

RE: Pasco County Landfill and Resource Recovery Facility

Dear Ms. Getzoff:

Thank you for your letter of August 3, 2000, regarding the revised Conditions of Certification ("Conditions") for the Pasco County Resource Recovery Facility. We appreciate your efforts to resolve the outstanding issues related to this site.

In the spirit of cooperation, Pasco County is willing to accept the Department's proposed changes to the Conditions that establish specific dates for the submittal of required reports, data, etc., to the Department. According to your letter, these changes will provide the Department with reasonable assurance that the County's facilities are operated in compliance with the applicable rules.

The County still has concerns about some of the Department's proposed changes to the Conditions. The County's specific concerns are identified in the list of remaining issues, which is attached hereto. Although we believe these issues can be resolved relatively easily, several of these issues are very important to the County.

It is very difficult, time consuming, and expensive to modify the Conditions. Accordingly, the County does not want to accept any current proposal by the Department that ultimately would cause the County to modify the Conditions more frequently in the future than it would otherwise. For this reason, the County does not wish to accept the Department's proposal to modify the Conditions to reference a specific version of the County's Landfill Operations Plan ("Plan"). Similarly, other provisions of the Conditions should simply cite the appropriate rule, rather than paraphrase rule language that may change in the future. The County does not want to change the Conditions every time the County changes a minor aspect of its Operations Plan or the Department changes its rule requirements.

The County is willing to furnish the Department with revisions to the Plan for the Department's review and approval, following the procedures outlined in Section 62-17.191(1)(c), F.A.C. If the County's Plan does not meet the minimum criteria specified at Section 62-701.500(2), F.A.C., we would welcome your input concerning specific deficiencies and suggestions for change. This approach would eliminate the need to modify the Conditions because only the Plan would be modified. We also believe that this approach is consistent with Secretary Struhs' policy of "More Protection, Less Process."

Ms. Deborah Getzoff
September 11, 2000


It is also our opinion that the Department's review of the Plan should be limited. The Department should confirm that the items specified in Section 62-701.500(2), F.A.C., are addressed and that no proposed operating procedure violates any prohibition contained in Chapter 62-701, F.A.C.

It should be noted, however, that the Department's decision to edit and unilaterally revise the County's Plan would be considered highly inappropriate by many. The County's Plan was part of an Engineering Report prepared by Law Engineering, Inc.

With regard to the Department's review process in the future, Pasco County will comply with the rule changes in accordance with the provisions of Chapter 403.511(5)(a), F.S. The County also agrees that the procedures contained in Chapter 62-17.191(1)(c), do not apply to most of the activities and issues at the County's facilities, but it appears to establish a suitable framework for some purposes, which will need to be identified on a case-by-case basis. Minor changes in the County's Plan should be handled in a more expeditious fashion.

Pasco County is committed to compliance with Department rules and legislative statutes. We look forward to working with the Department to resolve these final issues. My staff will be contacting yours shortly to arrange a meeting to discuss any outstanding issues.

Sincerely,



John J. Gallagher
County Administrator

JJG/DS/mvw/jjggetzoff(2)

Enclosure

cc: Robert J. Butera, P.E. III, FDEP, Tampa, FL
David S. Dee, Landers & Parsons, Post Office Box 271, Tallahassee, FL 32301
Kim B. Ford, P.E. I, FDEP, Tampa, FL
Hamilton Oven, P.E., Siting Coordination Office Administrator, FDEP, Tallahassee, FL
Daniel E. Strobridge, QEP, Vice President, Camp Dresser & McKee Inc., 1715 N. Westshore Blvd.,
S-875, Tampa, FL 33607
Douglas S. Bramlett, Assistant County Administrator (Utilities Services)
Vincent Mannella, P.E., Solid Waste Facility Manager

REMAINING ISSUES

PASCO CONDITIONS OF CERTIFICATION

1. **Page 3 – III:** Request that language regarding shifting boiler emissions to another APC control train be deleted. (Air section issue that should be cleaned up when Title V permit limits are installed)
2. **Page 5 – A.7:** Remove “from the landfill” from the end of the first sentence. It is redundant.
3. **Page 7 – XI.B:** Insert “under these Conditions of Certification” following the word “required” in the second line. In the seventh line, replace “the conditions” with “these Conditions.”
4. **Page 8 – XI.B 1:** Insert “be” in the second line following the word “to.” Spell check the remaining new language in Paragraphs 2, 3, and 4.
5. **Page 9 – XIII:** Pasco County objects to the new reference to FAC 62-17.191 (1) (c) 2 as it significantly extends the time frame granted in the original conditions. Please remove this reference.
6. **Page 13 – XIV:** This entire section will need to be modified per the Title V permit. (Air Section and Buck Oven issue).
7. **Page 16 – XIV B:** The definition of acceptable fuels should mirror that definition in the Title V permit. (Air Section, Buck Oven issue?).
8. **Page 17 – XIV C. 3.:** The added language referencing the Law Operations Plan is inappropriate and does not need to be identified here. Reference to the Department approved Plan is sufficient. Please remove the added language.
9. **Page 18 – XIV.C.3. c:** The added language referencing certain details of the monitoring plan need not be identified here. The monitoring plan could be changed. Such changes to the monitoring plan need not require changes to the Conditions. Please remove the added language.
10. **Page 21 – XIV. E. 4.:** To avoid confusion, we suggest deleting the reference to XI.B and adding language that states: “The Department shall approve or disapprove requests for minor changes to the Operations Plan within 30 days of such change request. A minor change is defined to include: changes to filling sequence, changes to equipment used, dimensions of the working face, and similar daily operational issues.”

11. Page 23 – XIV. E. 11. d: In the first sentence, strike the words “at least. ”

In the second sentence, because it is impractical to pressure test a leachate collection system (the pipe is perforated), please change it to read as follows: “As part of the five-year assessment, the leachate collection and removal system, force mains, and gravity pipelines shall be visually or video inspected or water pressure cleaned where possible to verify adequate performance. ”

In the last sentence it is not clear what solids are to be tested and for what purpose. Please strike “solids testing.”

3/29/01

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOUTHWEST DISTRICT

5/5/16
SM 12/3/16
JM 1/14/17

CONVERSATION RECORD

Date 5/9/01 Subject W. PASCO
Time 2:55 Permit No. _____
County PARAL
M ASDUL S Telephone No. _____
Representing CDM

☒ Phoned Me ☐ Was Called ☐ Scheduled Meeting ☐ Unscheduled Meeting
Other Individuals Involved in Conversation/Meeting _____

Summary of Conversation/Meeting _____

ASDUL ASK WHEN WOULD APPROVAL BE
GIVEN FOR SW-2 & A3. I SAID

WE TALKED TO JUNE AND SUGGESTED APPROVAL
OF SW2 & A3 BE SIMULTANEOUSLY WITH NEW
CONDITION OF CERTIFICATION IN THE NEXT 2 WKS.
ASDUL SAID BID OPENING IS JUNE 12 AM
HE WANTS THE CONDITIONS TO RETURN BEFORE
THE BID OPENING AND WILL CALL AROUND MAY 23rd.
I SAID I WILL DISCUSS WITH BOB BOWMAN.

(continue on another
sheet, if necessary)

Signature ← C →

Title _____

** Transmit Conf. Report **

P.1

May 8 2001 8:40

Telephone Number	Mode	Start	Time	Pages	Result	Note
817278613099	NORMAL	8, 8:38	1'25"	4	* O K	

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

3804 Coconut Palm Drive
Tampa, FL 33619-8318

FAX

Date:

5/8/01

Number of pages including cover sheet:

4

To:

Ron Walker
West Pasco Landfill

Phone: 8727 861 3004Fax phone: 727 861 3099

CC:

From:

Sara Smith
Solid waste section

Phone: - (813) 744-6100 x 374

Fax phone: (813) 744-6125

REMARKS:

☐ Urgent☒ For your review☐ Reply ASAP☐ Please comment

Use of one to one Mixtures of Mulch & Soil
as cover

Memorandum

Florida Department of Environmental Protection

TO: Waste Program Administrators
Solid Waste Engineers

FROM: Mary Jean Yon, Administrator *MJY*
Solid Waste Section

DATE: April 25, 2001

SUBJECT: Use of One-to-One Mixtures of Mulch and Soil as Cover

The purpose of this memorandum is to document our discussions at the March 21, 2001 Solid Waste Engineer's meeting in Tallahassee on the use of one-to-one mixtures, by volume, of soil and mulched yard trash as part of the final cover at landfills. We concluded this practice can be allowed by the District offices on a case-by-case basis provided the guidelines outlined in this memorandum are followed. We also concluded that, with certain restrictions described below, this practice may be used in final covers at Class III landfills and construction and demolition (C&D) debris disposal facilities and may be expanded to include intermediate covers.

BACKGROUND

This question arose from the proposed closure design of a Class III disposal area at Rosemary Hill Landfill in Clay County, Florida. Since the applicant intends to close this landfill with a clay barrier layer, then Rule 62-701.600(5)(g)2., Florida Administrative Code (F.A.C.), requires the barrier layer be covered with an 18-inch thick layer of soil that will sustain vegetation to control erosion. The applicant desires to replace the soil layer required by rule with a 21-inch thick layer of soil and mulched yard trash, mixed in a one-to-one ratio by volume (hereafter called "mixture"), and then cover this mixture with sod.

The engineer for this project provided additional information for our consideration. Based on some preliminary testing, yard trash mulch generated at the Rosemary Hill Landfill has a density which is approximately 13 percent that of soil. If this mulch is blended with soil at a one-to-one ratio, then the resulting mixture would have an organic fraction of about 0.115, or 11.5 percent, by weight from the mulch (neglecting any organic matter contributed by the soil).

The project engineer also inspected two Class I disposal areas of the landfill that used this mixture over their clay barrier layers. One area was closed in February 1995 and the other was closed in March 1997. Two test holes were excavated in each area. The cover soils in these test holes ranged in thickness from 18 inches to 22 inches, and thus continued to meet or exceed the minimum thickness required by rule. The excavated material consisted mostly of soil with small fragments of wood and plastic bags. The underlying clay was still moist and workable in both areas. The cover grass was generally in excellent condition.

Some anticipated advantages through use of this mixture in final covers are:

- it may help reduce the potential for soil erosion;
- the organic fraction may help the soil retain moisture and provide nutrients for healthier grass growth; and
- healthier cover soils will provide better protection for the underlying clay barrier layer.

CONCLUSIONS

Based on our discussions, we concluded that our rule requiring a soil layer could be interpreted to allow this mixture in the final cover system, or as intermediate cover, for a Class I, II or III landfill, and as final cover for a C&D disposal facility. This decision will continue to be made on a case-by-case basis at the District level, but it was agreed that the following guidelines should be considered in all cases.

1. These guidelines apply only to mixtures of soil and mulched yard trash, as defined in Rule 62-701.200(143), F.A.C., where the soil component constitutes at least 50 percent by volume. They do not apply to other mixtures, including mixtures involving mulched lumber, C&D debris or other vegetative wastes. They also do not apply to the use of yard trash in bedding material below the barrier layer in the final cover of a landfill.
2. While we did not specify a maximum size that would be allowed for the yard trash mulch, it should be prepared using commercially available equipment such as a tub grinder or hammermill, which is operating properly, and the resulting size must not adversely affect its use as cover.

3. If a clay barrier layer is used in a landfill closure, then the mixture should have a minimum thickness of 24 inches and may be placed directly over the clay barrier layer. This extra thickness is necessary to account for the eventual decomposition of the yard trash so that the 18-inch thickness specified in the rule is maintained. The mixture must then be covered with sod or seeded properly for vegetative growth, as required by rule.
4. If a geomembrane barrier layer is used in a landfill closure, then the geomembrane should first be covered with 12 inches of soil. The soil layer should be covered with a minimum of 15 inches of the mixture for a total minimum thickness (soil plus the mixture) of 27 inches, again to account for decomposition of the yard trash. The mixture should not be placed directly on the geomembrane, and it must be covered with sod or seeded properly for vegetative growth, as required by rule.
5. If the mixture is used for closure of a C&D debris disposal facility, then a minimum thickness of 30 inches of the mixture should be placed over the compacted C&D waste, in order to maintain the two-foot cover required by rule after decomposition. The mixture must be covered with sod or seeded properly for vegetative growth, as required by rule.
6. The mixture may be used as intermediate cover provided it has a minimum thickness of 12 inches and will satisfy the other requirements for intermediate cover contained in Rule 62-701.200(61), F.A.C.

MJY/rt

cc: Chris McGuire
Richard Tedder

SW Section Routing

Date: 5/8/01 |

☒

ob Butera

☒

Kim Ford (LBSJ)

☒

Susan Pelz

make
cop 4 for
book

☒

~~XXXXXXXXXX~~ JOHN MOROS

☒

~~XXXXXXXXXX~~ STEPHANIE PETRO

☐

~~XXXXXXXXXX~~ ANNALACK

5/16

IRM 5/8/01

MSP 5/16

FILE

THANKS FOR Y'ALL'S
CONTRIBUTIONS TO
THIS LONG AND
ARDUOUS
CASE!

Disposition After Review

☒

File

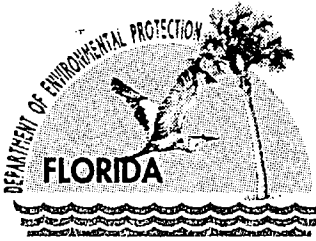
FOR YOUR FILE Kim!

☐

Return to Steve Morgan

~~XXXXXXXXXX~~

STEVE



Jeb Bush
Governor

Department of Environmental Protection

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

Certified Mail
Return Receipt Requested

Douglas S. Bramlett, Assistant County Administrator
Utilities Services Branch
Public Works/Utilities Building S-213
7530 Little Road
New Port Richey, FL 34654-5598

May 8, 2001

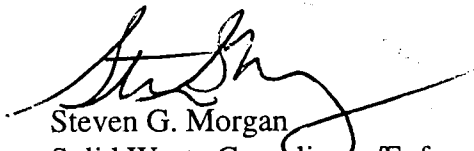
Re: Consent Agreement OGC Case # 99-1346
Pasco County Resource Recovery Solid Waste Management Facility

Dear Mr. Bramlett:

Enclosed please find three signed copies of the above referenced executed Consent Agreement. The effective date of the Consent Agreement is May 8, 2001. Please pay particular attention to the activities and deadlines specified in paragraphs 18 through 22 of the Consent Agreement. You may contact me at (813) 744-6100, extension 385, if you have any questions on this document.

Your cooperation in resolving this matter is appreciated.

Sincerely,



Steven G. Morgan
Solid Waste Compliance/Enforcement
Southwest District

cc: Robert Butera, DEP SW w/o attachment
Susan Pelz, DEP SW w/o attachment
Kathy Carter, OGC, w/o attachment

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION,

IN THE OFFICE OF THE
SOUTHWEST DISTRICT

Complainant,
vs.

OGC FILE NO. 99-1346

PASCO COUNTY, FLORIDA

Respondent.

CONSENT AGREEMENT

This Consent Agreement is made and entered into between the State of Florida Department of Environmental Protection ("Department") and Pasco County, Florida ("Respondent") to reach settlement of certain matters at issue between the Department and Respondent.

The Department finds and the Respondent neither admits or denies the following:

1. The Department is the administrative agency of the State of Florida having the power and duty to administer and enforce the provisions of Chapter 403, Florida Statutes, and the rules promulgated thereunder, Florida Administrative Code Title 62. The Department has jurisdiction over the matters addressed in this Consent Agreement.

2. Respondent is a person within the meaning of Section 403.031(5), Florida Statutes.

3. Respondent is the owner and operator of the Pasco County Recovery Facility ("RRF"), located on Hays Road, North of S.R. 52 in Spring Hill, Florida ("facility"). The facility is specifically located at Latitude 28°22'05" Longitude 82°33'30", Spring Hill, Pasco County, Florida. Respondent operates a solid waste incinerator and various solid waste management facilities at the facility under Department Site Certification No. PA87-23.

4. The incinerator ash is disposed of on-site in lined disposal units with leachate collection and removal systems. The ash leachate water is removed to a two million gallon on-site leachate storage tank, then sent to an on-site leachate treatment plant, and the resulting treated water used as process water at the resource recovery facility.

5. A site visit to the facility on March 18, 1997 revealed that Respondent had deviated from their design and operation plan by disposing of ash across all 3 segments and over the entire bottom of the 10 acre cell, requiring all storm water which fell over the entire 10 acres to be treated as leachate.

6. On June 10, 1997, the County notified the Department that they had placed the two million gallon storage tank into service, but that problems with the treatment plant were delaying operation of the plant at full capacity.

7. During a September 25, 1997, telephone conversation, Respondent stated that there was greater than 1 foot of ponded leachate over the entire 10 acre A-2 ash disposal unit; that the two million gallon leachate tank was full and no leachate had been removed from the disposal unit for some time and that the

leachate treatment plant, designed to treat 30,000 gal./day was only treating 12,000 gal./day. An October 6, 1997 inspection of the facility revealed 3-5 feet of leachate over the entire A-2 disposal unit. Salt bags disposed improperly in the A-2 disposal unit had also broken, causing leakage of salt into the waste.

8. During a November 4, 1997 telephone conversation, Respondent revealed that it had plugged the leachate collection system for the adjacent A-1 ash disposal unit and thus leachate was impounded there also.

9. In a meeting with the Department on December 11, 1997, Respondent informed the Department that they had altered the leachate collection system to allow for increased impoundment of leachate in disposal unit A-1.

10. On November 28, 1997 the Department issued Warning Letter WL97-008SW51SWD to Respondent for impounding leachate and for failing to maintain their leachate management system.

11. Between December 1997 and February 1998, Respondent recorded a total rainfall at the facility of 43.08 inches. By March 20, 1998, the ash disposal units had become impounded to within 28 inches of the top of the liner (approximately 14 feet of leachate) and the facility had approximately 35 million gallons of ash leachate impounded in the disposal units. In May 1998, faced with potential overtopping or a breach in the integrity of the liner system, Respondent began hauling 200,000 gal/day of leachate to the City of Tampa WWTP and installation of a rain cell cover on portions of disposal unit A-2.

12. On July 8, 1998, Respondent informed the Department that they had returned to compliance and were maintaining the level of leachate over the liner below 1 foot. This was confirmed by the Department. Respondent and the Department are currently working on a modification of the facility's site certification to reflect operational changes implemented as a result of the above conditions.

13. A review of Department records also revealed that monitor wells 4MW11D-4MW16D, which were to be located around disposal unit A-2 and installed by January 1, 1996, were in fact installed January 1998 (except for 4MW13D which was not yet installed), and the Department received well construction information and initial sampling results in July 1998.

14. The Department's November 17, 1999 inspection of the facility revealed that the western portion of SW-1 was now being used for permanent disposal of solid waste. During the time that the facility utilized SW-1 for temporary solid waste storage, the Department had not required the Respondent to upgrade the groundwater and gas monitoring programs for this area. However, with the initiation of permanent solid waste disposal in SW-1, the facility groundwater monitoring plan must be modified to comply with the water quality monitoring requirements of F.A.C. 62-701.510 and F.A.C. 62-522 and a gas monitoring program for SW-1 needed to be proposed, approved and implemented in accordance with F.A.C. 62-701.400(10)(c). On May 16, 2000, Respondent submitted a proposed gas monitoring program for SW-1, which was approved by Department letter dated May 17, 2000.

15. The November 17, 1999 facility inspection revealed that the facility is filling SW-1 in a west to east direction. The facility's approved operation plan indicates that the sequence of filling in all solid waste disposal units will be from east to west and the leachate collection system for SW-1 was designed to handle leachate generated from waste filled in an east to west direction. The November 17, 1999 facility inspection also revealed that monitor well 4MW13D still had not been installed.

16. Respondent's activities as outlined in paragraphs 5 through 11 and 13 through 15 have resulted in a violation of Section 403.161(1)(b) which makes it a violation to fail to comply with any rule or permit issued by the Department pursuant to its lawful authority.

17. The Department and the Respondent have met on several occasions on this matter. Having reached a resolution of the matter, the Department and the Respondent mutually agree and it is,

ORDERED:

18. In settlement of the matters addressed in this Consent Agreement, Respondent agrees to \$94,516 in civil penalties for alleged violations of Section 403.161, Florida Statutes, and of the Department's rules. However, in lieu of a cash payment, Respondent agrees to fulfill its obligations under the Consent Agreement by initiating and completing an approved in-kind project ("project"), whose projected costs and expenses are anticipated to be equal or greater than one and a half times the penalty amount, (not less than \$141,774). Within 60 days of the

effective date of this Consent Agreement, Respondent shall provide a proposed project to the Department, and upon approval by the Department, initiate and complete the project in strict accordance with the terms, conditions, and time frames specified by the approved project.

19. Within 30 days of completion of the project, documentation of the costs/expenses for the project shall be submitted to the Department for review and approval. In the event that the Department determines that any or all of the documented costs/expenses of the project do not meet the Department guidelines or additional information is required to evaluate the documentation of the cost/expenses of the project; the Department will make written notification of such to the Respondent and Respondent shall provide the additional information requested, to the Department, within 30 days of receipt of such written notification and request. Should the actual amount expended on the project or the Department approved project expenditures be less than \$141,774 (1 ½ times the monetary penalty amount of \$94,516), a monetary payment of the balance shall be submitted to the Department within 30 days of completion of the project. Payment shall be made by cashier's check or money order. The instrument shall be made payable to the "Department of Environmental Protection" and shall include thereon the OGC number assigned to this Consent Agreement and the notation "Ecosystem Management and Restoration Trust Fund".

20. In the event that the Respondent fails to provide an acceptable in-kind project to the Department within 150 days of

the effective date of this Consent Agreement, Respondent shall, within 30 days of receipt of written notification by the Department, pay the Department \$94,516 in settlement of the matters addressed in this Consent Agreement. This amount includes \$94,016 in civil penalties for alleged violations of Section 403.161, Florida Statutes, and of the Department's rules and \$500.00 for costs and expenses incurred by the Department during the investigation of this matter and the preparation and tracking of this Consent Agreement. Payment shall be made by cashier's check or money order. The instrument shall be made payable to the Department of Environmental Protection and shall include thereon the OGC number assigned to this Consent Agreement and the notation "Ecosystem Management and Restoration Trust Fund". The payment shall be sent to the Department of Environmental Protection, Southwest District, Waste Management Division, 3804 Coconut Palm Drive, Tampa, Florida 33619-8318.

21. Within 30 days of the effective date of this Consent Agreement, Respondent shall initiate the approved gas monitoring corrective action plan attached and made part of this Consent Agreement as Exhibit A and complete all activities in strict accordance with the terms, conditions, and time frames specified in the approved plan.

22. Within 30 days of the effective date of this Consent Agreement, Respondent shall initiate the approved groundwater monitoring corrective action plan attached and made part of this Consent Agreement as Exhibit B and complete all activities in

strict accordance with the terms, conditions, and time frames specified in the approved plan.

23. If any event, including administrative or judicial challenges by third parties unrelated to the Respondent, occurs which causes delay or the reasonable likelihood of delay, in complying with the requirements of this Consent Agreement, Respondent shall have the burden of proving the delay was or will be caused by circumstances beyond the reasonable control of the Respondent and could not have been or cannot be overcome by Respondent's due diligence. Economic circumstances shall not be considered circumstances beyond the control of Respondent, nor shall the failure of a contractor, subcontractor, materialman or other agent (collectively referred to as "contractor") to whom responsibility for performance is delegated to meet contractually imposed deadlines be a cause beyond the control of Respondent, unless the cause of the contractor's late performance was also beyond the contractor's control. Upon occurrence of an event causing delay, or upon becoming aware of a potential for delay, Respondent shall notify the Department orally within 24 hours or by the next working day and shall, within seven calendar days of oral notification to the Department, notify the Department in writing of the anticipated length and cause of the delay, the measures taken or to be taken to prevent or minimize the delay and the timetable by which Respondent intends to implement these measures. If the parties can agree that the delay or anticipated delay has been or will be caused by circumstances beyond the reasonable control of Respondent, the time for performance

hereunder shall be extended for a period equal to the agreed delay resulting from such circumstances. Such agreement shall adopt all reasonable measures necessary to avoid or minimize delay. Failure of Respondent to comply with the notice requirements of this Paragraph in a timely manner shall constitute a waiver of Respondent's right to request an extension of time for compliance with the requirements of this Consent Agreement.

24. Persons who are not parties to this Consent Agreement but whose substantial interests are affected by this Consent Agreement have a right, pursuant to Sections 120.569 and 120.57, Florida Statutes, to petition for an administrative hearing on it. The Petition must contain the information set forth below and must be filed (received) at the Department's Office of General Counsel, 3900 Commonwealth Boulevard, MS-35, Tallahassee, Florida 32399-3000, within 21 days of receipt of this notice. A copy of the Petition must also be mailed at the time of filing to the District Office named above at the address indicated. Failure to file a petition within the 21 days constitutes a waiver of any right such person has to an administrative hearing pursuant to Sections 120.569 and 120.57, Florida Statutes.

The petition shall contain the following information:

(a) The name, address, and telephone number of each petitioner; the Department's Consent Agreement identification number and the county in which the subject matter or activity is located; (b) A statement of how and when each petitioner received notice of the Consent Agreement; (c) A statement of how each petitioner's

substantial interests are affected by the Consent Agreement; (d) A statement of the material facts disputed by petitioner, if any; (e) A statement of facts which petitioner contends warrant reversal or modification of the Consent Agreement; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Consent Agreement; (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Consent Agreement.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the subject Consent Agreement have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 21 days of receipt of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Sections 120.569 and 120.57, Florida Statutes, and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-106.205, Florida Administrative Code.

A person whose substantial interests are affected by the Consent Agreement may file a timely petition for an

administrative hearing under Sections 120.569 and 120.57, Florida Statutes, or may choose to pursue mediation as an alternative remedy under Section 120.573, Florida Statutes, before the deadline for filing a petition. Choosing mediation will not adversely affect the right to a hearing if mediation does not result in a settlement. The procedures for pursuing mediation are set forth below.

Mediation may only take place if the Department and all the parties to the proceeding agree that mediation is appropriate. A person may pursue mediation by reaching a mediation agreement with all parties to the proceeding (which include the Respondent, the Department, and any person who has filed a timely and sufficient petition for a hearing) and by showing how the substantial interests of each mediating party are affected by the Consent Agreement. The agreement must be filed in (received by) the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, within 10 days after the deadline as set forth above for the filing of a petition.

The agreement to mediate must include the following:

- (a) The names, addresses, and telephone numbers of any persons who may attend the mediation;

- (b) The name, address, and telephone number of the mediator selected by the parties, or a provision for selecting a mediator within a specified time;

- (c) The agreed allocation of the costs and fees associated with the mediation;

(d) The agreement of the parties on the confidentiality of discussions and documents introduced during mediation;

(e) The date, time, and place of the first mediation session, or a deadline for holding the first session, if no mediator has yet been chosen;

(f) The name of each party's representative who shall have authority to settle or recommend settlement; and

(g) Either an explanation of how the substantial interests of each mediating party will be affected by the action or proposed action addressed in this notice of intent or a statement clearly identifying the petition for hearing that each party has already filed, and incorporating it by reference.

(h) The signatures of all parties or their authorized representatives.

As provided in Section 120.573, Florida Statutes, the timely agreement of all parties to mediate will toll the time limitations imposed by Sections 120.569 and 120.57, Florida Statutes, for requesting and holding an administrative hearing. Unless otherwise agreed by the parties, the mediation must be concluded within sixty days of the execution of the agreement. If mediation results in settlement of the administrative dispute, the Department must enter a final order incorporating the agreement of the parties. Persons whose substantial interests will be affected by such a modified final decision of the Department have a right to petition for a hearing only in accordance with the requirements for such petitions set forth above, and must therefore file their petitions within 21 days of

receipt of this notice. If mediation terminates without settlement of the dispute, the Department shall notify all parties in writing that the administrative hearing processes under Sections 120.569 and 120.57, Florida Statutes, remain available for disposition of the dispute, and the notice will specify the deadlines that then will apply for challenging the agency action and electing remedies under those two statutes.

25. Entry of this Consent Agreement does not relieve Respondent of the need to comply with applicable federal, state or local laws, regulations or ordinances.

26. The terms and conditions set forth in this Consent Agreement may be enforced in a court of competent jurisdiction pursuant to Sections 120.69 and 403.121, Florida Statutes. Failure to comply with the terms of this Consent Agreement shall constitute a violation of Section 403.161(1)(b), Florida Statutes.

27. Respondent is fully aware that a violation of the terms of this Consent Agreement may subject Respondent to judicial imposition of damages, civil penalties up to \$10,000.00 per day per violation and criminal penalties.

28. Respondent shall allow all authorized representatives of the Department access to the property and facility at reasonable times for the purpose of determining compliance with the terms of this Consent Agreement and the rules and statutes of the Department.

29. All submittals and payments required by this Consent Agreement to be submitted to the Department shall be sent to the

Florida Department of Environmental Protection, Southwest District, Waste Management Division, 3804 Coconut Palm Drive, Tampa, Florida 33619-8318.

30. The Department hereby expressly reserves the right to initiate appropriate legal action to prevent or prohibit any violations of applicable statutes, or the rules promulgated thereunder that are not specifically addressed by the terms of this Consent Agreement.

31. The Department, for and in consideration of the complete and timely performance by Respondent of the obligations agreed to in this Consent Agreement, hereby waives its right to seek judicial imposition of damages or civil penalties for alleged violations outlined in this Consent Agreement. Respondent acknowledges but waives its right to an administrative hearing pursuant to Sections 120.569 and 120.57, Florida Statutes, concerning the terms of this Consent Agreement. Respondent acknowledges its right to appeal the terms of this Consent Agreement pursuant to Section 120.68, Florida Statutes, but waives that right upon signing this Consent Agreement. However, Respondent reserves its right to contest any other agency action by the Department.

32. By signing and complying with the terms of this Consent Agreement, Respondent does not admit or acknowledge any guilt or liability, or any violation of the Department's permits, rules, or statutes.

33. No modifications of the terms of this Consent Agreement shall be effective until reduced to writing and executed by both Respondent and the Department.

34. In the event of a sale or conveyance of the facility or of the property upon which the facility is located, if all of the requirements of this Consent Agreement have not been fully satisfied, Respondent shall, at least 30 days prior to the sale or conveyance of the property or facility, (1) notify the Department of such sale or conveyance, (2) provide the name and address of the purchaser, or operator, or person(s) in control of the facility, and (3) provide a copy of this Consent Agreement with all attachments to the new owner. The sale or conveyance of the facility, or the property upon which the facility is located shall not relieve the Respondent of the obligations imposed in this Consent Agreement.

35. This Consent Agreement is a settlement of the Department's civil and administrative authority arising under Florida law to resolve the matters addressed herein. This Consent Agreement is not a settlement of any criminal liabilities which may arise under Florida law, nor is it a settlement of any violation which may be prosecuted criminally or civilly under federal law.

36. This Consent Agreement is a final order of the Department pursuant to Section 120.52(7), Florida Statutes, and it is final and effective on the date filed with the Clerk of the Department unless a Petition for Administrative Hearing is filed in accordance with Chapter 120, Florida Statutes. Upon the timely filing of a petition this Consent Agreement will not be effective until further order of the Department.

FOR THE RESPONDENT

APPROVED

APR 24 2001

DATE

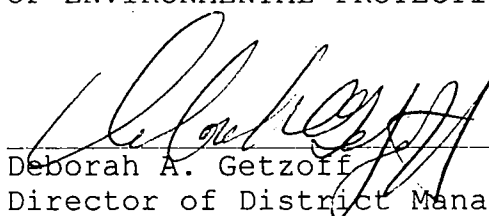


STEVE SIMON, CHAIRMAN

PASCO COUNTY BOARD OF COUNTY COMMISSIONERS

DONE AND ORDERED this 7th day of May, 2001, in Tampa, Florida

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION


Deborah A. Getzoff
Director of District Management
Southwest District

Copies furnished to:
Larry Morgan, OGC

APPROVED AS TO LEGAL FORM & SUFFICIENCY
Office of the County Attorney


Attorney

FILING AND ACKNOWLEDGEMENT

FILED, on this date, pursuant to S120.52
Florida Statutes, with the designated Department
Clerk, receipt of which is hereby acknowledged.

Anna Black
Clerk

5-8-01
Date

West Pasco County Landfill Gas Migration Monitoring Program – Cell SW-1

D.E.P.
MAY 16 2000
Southwest District Tampa

A landfill gas migration monitoring program will be implemented to prevent explosions and fires outside of the limits of waste disposal, off-site odors and damage to vegetation. Monitoring will be conducted for the percent of the lower explosive limit for methane (LEL). The regulatory threshold for on-site structures is 25% of the LEL. The regulatory threshold for the landfill property boundary is 100% of the LEL. Monitoring shall be conducted quarterly in accordance with the regulations. If a regulatory exceedance is detected during routine monitoring, the landfill operator will submit a remediation plan within seven days to the FDEP. The plan will detail the nature and extent of the migration and the proposed remedy. The remedy will be complete/implemented within 60 days of the detection unless otherwise approved by the FDEP.

If migrating landfill gas is detected greater than 25 percent of the LEL for methane at any monitoring probe, a temporary monitoring probe will be established 50 feet in the direction opposite (further) from the cell. The temporary probe will be monitored on a monthly basis for at least one quarter and until monitoring of the temporary probe indicates zero percent of the LEL for methane.

The landfill gas migration monitoring program will include monitoring of Cell SW-1 perimeter. There are no structures in the immediate or close proximity to Cell SW-1. Therefore, the monitoring probes will be constructed at the perimeter of cell SW-1 as shown on Figure 2. The monitoring probes will be constructed as shown on Figure 3. A Gas Tester Model DigiFlam 2000, as manufactured by Neotronic or equivalent will be used. The monitoring probes will be advanced to the low seasonal groundwater table. The one-inch well screen will extend from the low seasonal groundwater table to two feet below ground surface. The one-inch well riser will extend approximately three feet above ground surface. The annular space will be backfilled with pea gravel. Six inches of select sand backfill will be placed over the gravel pack. A one-foot thick bentonite seal will be placed over the select sand backfill. Six inches of compacted native soil will be placed on the one foot bentonite seal. The probe will have a quick connect to facilitate sampling.

The landfill gas migration monitoring locations include four landfill gas monitoring probes as described and numbered GMP-1 through GMP-4.

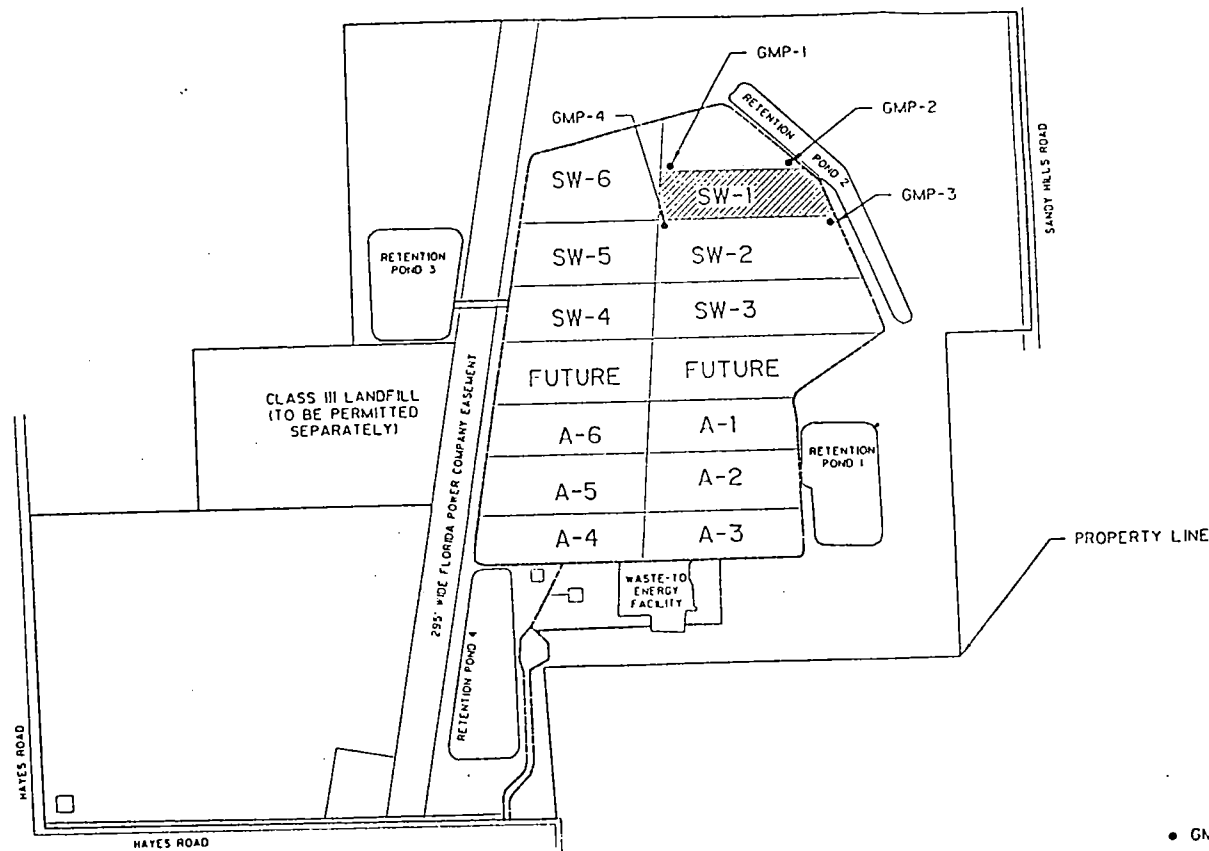
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D.E.P.
MAY 16 2000
Southwest District Twp. 13

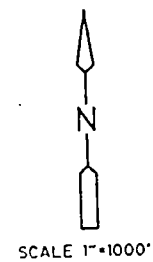


FIGURE 2
PROPOSED LOCATION OF GAS MONITORING PROBES
PASCO COUNTY LANDFILL
SITE LAYOUT
MAY 16 2000

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05/15/00 14:46:42

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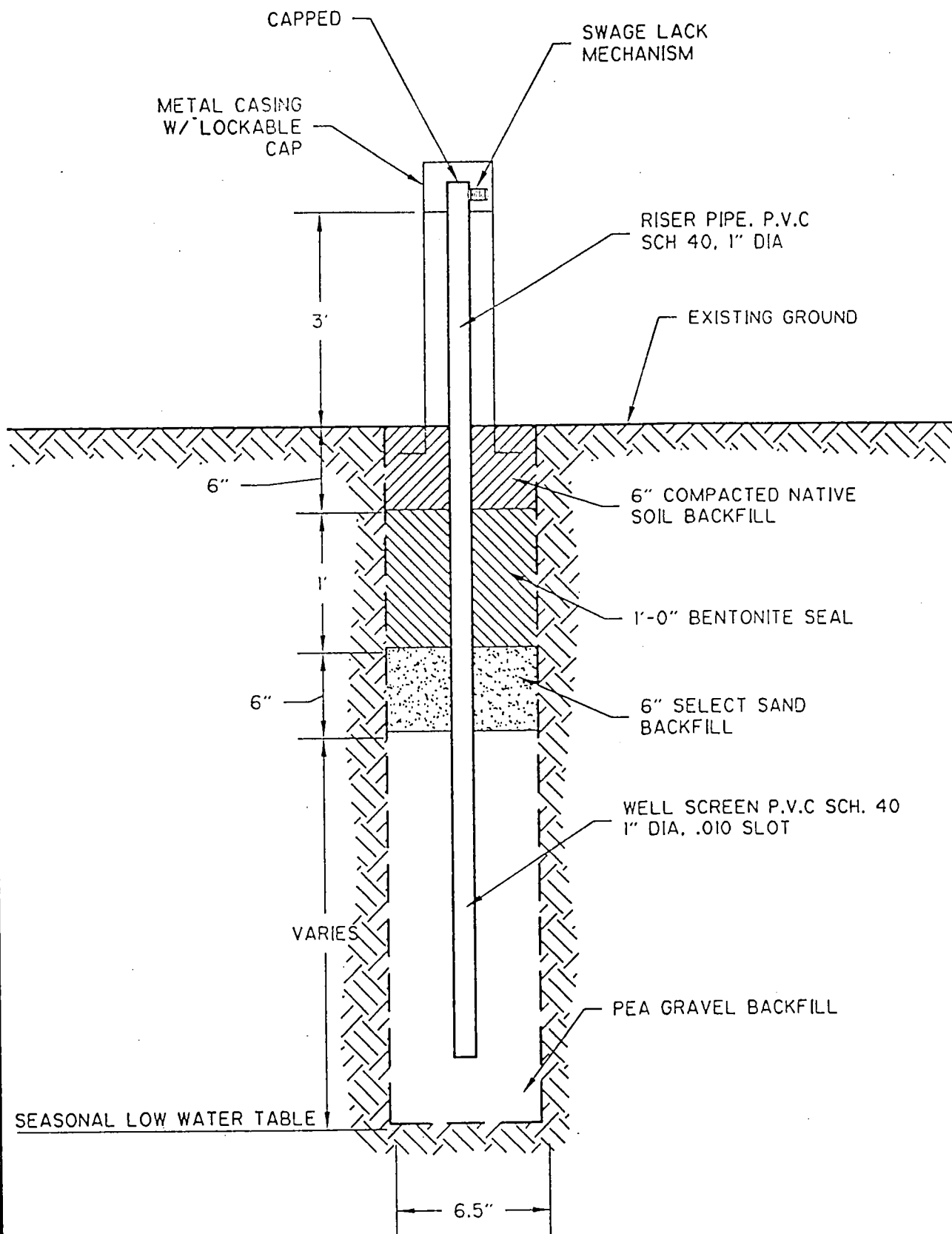
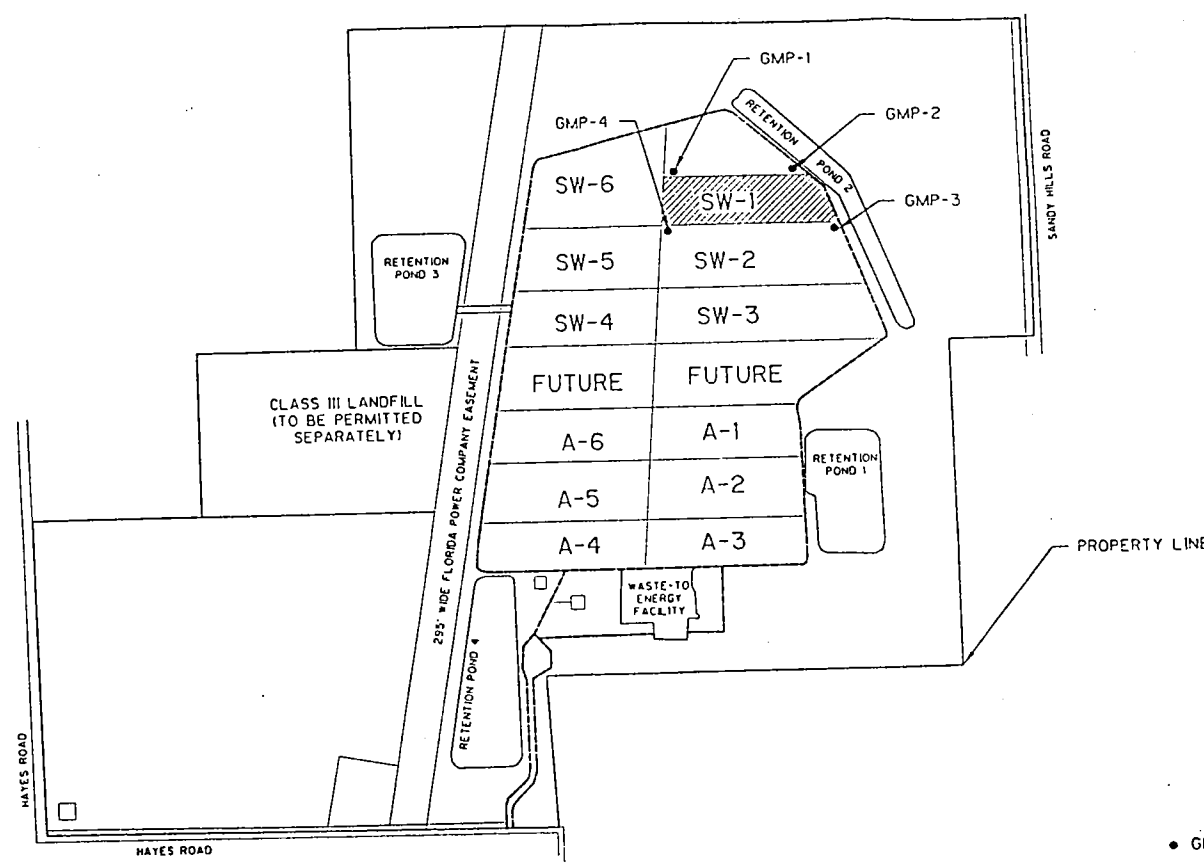


Figure No. 3
GAS MONITORING PROBE
MAY 16 2000

D.E.P.
MAY 16 2000
Southwest District Tampa

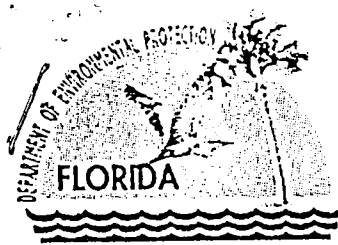


N
SCALE 1"=1000'

• GMP-1 GAS MONITORING PROBE

FIGURE 2
PROPOSED LOCATION OF GAS MONITORING PROBES
PASCO COUNTY LANDFILL
SITE LAYOUT
MAY 16 2000

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pccol
05/15/00 14:38:13
2/13/23
siconels



Jeb Bush
Governor

EXHIBIT B
Department of
Environmental Protection

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

Mr. Vincent Mannella, P.E.
Pasco County Solid Waste, Resource Recovery Facility
14230 Hays Road
New Port Richey, FL 34610

December 4, 2000

Re: West Pasco Class I Landfill, Pasco County
Ground Water Monitoring Corrective Action Plan, Cell SW-1
PA 87-23
OGC File No. 99-1346

Dear Mr. Mannella:

The Department has reviewed the document entitled *Ground Water Monitoring Corrective Action Plan, West Pasco Class I Landfill, Pasco County, Florida*, prepared by QORE, Inc., received July 25, 2000. This document was submitted to the Department in accordance with Paragraph 14 of draft Consent Order 99-1346 to implement ground water monitoring at Cell SW-1. It is intended that this letter and the above-referenced document will constitute Exhibit B as referenced in Paragraph 20 the executed Consent Order.

The Department has no objection to installation of the proposed monitor wells in proximity to Cell SW-1 subject to the following conditions:

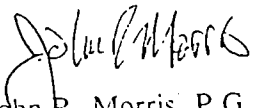
1. A standard penetration test boring shall be conducted at each of the two proposed detection well locations to verify lithology and determine the occurrence of the first water-bearing unit. A boring log shall be submitted to the Department along with the monitor well construction details.
2. As noted in Section 2.4 of the referenced submittal, the thickness of the surficial sands and the depth to limestone are highly variable in the vicinity of Cell SW-1. In the event that considerable thicknesses of sand and/or clayey sediments are encountered that appear to be saturated, the installation of shallow and deep well pairs shall be required to monitor the surficial and Floridan aquifers, respectively. As required by Rule 62-701.510(3)(d)4., F.A.C., well screens shall not act as conduits through confining layers between water-bearing strata. If a shallow well is required, the well screen shall be located to straddle the water table surface.
3. The well screen slot and sand pack shall be sized to the formation of the targeted monitoring zones to allow the collection of representative ground water samples from the proposed detection wells.
4. The well construction details to be provided to the Department as indicated in Section 3.2 of the referenced submittal be supplemented by the information presented on attached DEP Form No. 62-522.900(3).

"More Protection, Less Process"

5. An initial sampling event of the proposed monitor wells shall be conducted for the parameters listed in Rule 62-701.510(8)(a) and (8)(d), F.A.C.
6. The semi-annual sampling events conducted at the proposed monitor wells for the field and laboratory parameters listed in Section 3.3 of the referenced submittal and shall also include the laboratory analyses of the parameters listed in 40 CFR Part 258, Appendix I.
7. Within 90 days of execution of Consent Order 99-1346 the following activities shall be completed: the proposed detection wells shall be installed and developed; the initial sampling event shall be conducted; and, the monitor well construction details and the results of analyses of the initial sampling event shall be submitted to the Department.
8. Routine sampling of the proposed detection wells at Cell SW-1 shall be performed during the semi-annual sampling events conducted at the other monitor wells at the West Pasco Class I landfill. Paragraph 20 of Consent Order 99-1346 shall be considered to be satisfactorily completed when a revised ground water monitoring plan which includes all existing and proposed wells is approved by the Department to replace the existing ground water monitoring plan.

The Department appreciates the County's efforts to implement ground water monitoring in the vicinity of Cell SW-1. Please contact me at (813) 744-6100 extension 336 if you have questions.

Sincerely,



John R. Morris, P.G.
Solid Waste Section

Attachment

cc: John J. Gallagher, County Administrator, 7530 Little Road, S-340, New Port Richey, FL 34654
Douglas Bramlett, Assistant County Administrator, Pasco County Utilities Services,
7530 Little Road, S-204, New Port Richey, FL 34654
Lawrence J. Maron, P.E., QORE, Inc., 1211 Tech Blvd., Suite 200, Tampa, FL 33619
Deborah A. Getzoff, FDEP Tampa, w/o attachment
William Kutash, FDEP Tampa, w/o attachment
fb Robert Butera, P.E., FDEP Tampa, w/o attachment
Kim Ford, P.E., FDEP Tampa, w/o attachment
Steve Morgan, FDEP Tampa, w/o attachment

Florida Department of Environmental Protection
Twin Towers Office Bldg 2600 Blair Stone Road Tallahassee, Florida 32309-2400

DEP Form # 62-522 900(1)
Form Title <u>MONITOR WELL COMPLETION REPORT</u>
Effective Date _____
DEP Application No _____ (Filled in by DEP)

MONITOR WELL COMPLETION REPORT

DATE: _____

INSTALLATION NAME: _____

DEP PERMIT NUMBER: _____ GMS NUMBER: _____

WELL NUMBER: _____ WELL NAME: _____

DESIGNATION Background _____ Immediate _____ Compliance _____

LATITUDE/LONGITUDE: _____

AQUIFER MONITORED: _____

INSTALLATION METHOD: _____

INSTALLED BY: _____

TOTAL DEPTH: _____ DEPTH OF SCREEN: _____ (bls)
(bls)

SCREEN LENGTH: _____ SCREEN SLOT SIZE: _____ SCREEN TYPE: _____

CASING DIAMETER: _____ CASING TYPE: _____

LENGTH OF CASING: _____ FILTER PACK MATERIAL: _____

TOP OF CASING ELEVATION (MSL): _____

GROUND SURFACE ELEVATION (MSL): _____

COMPLETION DATE: _____

DESCRIBE WELL DEVELOPMENT: _____

POST DEVELOPMENT WATER LEVEL ELEVATION (MSL): _____

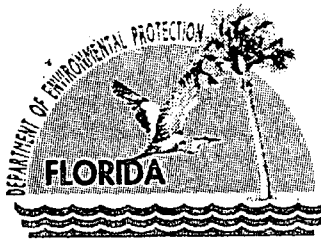
DATE AND TIME MEASURED: _____

REMARKS: (soils information, stratigraphy, etc.): _____

REPORT PREPARED BY: _____
(name, company, phone number)

NOTE PLEASE ATTACH BORING LOG

(bls) = Below Land Surface



Jeb Bush
Governor

Department of Environmental Protection

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

Mr. Douglas S. Bramlett, Assistant County Administrator
Pasco County Utilities Services Branch
7530 Little Road, S-213
New Port Richey, FL 34654

May 4, 2001

Re: West Pasco Class I Landfill, Pasco County
Ground Water Monitoring Plan Approval
PA 87-23

Dear Mr. Bramlett:

The Department has completed the review of the document entitled *Water Quality Monitoring Plan for the West Pasco Class I Landfill, Pasco County, Florida*, prepared by Camp Dresser & McKee, Inc., dated March 29, 2001, received March 30, 2001. This document reflects the changes to the current water quality and leachate monitoring plan to include the proposed expansion area of the subject facility. The Department has determined that the monitoring plan modifications described in the referenced document are consistent with Rule 62-701.510, F.A.C., and does not objection to their implementation.

Please note that it is the Department's intention to reference this document as the approved monitoring plan for the subject facility in the Conditions of Certification. The reference to the approved monitoring plan dated January 5, 1995 in Condition No. XIV.D.3., will be replaced by the monitoring plan dated March 29, 2001.

The Department appreciates the County's efforts to develop the revised monitoring plan for the West Pasco Class I Landfill. Please contact me at (813) 744-6100 extension 353 if you have questions.

Sincerely,

William Kutash
Waste Program Administrator

cc: John J. Gallagher, County Administrator, 7530 Little Road, S-340, New Port Richey, FL 34654
Vincent Mannella, P.E., Pasco County Solid Waste, Resource Recovery Facility, 14230 Hays Road,
New Port Richey, FL 34610
Daniel E. Strobridge, QEP, Camp Dresser & McKee, Inc., 1715 No. Westshore Blvd., Suite 875,
Tampa, FL 33607
Deborah A. Getzoff, FDEP Tampa
Robert Butera, P.E., FDEP Tampa
Kim Ford, P.E., FDEP Tampa
John R. Morris, P.G., FDEP Tampa

"More Protection, Less Process"



D.E.P.

MAY 04 2001

Southwest District Tampa

PASCO COUNTY, FLORIDA

DADE CITY (352)521-4274
LAND O' LAKES (813)996-7341
SPRING HILL (727)856-0119
FAX (727)861-3099

VINCENT MANNELLA, P.E.
RESOURCE RECOVERY FACILITY
14230 HAYS ROAD
SPRING HILL, FL 34610

April 30, 2001

Mr. Bob Butera, P.E.
Florida Department of Environmental Protection
3804 Coconut Palm Drive
Tampa, FL 33619-8318

Re: By Passing M.S.W.

Dear Mr. Butera:

Please be advised that by passing of M.S.W. has started today resulting from Spring Outages. We will be by passing approximately 500 to 750 tons per day to SW-1. The by passing is temporary and will last during this outage. The M.S.W. will be placed in SW-1 second lift from East to West, the placed M.S.W. will not be removed.

Very truly yours,

Vincent Mannella, P.E.
Solid Waste Facility Manager

VM/kj

cc: Douglas S. Bramlett, Assistant County Administrator (Utilities Services)
Ron Walker, Solid Waste Superintendent
Kim Ford, P.E., Florida Department of Environmental Protection



University of Pittsburgh

Department of Civil and Environmental Engineering

Leonard W. Casson, Ph.D., P.E., DEE
Environmental Engineer
Associate Professor

944 Benedum Engineering Hall
Pittsburgh, Pennsylvania 15261-2294
412-624-9868
Fax: 412-624-0135
E-mail: casson@engr.pitt.edu
<http://www.pitt.edu/~casson/>

W) PASCO CEMENTATE
S/3/01 TREATMENT

2r

I spoke w/ Leonard Casson
and explained I only have
30 minutes then I must leave
to complete a review
of another project.

I requested any SW water
related questions to be directed
to Bob Butler.

What permitting will
FDEP require?
(the answer should be
asked in writing with
a detailed concept site plan
with brief description
of proposal)

D W concerns contaminants in
Cementate (ton G.)
STEUBENHOPES concern is

Quantity of final water for reuse
11/5 I let I asked to
to keep us informed.
fr

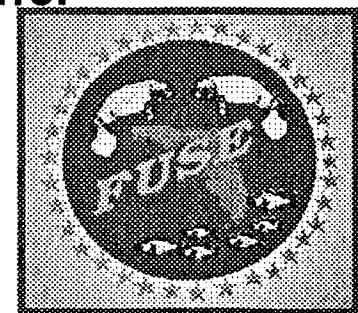
Sodium Hypochlorite Production from Landfill Ash Leachate for Wastewater Disinfection

Leonard W. Casson¹, William W. Edgar²,

Gary Hunter³, James W. Bess⁴,

Tory Champlin⁵, and Fred Wilson²

¹University of Pittsburgh, ²FUSE, Inc., ³Black and Veatch,
⁴Exceltec, International, ⁵Parsons Engineering Science, Inc.



Sodium Hypochlorite Production from Landfill Ash Leachate for Wastewater Disinfection

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Gary Hunter³, James W. Bess⁴,
Tory Champlin⁵, and Fred Wilson²

¹University of Pittsburgh, ²FUSE, Inc., ³Black and Veatch,
⁴Exceltec, International, ⁵Parsons Engineering Science, Inc.



Problem Statement

- Pasco County, Florida is permitted for six ten-acre lined ash monofil cells.
- These cells are used for disposal of ash from the Pasco County Resource Recovery Facility;
- Rainfall entering these cells generates leachate which must be treated and disposed of to the satisfaction of the Florida Department of Environmental Protection.

Problem Statement

(Continued)

- Problems existed with the current Leachate Management Facility (capacity 35,000 gpd).
- These problems, combined with unusually high rainfall in 1997 and 1998 (41.6 inches from December, 1997 through March, 1998), resulted in excess leachate collection in the ash cells (approximately 37 million gallons).

Ash Monofil Cells, March 1997



Phase 1 Pilot-Scale Study Objective

The objective of this Phase 1 study was to investigate the feasibility of generating liquid sodium hypochlorite from landfill ash leachate.

Water Reclamation & Reuse ?

The sodium hypochlorite generated from landfill ash leachate may be used to disinfect wastewater treatment plant effluent and then perhaps enter a water reclamation/reuse system.

Raw Leachate Characterization

Sampling Location	Chloride (mg/L)	TDS (mg/L)	Sodium (mg/L)	Sulfate (mg/L)	Potassium (mg/L)	Specific Conductivity (umhos)
Raw	26,072	64,100	5,120	429	3,300	57,200
Raw	29,110	98,500	5,640	546	3,680	67,400
Raw	30,198	133,600	5,560	N/A	3,550	63,000
Top of Tank	14,868	48,200	3,210	572	1,840	36,200
Bottom of Tank	26,114	78,400	5,290	548	3,360	58,800
Raw	17,218	69,400	3,990	472	2,470	44,100
Raw	22,419	82,500	4,360	454	3,170	56,700
Raw	23,501	53,825	5,120	538	3,700	43,400
Raw	21,000	79,000	3,860	452	2,850	52,700
Minimum	14,868	48,200	3,210	429	1,840	36,200
Maximum	30,198	133,600	5,640	572	3,700	67,400
Arithmetic Mean	23,811	78,614	4,683	501	3,102	53,278

Note: N/A = Not Available

Raw Leachate Characterization

Parameter	Measured Value
Alkalinity (mg/L as CaCO ₃)	305.2
Total Organic Carbon (mg/L)	56.7
Total Phosphorous (mg/L)	0.17
Chloride (mg/L)	29,110
Fluoride (mg/L)	0.14
Total Dissolved Solids (mg/L)	98,500
Total Suspended Solids (mg/L)	3.0
Specific Conductivity (umhos/cm)	67,400
Sulfide (mg/L)	11.1
pH	7.05
Ammonia Nitrogen (mg/L)	28.9
Aluminum (mg/L)	0.269
Barium (mg/L)	3.16

Raw Leachate Characterization

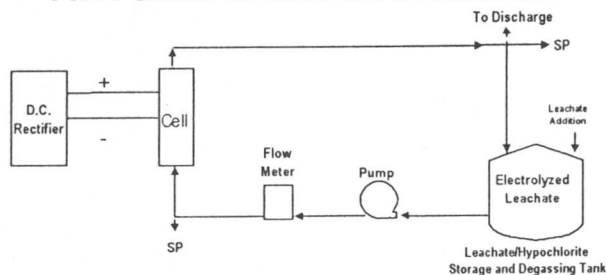
(Continued)

Parameter	Measured Value
Calcium (mg/L)	8,790
Chromium (mg/L)	< 0.01
Copper (mg/L)	0.16
Iron (mg/L)	0.59
Lead (mg/L)	< 0.01
Magnesium (mg/L)	3.44
Manganese (mg/L)	0.38
Nickel (mg/L)	0.59
Potassium (mg/L)	3,680
Sodium (mg/L)	5,460
Zinc (mg/L)	0.09

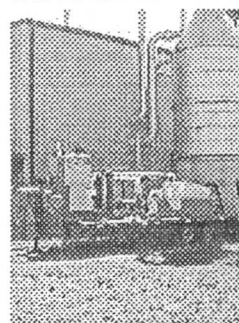
Pilot-Scale Leachate Treatment System Components

- Electrolytic Cell;
- DC Rectifier;
- Recirculating Pump Capable of Operating between 20 and 200 gallons per minute;
- 500 Gallon Recirculation Tank; and
- Paddle Type Variable Area Flow Monitor with a Safety Switch.

Pilot-Scale Treatment Schematic



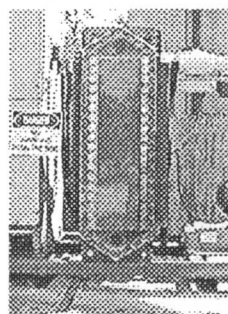
Mobile Pilot-Scale Testing Unit



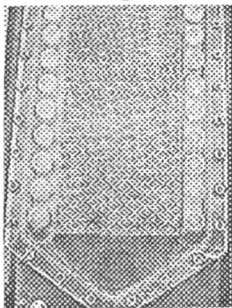
Mobile Pilot-Scale Testing Unit



Electrolytic Cell



Electrolytic Cell



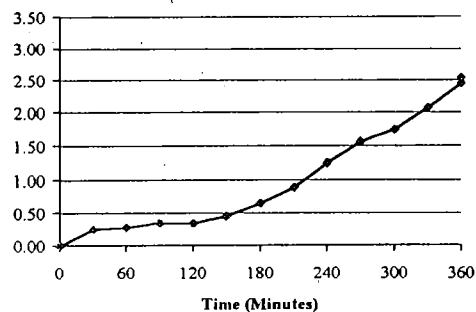
Phase 1 Ash Leachate Study

Phase 1 Pilot-Scale Testing Summary

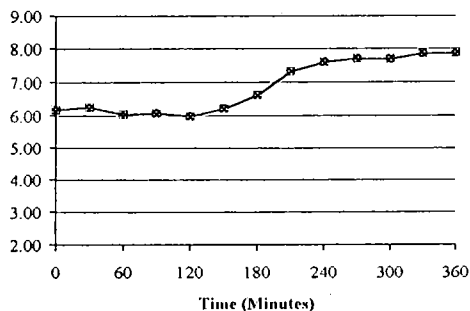
Pilot Test Number	DC Current (Amps)	Flow rate (GPM)	Test Volume (Gallons)	Source	Final Hypochlorite Concentration (g/L)	Test Duration (Minutes)	Temp. Change (Degrees C)	Initial pH	Initial Specific Conductivity (uS/cm)
1	500	150	400	Leachate	0.971	60	N/A	6.48	38,300
2	500 to 600	158	450	Leachate	0.425	210	N/A	5.50	43,000
3	520 to 605	160	450	Leachate	0.638	240	12.5	6.94	33,600
4	860 to 870	158	450	Leachate	1.23	240	15.5	6.90	33,900
5	800 to 880	160	400	Saltwater	3.13	240	14	7.11	37,300
6	915 to 980	158	450	Leachate	2.58	240	17	6.46	31,000
7	700 to 800	161	450	Leachate	1.77	240	15	9.58	28,800
8	1000 to 1260	158	450	Leachate	1.89	240	22	8.09	29,100
Cell Acid Washed Prior to Pilot Test 9 (7/20/99 - 8/4/99)									
9	1200	160	450	Leachate	2.38	240	22	7.58	25,700
10	1200	160	240	Leachate	1.59	240	21	6.55	41,400
11	1200	120	450	Leachate	1.12	180	16	6.87	27,300
12	1200	120	450	Leachate	2.76	360	22	7.53	39,100
13	1200	121	450	Leachate	2.54	360	26	6.18	37,300

Note: N/A = Not Available

Pilot Test P1-13 1200 Amps, Cleaning Cycle



Pilot Test P1-13 1200 Amps, Cleaning Cycle



Phase 1 Summary and Conclusions

- Phase 1 studies showed that liquid sodium hypochlorite can be generated from landfill ash leachate;
- Following an initial period of leachate contaminant oxidation, the phase-1 pilot-scale system generated approximately 3 g/L of sodium hypochlorite in less than 240 minutes of recirculation;

Phase 1

Summary and Conclusions

(Continued)

- Manganese (leachate concentration of 0.4 mg/L) accumulation on the anodic surface of the electrolytic cell resulted in a loss of chlorine production efficiency; and
- These manganese accumulation problems were solved by incorporating a backwashing/cleaning process into the pilot-scale system. This process was developed by the FUSE Pilot Test Team.

Phase 2

Pilot-Scale Studies

Phase 2

Study Objectives

- Pilot-Scale Process Optimization
 - Increase Hypochlorite Concentration
 - Reduce Recirculation Time
 - Evaluate Other Methods of Raw Leachate Oxidation
- Economic Analysis and Evaluation
- Permitting Process (What will FDEP require?)
- Full-Scale System Design

Pilot Test Number	Objective
P2-6	Sodium Hypochlorite Generation in 30 g/L Brine Solution
P2-7	Sodium Hypochlorite Generation using Brine from Test P2-6. The Brine/Hypochlorite Solution was Allowed to Cool for 12 Hours.
P2-8	Sodium Hypochlorite Generation from Leachate
P2-9	Sodium Hypochlorite Generation using Brine From Test P2-8. The Leachate/Hypochlorite Solution was Allowed to Cool for 36 Hours.
P2-10	Ozonation Test followed by 1 Hour of Cell Operation
P2-11	Ozonated Leachate used for Sodium Hypochlorite Generation
P2-12	Sodium Hypochlorite Generation from Leachate
P2-13	Sodium Hypochlorite Generation using Supplemented Leachate. Leachate Plus 0.1 lb/gallon of Salt.
P2-14	Sodium Hypochlorite Generation from Leachate
P2-15	Sodium Hypochlorite Generation using Leachate from P2-14. Leachate Allowed to Cool for 60 Hours.

Selected Phase 2 Pilot-Scale Tests

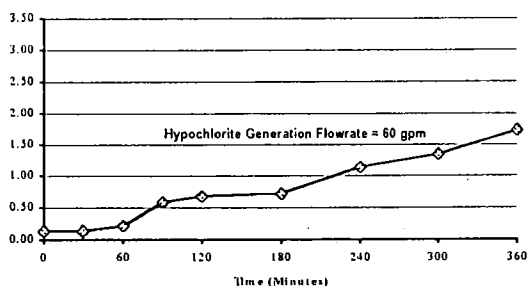
Pilot Test Number	Hypochlorite Source	Final Hypochlorite Concentration (g/L)	Test Duration (Minutes)	Temperature Change (Degrees C)	Initial pH	Initial Specific Conductivity (u/mhos/cm)
P2-6	Brine	3.39	330	17	6.59	41,200
P2-7	Brine	3.37 to 5.81	330	24	8.59	42,000
P2-8	Leachate	1.74	360	18	6.75	27,200
P2-9	Leachate	1.74 to 3.87	360	27	8.02	26,600
P2-10	Leachate	N/M				
P2-11	Ozonated Leachate	2.54	360	18.8	7.07	31,400
P2-12	Leachate	2.55	780	34	6.67	23,300
P2-13	Leachate plus NaCl	4.18	810	29	6.43	44,900
P2-14	Leachate	2.27	600	33	5.39	29,200
P2-15	Leachate	1.49 to 3.97	600	32	7.80	30,300

N/M = Not Measured

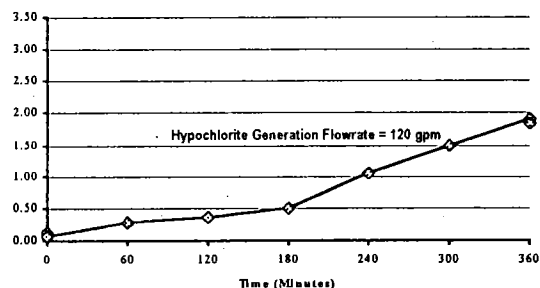
Pilot Test Constants

- Test Volume = 400 gallons
- Flowrate = 60 gallons per minute
- DC Current = 1200 amps
- Cell Cleaning Frequency
 - 5 Minutes per Hour for Pilot Tests P2-6 through P2-13
 - 2 Minutes per 30 Minutes for Pilot Tests P2-14 and P2-15

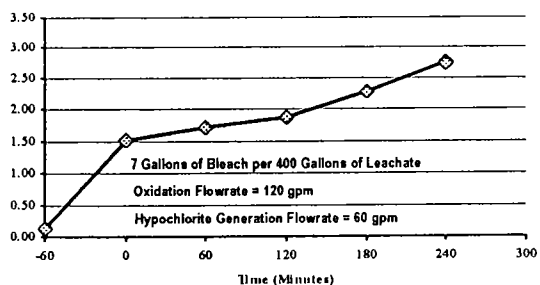
Typical Leachate Hypochlorite Generation Curve



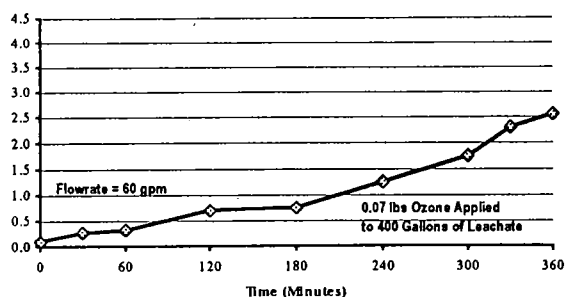
Leachate Hypochlorite Generation after 12 Hours of Aeration



Leachate Hypochlorite Generation After One Hour of Commercial Hypochlorite Oxidation



Leachate Hypochlorite Generation After Two Hours of Ozonation

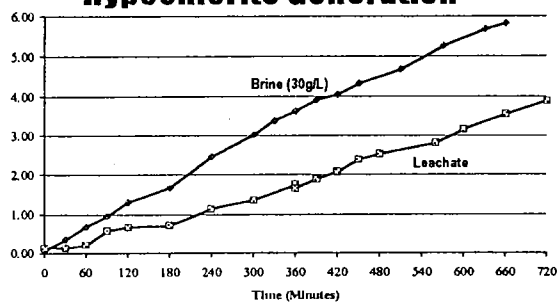


Brine and Raw Leachate Hypochlorite Generation

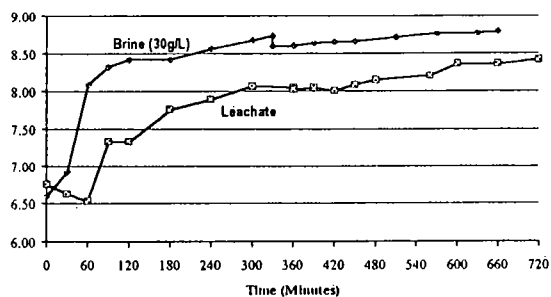
Pilot Test Number	Hypochlorite Source	Final Hypochlorite Concentration (g/L)	Temperature Change (Degrees C)	Initial pH	Initial Conductivity (uhmhos/cm)
P2-6	Brine	3.39	17	6.59	41,200
P2-7	Brine	3.37 to 5.81	24	8.59	42,000
P2-8	Leachate	1.74	18	6.75	27,200
P2-9	Leachate	1.74 to 3.87	27	8.02	26,600

NOTES: Test Volume = 400 gallons; Flowrate = 60 gpm
DC Current = 1,200 Amps
P2-6 and 7 Test Duration = 330 minutes each
P2-8 and 9 Test Duration = 360 minutes each
30 g/L Brine Solution = 100 lbs of Salt in 400 gallons of reuse water.

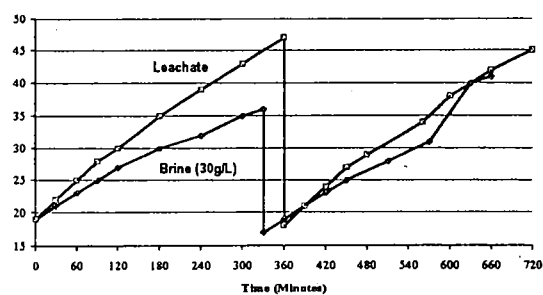
Brine and Leachate Hypochlorite Generation



Brine and Leachate pH Variation



Brine and Leachate Temperature Variation



Chemical Analysis: Brine

Parameter	Raw	660 Minutes	Ratio of Final to Initial Concentration
Alkalinity (mg/L as CaCO ₃)	2,208	4,310	1.95
Total Organic Carbon (mg/L)	11.40	49.40	4.33
Chemical Oxygen Demand (mg/L)	1,350	923	0.68
Chloride (mg/L)	16,292	15,521	0.95
Fluoride (mg/L)	0.18	0.19	1.06
Total Phosphorous (mg/L)	2.40	2.40	1.00
Ortho-Phosphorous (mg/L)	N/A	N/A	N/A
Total Solids (mg/L)	N/A	43,874	N/A
TDS (mg/L)	29,323	52,400	1.79
TSS (mg/L)	29.6	45.0	1.52
VSS (mg/L)	22.0	39.8	1.81
Sulfate (mg/L)	354	342	0.97
Specific Conductivity (umhos/cm)	41,200	41,500	1.01
pH	6.59	8.79	1.33
Total Available Chlorine (g/L)	0.070	5.810	83.00

Chemical Analysis: Raw Leachate

Parameter	Raw	720 Minutes	Ratio of Final to Initial Concentration
Alkalinity (mg/L as CaCO ₃)	107	2,080	19.44
Total Organic Carbon (mg/L)	8.48	7.76	0.92
Chemical Oxygen Demand (mg/L)	840	564	0.67
Chloride (mg/L)	9,369	7,527	0.80
Fluoride (mg/L)	0.18	0.18	1.00
Total Phosphorous (mg/L)	8.54	4.43	0.52
Ortho-Phosphorous (mg/L)	N/A	0.34	N/A
Total Solids (mg/L)	28,436	29,248	1.03
TDS (mg/L)	26,000	27,400	1.05
TSS (mg/L)	92.0	44.0	0.48
VSS (mg/L)	15.2	18.0	1.18
Sulfate (mg/L)	475	451	0.95
Specific Conductivity (umhos/cm)	27,200	27,900	1.03
pH	6.75	8.42	1.25
Total Available Chlorine (g/L)	0.140	3.870	27.64

Metals Analysis: Brine

Parameter	Raw	660 Minutes	Ratio of Final to Initial Concentration
Aluminum (ng/L)	0.051	0.0917	1.80
Barium (mg/L)	0.173	0.0194	0.11
Bromide (mg/L)	2000	2000	1.00
Boron (mg/L)	0.387	0.385	0.99
Calcium (ng/L)	196	235	1.20
Chlorate (mg/L)	< 1000	1,280	> 1.28
Chlorite (mg/L)	< 1,000	< 1,000	N/C
Chromium (mg/L)	0.0192	0.0622	3.24
Cobalt (mg/L)	0.00131	0.00180	1.37
Copper (mg/L)	0.0272	0.03500	1.29
Iron (mg/L)	0.201	0.261	1.30

Metals Analysis: Brine (Continued)

Parameter	Raw	660 Minutes	Ratio of Final to Initial Concentration
Lead	0.0449	0.0459	1.02
Magnesium (ng/L)	12.7	15.40	1.21
Manganese (mg/L)	< 0.05	< 0.05	N/C
Mercury (mg/L)	< 0.0002	< 0.0002	N/C
Molybdenum (mg/L)	0.0907	0.0453	0.50
Nickel (mg/L)	0.0272	0.0986	3.63
Potassium (mg/L)	207	242	1.17
Sodium (mg/L)	12,900	12,200	0.95
Titanium (mg/L)	< 0.01	< 0.01	N/C
Vanadium (mg/L)	0.144	0.370	2.57
Zinc (mg/L)	0.0717	0.0835	1.16

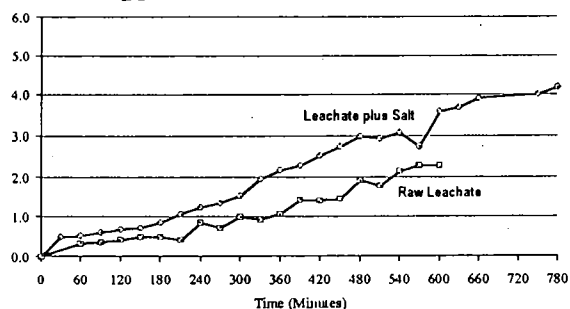
Metals Analysis: Raw Leachate

Parameter	Raw	720 Minutes	Ratio of Final to Initial Concentration
Aluminum (mg/L)	0.175	0.0904	0.52
Barium (mg/L)	0.581	0.507	0.87
Bromide (mg/L)	< 1,000	< 1000	N/C
Boron (mg/L)	N/M	N/M	N/A
Calcium (mg/L)	2,280	2,560	1.12
Chlorate (mg/L)	< 1000	1,740	> 1.74
Chlorite (mg/L)	< 1,000	< 1,000	N/C
Chromium (mg/L)	0.0521	0.0925	1.78
Cobalt (mg/L)	0.0413	0.04020	0.97
Copper (mg/L)	0.0306	0.02390	0.78
Iron (mg/L)	< 0.1	< 0.1	N/C

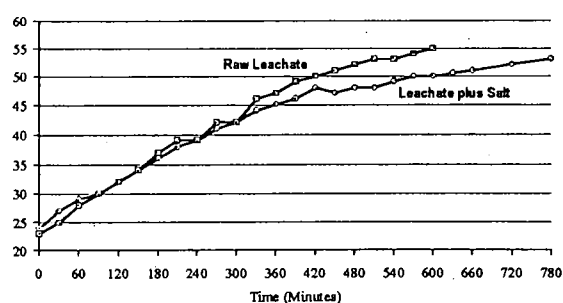
Metals Analysis: Raw Leachate (Continued)

Parameter	Raw	720 Minutes	Ratio of Final to Initial Concentration
Lead (mg/L)	0.00731	0.00303	0.41
Magnesium (mg/L)	7.66	8.33	1.09
Manganese (mg/L)	0.0756	0.0922	1.22
Mercury (mg/L)	< 0.0002	< 0.0002	N/C
Molybdenum (mg/L)	0.0823	0.00303	0.04
Nickel (mg/L)	0.109	0.198	1.82
Potassium (mg/L)	914	1,030	1.13
Sodium (mg/L)	2,830	3,170	1.12
Titanium (mg/L)	< 0.01	< 0.01	N/C
Vanadium (mg/L)	0.061	0.139	2.28
Zinc (mg/L)	0.0634	0.0527	0.83

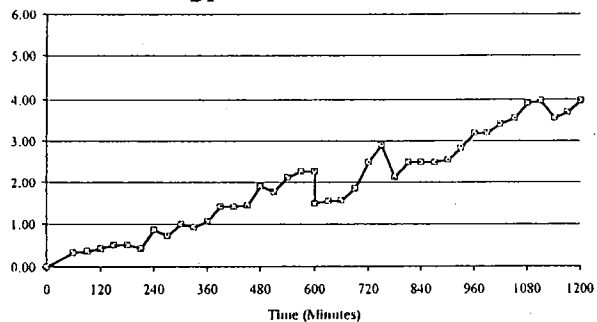
Raw and Supplemented Leachate Hypochlorite Generation



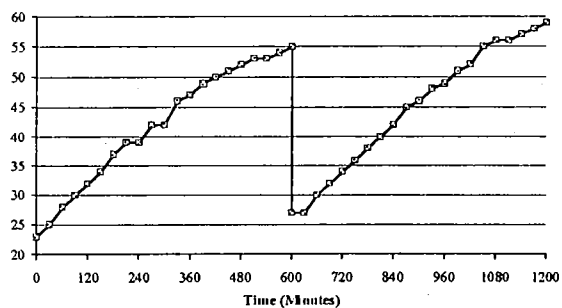
Raw and Supplemented Leachate Temperature Variation



Raw Leachate Extended Run Sodium Hypochlorite Generation



Raw Leachate Extended Run Tempertaure Variation



Current Project Status

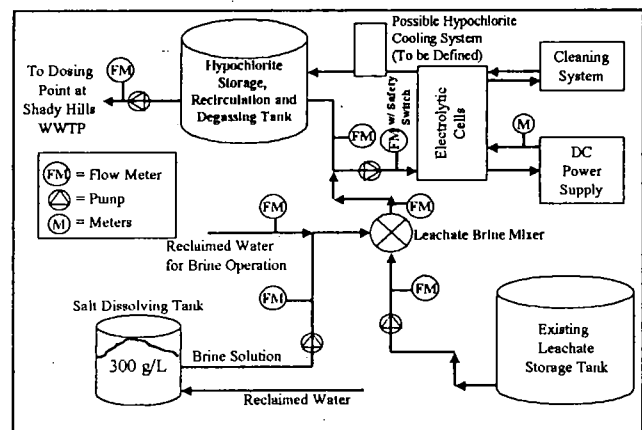
- Completing Cost Analysis Task;
- Preparing to Perform Pilot-Scale Verification Studies; and
- Finalizing Project Design.

Full-Scale Design Considerations

- Generating the Highest Hypochlorite Concentration in the Shortest Possible Time with the Least Temperature Increase.
 - Increasing Specific Conductivity of the Leachate
 - Determining the Optimum Number of Electrolytic Cells
 - Optimize Leachate Oxidation Effectiveness
- Cost Effective Temperature Management During Sodium Hypochlorite Generation.

Full-Scale Design Considerations (Continued)

- Water Reclamation/Reuse Permit Limits
 - Sodium ?
 - Chloride ?
 - Trace Metals ?
- Obtaining Process Approval from FDEP



Wastewater Disinfection Using Sodium Hypochlorite Generated On-Site from Process Residuals

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4 Parsons Engineering Science, Tampa, Florida

5 Black and Veatch, Kansas City, Missouri

6 Pasco County Utilities

Problem Statement

The West Pasco Landfill in Pasco County, Florida is permitted for six ten-acre lined ash monofil cells as part of its Resource Recovery Facility. Currently, Pasco County has ash in two cells. Rainfall entering these lined cells generates ash leachate (a process residual) which must be collected, treated, and disposed of to the satisfaction of the Florida Department of Environmental Protection (FDEP). Unusually high rainfall amounts in 1997 and 1998, combined with operational problems at the existing Leachate Management Facility (LMF), resulted in excess leachate being stored in two of the monofil cells. Considering the volume of the excess leachate stored in the cells and the treatment capacity of the LMF, Pasco County began evaluation of alternate or supplemental leachate treatment and disposal methods.

Background

Pasco County entered into a Consent Agreement with the FDEP on July 12, 1996 to eliminate the discharge of ash leachate from the West Pasco Landfill into the Shady Hills Wastewater Treatment Plant no later than June 1, 1997. The requirement of the Consent Agreement was to construct and begin operation of the LMF (an evaporator/crystallizer unit) by April 1, 1997.

The leachate management facility was substantially completed on April 1, 1997 and began full operation on May 1, 1997. Immediately, problems were encountered with the dryer and the baghouse units, in addition to control and processing failures. These problems were addressed and modifications to the LMF were completed by May 4, 1998.

The modified LMF was designed to manage and process 35,000 gpd (24.3 gpm) of ash leachate. This size facility should provide adequate capacity to treat the leachate for one 10-acre ash cell with normal annual rainfall. The Resource Recovery Plant site in Pasco County experienced abnormally high rainfall (41.6 inches of rain from December 25, 1997 through March 20, 1998). This rainfall resulted in excess leachate collection in the monofil cells. The total volume of this leachate was in excess of 37 million gallons. Off-site disposal of the leachate reduced this volume to normal levels.

In February, 1999, the Board of County Commissioners authorized a Phase-1 pilot-scale study to investigate the feasibility of converting landfill ash leachate into liquid sodium hypochlorite to increase the treatment capacity of the current LMF. A pilot study team was

assembled consisting of members from FUSE, Exceltec International Corporation, University of Pittsburgh, and Tulane University to perform the Phase-1 investigation.

Phase-1 Pilot-Scale Study Results

Thirteen phase-1 pilot-scale sodium hypochlorite generation tests were performed during the summer of 1999. In these pilot scale studies, sodium hypochlorite was generated when landfill ash leachate was passed through an electrolytic cell (provided by Exceltec International Corporation). This system operated at flowrates ranging from 120 to 160 gpm and DC currents between 500 and 1,260 amps to generate up to 2.7 g/L of liquid sodium hypochlorite during six hours of recirculation through the cell.

Manganese accumulation on the anodic surface of the electrolytic cell caused a severe loss of chlorine production efficiency during the initial tests of the phase-1 study. The manganese accumulation problem was controlled by a cell-cleaning process developed by FUSE, Incorporated. This cell-cleaning process completely controls the problem without generating any unwanted residuals. The operating costs associated with the cell cleaning process are minimal (the use of electricity and the loss of sodium hypochlorite production time).

The final pilot-scale test for the phase 1 study was run with no initial pH adjustment at 1200 amps for a period of six hours, and included an electrolytic cell cleaning cycle. During the six-hour test, 2.6 g/L of hypochlorite was produced with a corresponding temperature increase of 26°C. The generation curve (shown in Figure 1) can be divided into two regions. An oxidation region from time zero to 150 minutes and a sodium hypochlorite generation region from 150 minutes until 360 minutes. The corresponding slopes for each of these regions was calculated to be 0.18 and 0.59 g/L-hr, respectively. These slopes also support the concept of a leachate treatment (oxidation) region and a hypochlorite generation region. Although the same concentration of sodium hypochlorite is being produced by the cell in both instances, the slope of the curve is less during the first 150 minutes of operation because the generated hypochlorite is oxidizing contaminants in the leachate.

The above observations regarding a two segment curve are supported by the pH versus time curve for the final phase-1 pilot-scale test shown in Figure 2. The initial pH for this test was not adjusted and remained at a value slightly above 6.0. This value did not change significantly until after the leachate was treated for 150 minutes and then it gradually approached pH 8.0, as expected.

The phase-1 pilot-scale studies proved that liquid sodium hypochlorite could be generated from the Pasco County landfill ash leachate. Following an initial period of oxidation, the phase-1 pilot-scale system generated approximately 3 g/L of sodium hypochlorite in less than 240 minutes of recirculation through the electrolytic cell. The liquid sodium hypochlorite generated from process residuals (landfill ash leachate) may be used as a disinfectant for the Shady Hills Wastewater Treatment Plant adjacent to the existing LMF. The disinfected effluent may also meet the FDEP requirements for disposal in the water reclamation/reuse system in Pasco County, Florida.

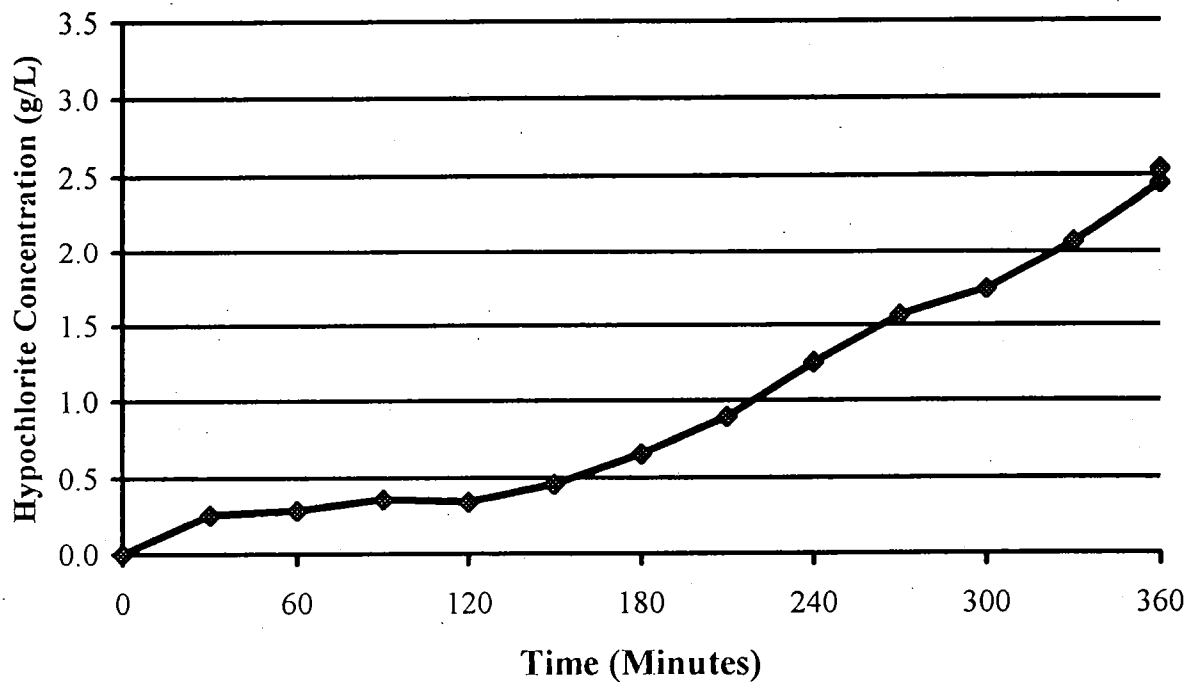


Figure 1 Hypochlorite concentration versus time (Phase-1 Pilot-Scale Test: 1200 amps DC, cleaning cycle used).

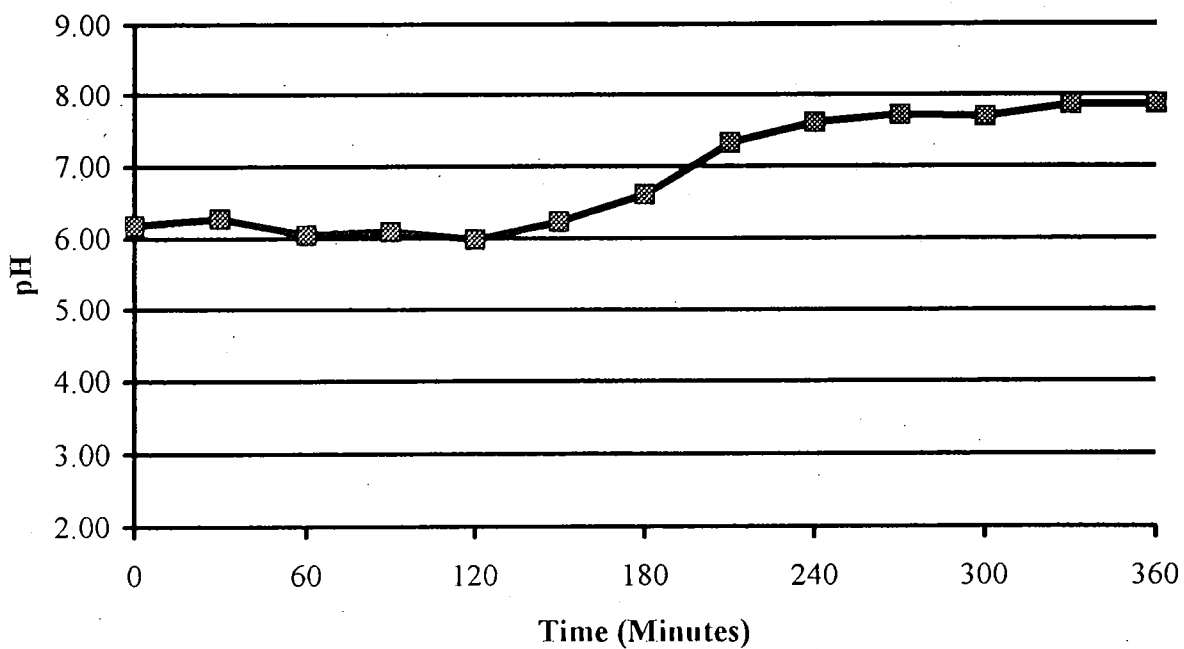


Figure 2 pH variation with respect to time (Phase-1 Pilot-Scale Test: 1200 amps DC, cleaning cycle used).

By-products (other than sodium hypochlorite and hydrogen offgas) are not generated from the pilot-scale process. The hydrogen from the hypochlorite generation process can be

vented to the atmosphere. Sodium hypochlorite generated by the leachate hypochlorite system is first used to oxidize the contaminants in the leachate, after which all of the leachate is converted to a sodium hypochlorite solution with a concentration of approximately 3 g/L. No reliability issues were encountered during the phase-1 pilot-scale studies. Upon completion of the phase-1 pilot-scale studies, the FUSE pilot test team recommended that Pasco County conduct further optimization studies.

Phase-2 Pilot-Scale Optimization Study

Based upon the results of the phase-1 study and the recommendations by the FUSE pilot test team, the Board of County Commissioners authorized a phase-2 pilot-scale optimization study for the ash leachate sodium hypochlorite process in September 2000. The objectives of this ongoing study are to: 1) reduce circulation time in the electrolytic cell, 2) increase the sodium hypochlorite concentration produced by the leachate hypochlorite system, and 3) verify process operation and reliability.

Phase-2 Pilot-Scale Schematic

Influent for the pilot-scale ash leachate sodium hypochlorite system during the phase 2 study was raw landfill ash leachate (a process residual of the Pasco County Resource Recovery Facility). The treatment schematic for the ash leachate pilot test is shown in Figure 3. The leachate flows from the leachate storage tank through the pump and into a flow monitor with a safety switch. Since hydrogen is generated during the production of sodium hypochlorite, fluid flow is necessary to keep from having an explosion hazard. The ash leachate then enters the electrolytic cell (provided by Exceltec International Corporation) for the generation of sodium hypochlorite (NaOCl). For the Phase-2 optimization study, the pilot-scale system was trailer mounted (not shown) and containment areas were added to the trailer in case of a leachate spill.

Phase-2 Pilot-Scale Study Results and Discussion

Fifteen phase-2 pilot-scale tests were performed during the first four months of 2001 in an effort to finalize the design of the full-scale leachate hypochlorite generation system. Of those fifteen tests, the results of seven phase-2 pilot tests (shown in Table 1) and their implications on system development and design will be discussed below.

Table 1
Selected Phase-2 Pilot-Scale Leachate Hypochlorite Generation Tests

Pilot Test Number	Hypochlorite Source	Final Hypochlorite Concentration (g/L)	Test Duration (Minutes)	Temperature Change (Degrees C)	Initial pH	Initial Specific Conductivity (uhmos/cm)
P2-6	30 g/L Brine	3.39	330	17	6.59	41,200
P2-7	30 g/L Brine	3.37 to 5.81	330	24	8.59	42,000
P2-8	Leachate	1.74	360	18	6.75	27,200
P2-9	Leachate	1.74 to 3.87	360	27	8.02	26,600
P2-13	Leachate plus NaCl	4.18	810	29	6.43	44,900
P2-14	Leachate	2.27	600	33	5.39	29,200
P2-15	Leachate	1.49 to 3.79	600	32	7.80	30,300

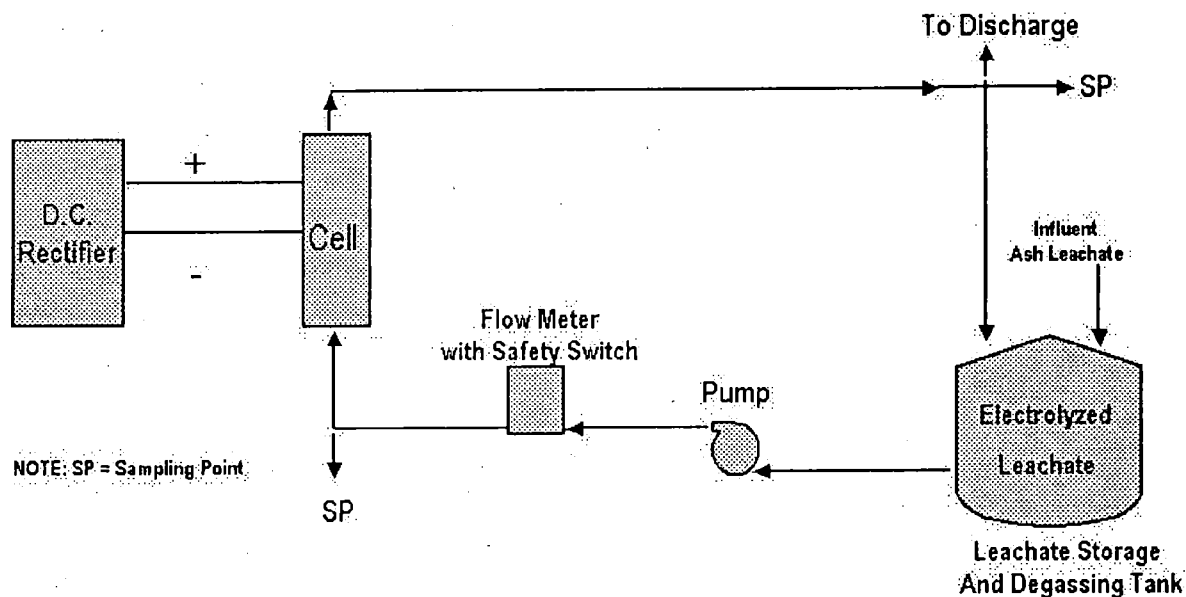


Figure 3 Pilot-Scale Leachate Sodium Hypochlorite System Schematic

For all seven tests shown in Table 1, the DC current was 1,200 amps, the flowrate through the electrolytic cell was 60 gallons per minute and the volume of leachate processed through the pilot-scale system was 400 gallons (see Figure 3). In addition, the cell cleaning process frequency was five minutes per hour of cell operation for pilot Tests P2-6 through P2-13. The cell cleaning process frequency was reduced to 2 minutes per 30 minutes of cell operation for pilot tests P2-14 and P2-15.

Pilot tests P2-6 and P2-7 used a 30 g/L brine solution to pass through the leachate hypochlorite system. The brine/hypochlorite solution produced after 330 minutes of recirculation through the system was then held overnight and allowed to cool prior to being recirculated through the system for an additional 330 minutes during test P2-7. Pilot Tests P2-8 and P2-9 used raw landfill ash leachate for sodium hypochlorite generation. Please note that the initial specific conductivity of the raw ash leachate is approximately 15,000 uhmos/cm less than the specific conductivity of the 30 g/L brine solution. The raw leachate used in pilot test P2-8 was allowed to cool for 36 hours prior to being used in pilot test P2-9. In pilot test P2-13, landfill ash leachate was supplemented with 10g/L of sodium chloride to elevate the initial specific conductivity to a level similar to the brine solution. This supplemented leachate solution was passed through the leachate hypochlorite system for 810 minutes. Pilot test P2-14 recirculated raw landfill ash leachate through the leachate hypochlorite system for 600 minutes. The leachate/hypochlorite solution generated in pilot test P2-14 was used for hypochlorite generation in test P2-15. This solution was allowed to cool for 60 hours following pilot test P2-14 before being used in pilot test P2-15.

Figure 4 is a plot of sodium hypochlorite concentration versus time for the 30g/L brine solution and raw landfill ash leachate. The sodium hypochlorite concentration in the brine solution increased at a somewhat constant slope to approximately 6 g/L in 660 minutes of recirculation through the leachate hypochlorite system. The ash leachate increased with two distinct regions. From time zero to 180 minutes (contaminant oxidation region) the slope was varied and the hypochlorite concentration increased to approximately 0.8 g/L. This region of the hypochlorite production curve indicates that the sodium hypochlorite being produced by the cell is being used to oxidize the contaminants in the leachate. From 180 minutes until 720 minutes (hypochlorite production region), the slope of the sodium hypochlorite concentration curve is somewhat constant in increased to approximately 4g/L during this time period. As expected, the sodium hypochlorite produced from brine increased at a faster rate and reached a higher concentration than the raw landfill ash leachate.

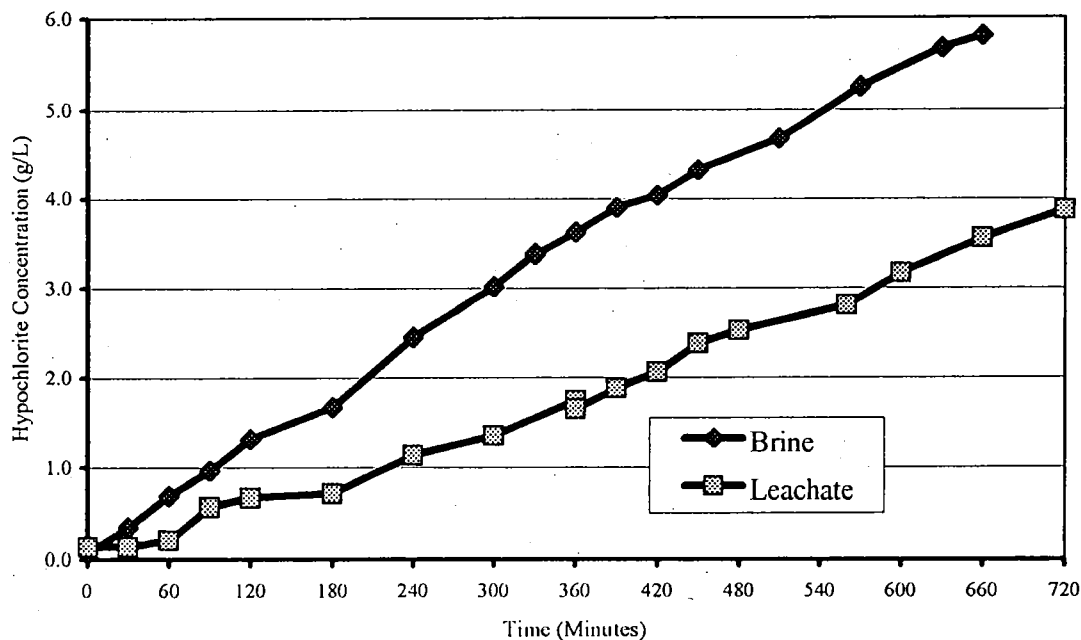


Figure 4 Sodium Hypochlorite Concentration for Brine and Leachate Solutions (Phase 2 Pilot Tests; Brine Tests P2-6 and P2-7; Leachate Tests P2-8 and P2-9)

Figure 5 is the pH versus time graph for the brine and leachate solutions discussed in Figure 4. The brine solution has an initial pH of approximately 6.5 and increases rapidly up to a pH of approximately 8.5 and then slowly increases until reaching a pH value of 8.8. The pH variation of the ash leachate/hypochlorite solution shows an initial reduction from zero to 60 minutes and then another pH variation up to 120 minutes until the solution begins a steady increase up to a pH value slightly less than 8.5. The trends shown in Figure 5 are consistent with the discussion concerning leachate contaminant oxidation and the hypochlorite concentration variation in Figure 4. Please note, a slight reduction in pH was observed in the brine/hypochlorite solution at 330 minutes during the 12 hour cooling cycle that was not observed at 360 minutes in the leachate during the 36 hour cooling cycle. Again, this difference is expected since the leachate is more buffered than the 30 g/L brine solution.

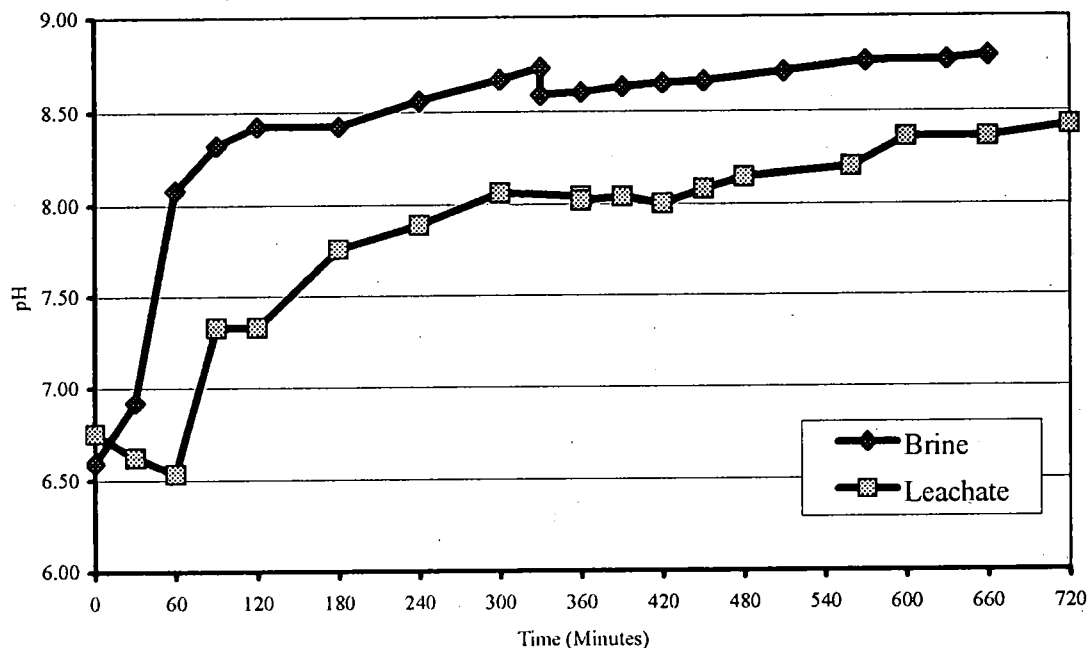


Figure 5 pH Variation with Time for Brine and Leachate Solutions (Phase 2 Pilot Tests; Brine Tests P2-6 and P2-7; Leachate Tests P2-8 and P2-9)

Figure 6 shows the temperature variation with time for the brine and leachate solutions. The temperature increase of the leachate solution is much greater than the brine solution during the first period of operation in the leachate hypochlorite system due to the differences in the specific conductivity of the solutions. However, after cooling, the temperature of both the leachate and the brine solution increase at somewhat similar rates during the second period of recirculation through the leachate hypochlorite system. These graphs indicate that temperature concerns will have to be addressed in the design of the full-scale leachate hypochlorite system.

Based upon the results discussed above, additional phase-2 pilot-scale tests were performed. In these tests, the leachate hypochlorite system was operated with raw landfill ash and leachate supplemented with 10 g/L of sodium chloride. The specific conductivity of the supplemented leachate was approximately 45,000 uhmos/cm which is 15,000 uhmos/cm greater than the specific conductivity of the raw landfill ash leachate.

Figure 7 is a graph of the sodium hypochlorite concentration for the raw leachate and the supplemented leachate solution as they are recirculated through the leachate hypochlorite system. As expected based upon Figure 4, the hypochlorite concentration of the supplemented leachate increased more rapidly than the raw leachate to a value of 4 g/L in 780 minutes of recirculation through the leachate hypochlorite system. The raw ash leachate increased to a hypochlorite concentration of slightly greater than 2 g/L in 600 minutes of recirculation through the system. The time necessary for oxidizing the contaminants in the leachate (indicated by the lower initial slope) was 210 minutes for the raw leachate and 150 minutes for the supplemented leachate. This 60 minute reduction in contaminant oxidation time resulted from the increased

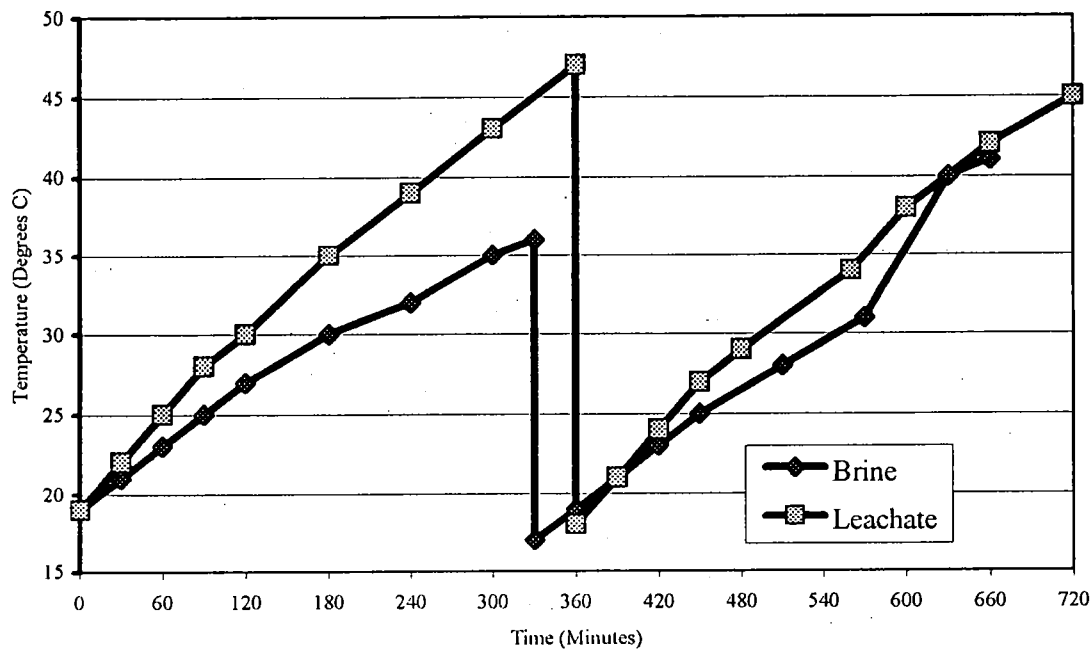


Figure 6 Temperature Variation with Time for Brine and Leachate Solutions (Phase 2 Pilot Tests; Brine Tests P2-6 and P2-7; Leachate Tests P2-8 and P2-9)

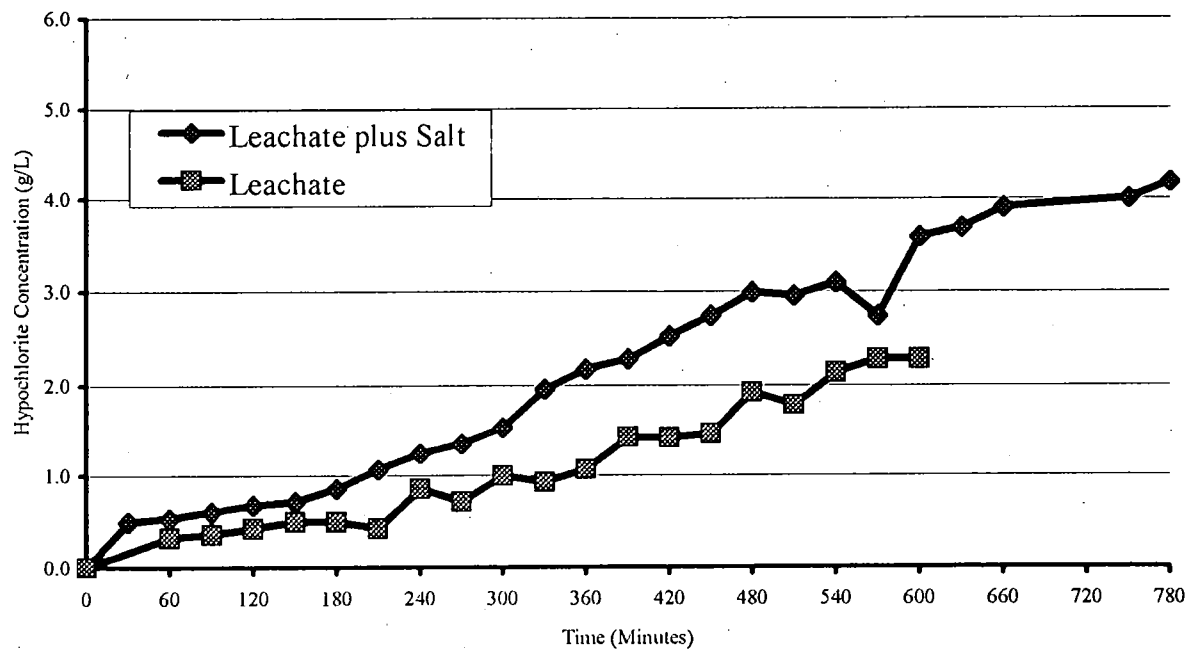


Figure 7 Sodium Hypochlorite Concentration for Leachate and Supplemented Leachate Solutions (Phase 2 Pilot Tests; Test P2-13 and P2-14).

conductivity of the supplemented leachate allowing for an increased sodium hypochlorite production rate.

Figure 8 is a graph of the temperature variation with time for both the raw and supplemented leachate. As opposed to the trend shown in Figure 6, the raw and supplemented leachate exhibited almost identical temperature increases for the first 300 minutes of operation. However, the temperature increase in the raw leachate between 300 and 600 minutes was 5 degrees C greater in the raw leachate than in the supplemented leachate. This trend was opposite to the trend observed in Figure 6. Again, it is believed that temperature control issues will be critical to the success of the final leachate hypochlorite system design.

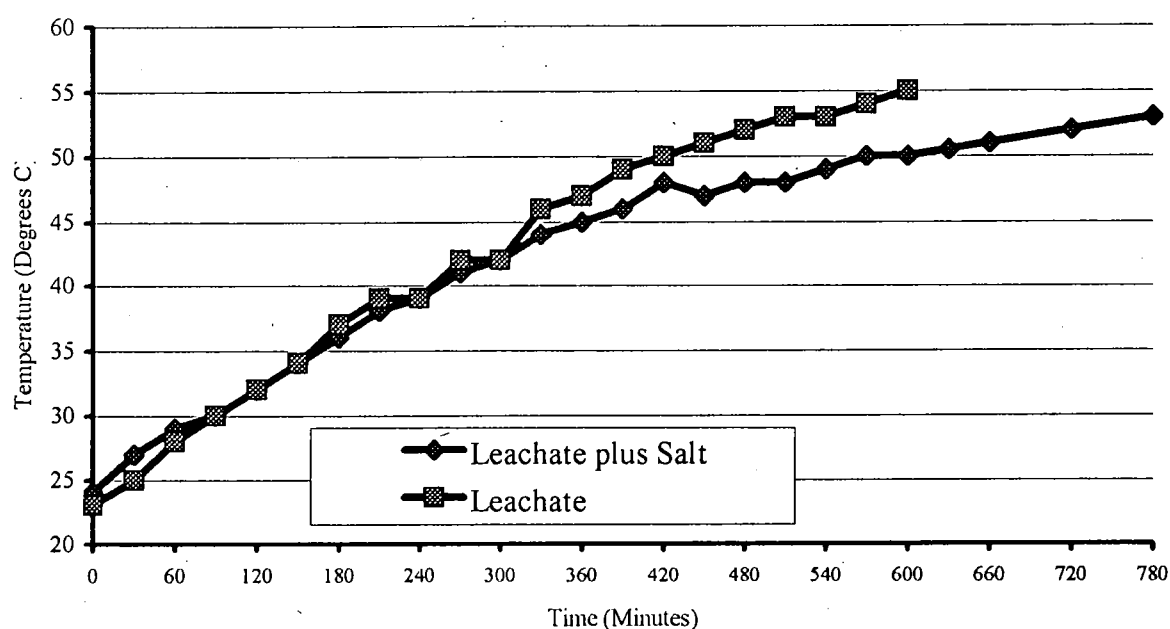


Figure 8 Temperature Variation with Time for Leachate and Supplemented Leachate Solutions (Phase 2 Pilot Tests; Test P2-13 and P2- 14).

Figure 9 is a proposed leachate hypochlorite system unit process design schematic. In this system, raw leachate will be pumped from the existing leachate storage tank at the present LMF through a leachate brine mixer. In the leachate brine mixer, the raw leachate will be mixed with a diluted brine solution to increase the specific conductivity of the leachate to approximately 45,000 uhmos/cm. The supplemented leachate will then be pumped through the electrolytic cells and pass through a possible hypochlorite cooling system (to be defined) prior to entering the hypochlorite storage, recirculation and degassing tank. From this tank, the treated leachate/hypochlorite solution can be recirculated through the cells to increase the sodium hypochlorite concentration or be pumped to the dosing point at the Shady Hills Wastewater Treatment Plant nearby.

In addition to producing brine for supplementing the specific conductivity of leachate, the system also will allow for concentrated brine dilution by reclaimed water prior to entering the leachate brine mixer and then passing through the rest of the system in the event that no leachate

is available for treatment. This aspect of the final system design will allow the leachate hypochlorite system to function as a typical on-site sodium hypochlorite generation system to meet the disinfection needs of the Shady Hills Wastewater Treatment Plant.

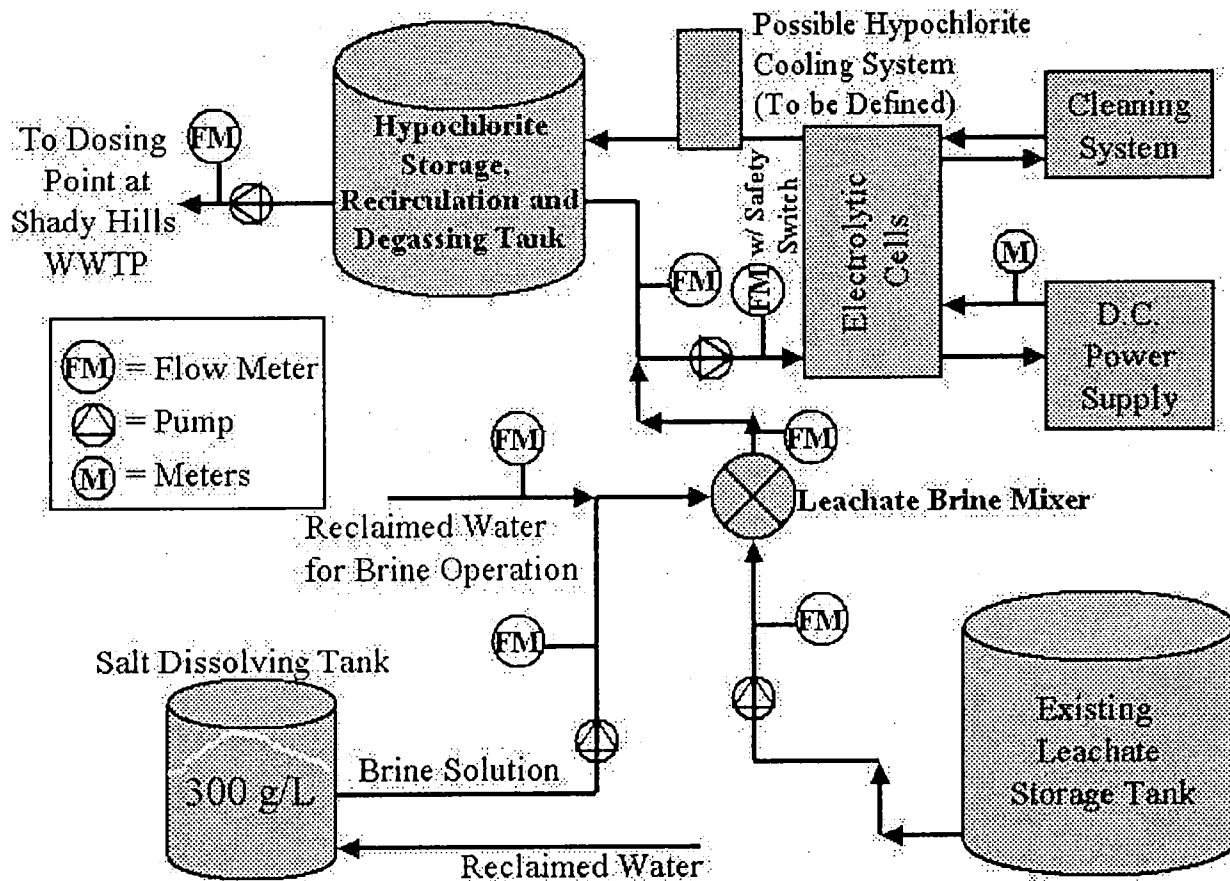


Figure 9 Proposed Leachate Hypochlorite System Unit Process Design Schematic

Summary and Conclusions

The phase-1 pilot-scale studies proved that liquid sodium hypochlorite could be generated from Pasco County landfill ash leachate. Based upon the phase-1 study results, a phase-2 optimization study to further define and optimize a leachate hypochlorite treatment system was initiated. These ongoing studies have allowed the FUSE pilot test team to develop a proposed leachate hypochlorite system unit process design schematic (Figure 9). Based upon the data presented in this paper, it is believed that the leachate hypochlorite system will produce 6 g/L of sodium hypochlorite from supplemented ash leachate. This sodium hypochlorite could be used to meet the disinfection needs of the Shady Hills Wastewater Treatment Plant before the treated effluent enters the Pasco County water reclamation/reuse system.

Issues requiring further study prior to the final design of the leachate hypochlorite system are as follows: 1) possible chemical limitations (e.g., chloride) existing for the water reclamation/reuse system, 2) a detailed cost analysis of the leachate hypochlorite system, 3) a cost comparison of this system to the present LMF, 4) possible temperature control of the treated leachate/hypochlorite solution and 5) obtaining FDEP approval for the system.

Ford, Kim

From: Butera, Robert
Sent: Tuesday, May 01, 2001 10:10 AM
To: Ford, Kim
Cc: Morris, John R.
Subject: Conversation Record with Vince Mannella (Please file)

Vince called to brief to report the following:

- (1) Staff looking into wiring allowing the pumps to cycle should the flare not be operational. Looks feasible will get back to FDEP.
- (2) Vince could not locate a letter dated June 22, 2000. He requested you fax him a copy or inform him of the correct date as he may have written down the wrong date.
- (3) Discussions with Dan Strobbridge resulted in leaving the LAW OPS plan dated March 1, 1999 in the C of C. CDM has many revisions to the OPS plan to incorporate the new cells. I told Vince I would relay the message to KIM but did not believe you had reviewed the OPS plan for the new cells and did not believe the revisions would be major.

Memorandum

Florida Department of Environmental Protection

TO: Kim Ford, P.E.
FROM: John R. Morris, P.G. JRM
DATE: April 30, 2001
SUBJECT: Pasco County Resource Recovery Facility and Class I Landfills
Proposed Expansion – Cells A-3 and SW-2
Water Quality Monitoring Plan Review Comments
cc: Robert Butera, P.E.

I have reviewed the submittal entitled *Water Quality Monitoring Plan for the West Pasco County Class I Landfill*, prepared by Camp Dresser & McKee, Inc. (CDM), dated March 29, 2001, received March 30, 2001. The review comments provided in my memorandum dated March 16, 2001 regarding item Nos. 1.a., 1.f., and 1.h., have been adequately addressed by this submittal. I therefore recommend that the water quality monitoring plan dated March 29, 2001 be considered as the approved successor and replacement for the current monitoring plan dated January 5, 1995. The comment numbers presented below are consistent with my memorandum dated January 8, 2001.

1. Section 6.0 – Ground Water Monitoring Plan (renumbered in the February 19, 2001 submittal)
 - a. Section 5.0 has been modified to include the requirements of Rule 62-701.510(9)(b), F.A.C., regarding the technical report to be submitted at two year intervals. No additional information is requested. It is noted that the report entitled *Water Quality Monitoring Plan Evaluation for the West Pasco County Class I Landfill*, prepared by CDM, dated March 30, 2001, received March 31, 2001, provided an evaluation of data collected through the third quarter of 2000. Review comments regarding the monitoring plan evaluation, if any, will be provided under separate cover.
 - b. This comment was previously addressed. No additional information is requested.
 - c. This comment was previously addressed. No additional information is requested.
 - d. This comment was previously addressed. No additional information is requested.
 - e. This comment was previously addressed. No additional information is requested.
 - f. The revision of Section 3.2 is consistent with Rule 62-701.510(6)(a), F.A.C., and indicates that background water quality (i.e., an initial sampling event) shall be determined for each new well by conducting analysis for the parameters listed in Rules 62-701.510(8)(a) and (8)(d), F.A.C. No additional information is requested.
 - g. This comment was previously addressed. No additional information is requested.
 - h. The revised copy of Figure 1 clearly shows both existing and proposed features at the subject facility. No additional information is requested.
 - i. This comment was previously addressed. No additional information is requested.
 - j. This comment was previously addressed. No additional information is requested.
 - k. This comment was previously addressed. No additional information is requested.
- "Protect, Conserve and Manage Florida's Environment and Natural Resources"*

2. Section 7.0 – Leachate Monitoring Plan (*renumbered in the February 19, 2001 submittal*)
 - a. This comment was previously addressed. No additional information is requested.
 - b. This comment was previously addressed. No additional information is requested.

jrm



PASCO COUNTY, FLORIDA

DADE CITY (352)521-4274
LAND O' LAKES (813)996-7341
SPRING HILL (727)856-0119
FAX (727)861-3099

VINCENT MANNELLA, P.E.
RESOURCE RECOVERY FACILITY
14230 HAYS ROAD
SPRING HILL, FL 34610

April 30, 2001

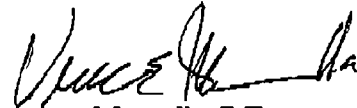
Mr. Bob Butera, P.E.
Florida Department of Environmental Protection
3804 Coconut Palm Drive
Tampa, FL 33619-8318

Re: By Passing M.S.W.

Dear Mr. Butera:

Please be advised that by passing of M.S.W. has started today resulting from Spring Outages. We will be by passing approximately 500 to 750 tons per day to SW-1. The by passing is temporary and will last during this outage. The M.S.W. will be placed in SW-1 second lift from East to West, the placed M.S.W. will not be removed.

Very truly yours,


Vincent Mannella, P.E.
Solid Waste Facility Manager

VM/kj

cc: Douglas S. Bramlett, Assistant County Administrator (Utilities Services)
Ron Walker, Solid Waste Superintendent
Kim Ford, P.E., Florida Department of Environmental Protection

Post-it® Fax Note	7671	Date	4/30	# of pages	1
To	Bob Butera	From	Vincent Mannella		
Co./Dept.	FDEP	Co.	Pasco County		
Phone #	813-744-6100	Phone #	727-856-0119		
Fax #	813-744-6125	Fax #	727-861-3099		



PASCO COUNTY, FLORIDA

**VINCENT MANNELLA, P.E.
SOLID WASTE/RESOURCE RECOVERY FACILITY MANAGER**

**14230 Hays Road
Spring Hill, FL 34610**

**Phone: (727) 856-0119
Fax: (727) 861-3099**

DATE: April 30, 2001

TO: Bob Butera

FAX NUMBER: 1-813-744-6125

**FROM: Vincent Mannella, P.E.
Facility Manager**

A handwritten signature in black ink, appearing to read "V. Mannella", is written over the printed name and title.

SUBJECT: Report to Ms. Getzoff's Letter of August 3, 2000

**NUMBER OF PAGES: 5
(including cover)**

MESSAGE:

Apparently Pasco County did respond to Ms. Getzoff's letter of August 3, 2000. Response dated September 9, 2000 is attached for your review.

If you do not receive all of the pages indicated above please call Kristin at the above number. Thank you.

Vine



PASCO COUNTY, FLORIDA

DADE CITY (904) 521-4120
LAND O' LAKES (813) 996-7341
WEST PASCO (813) 847-8115
FAX (813) 847-8021

COUNTY ADMINISTRATOR'S OFFICE
WEST PASCO GOVERNMENT CENTER, S-340
7530 LITTLE ROAD
NEW PORT RICHEY, FL 34654

September 11, 2000

Ms. Deborah Getzoff
Director of District Management
Florida Department of Environmental Protection
3804 Coconut Palm Drive
Tampa, FL 33619-8318

RE: Pasco County Landfill and Resource Recovery Facility

Dear Ms. Getzoff:

Thank you for your letter of August 3, 2000, regarding the revised Conditions of Certification ("Conditions") for the Pasco County Resource Recovery Facility. We appreciate your efforts to resolve the outstanding issues related to this site.

In the spirit of cooperation, Pasco County is willing to accept the Department's proposed changes to the Conditions that establish specific dates for the submittal of required reports, data, etc., to the Department. According to your letter, these changes will provide the Department with reasonable assurance that the County's facilities are operated in compliance with the applicable rules.

The County still has concerns about some of the Department's proposed changes to the Conditions. The County's specific concerns are identified in the list of remaining issues, which is attached hereto. Although we believe these issues can be resolved relatively easily, several of these issues are very important to the County.

It is very difficult, time consuming, and expensive to modify the Conditions. Accordingly, the County does not want to accept any current proposal by the Department that ultimately would cause the County to modify the Conditions more frequently in the future than it would otherwise. For this reason, the County does not wish to accept the Department's proposal to modify the Conditions to reference a specific version of the County's Landfill Operations Plan ("Plan"). Similarly, other provisions of the Conditions should simply cite the appropriate rule, rather than paraphrase rule language that may change in the future. The County does not want to change the Conditions every time the County changes a minor aspect of its Operations Plan or the Department changes its rule requirements.

The County is willing to furnish the Department with revisions to the Plan for the Department's review and approval, following the procedures outlined in Section 62-17.191(1)(c), F.A.C. If the County's Plan does not meet the minimum criteria specified at Section 62-701.500(2), F.A.C., we would welcome your input concerning specific deficiencies and suggestions for change. This approach would eliminate the need to modify the Conditions because only the Plan would be modified. We also believe that this approach is consistent with Secretary Struhs' policy of "More Protection, Less Process."

Ms. Deborah Getzoff
September 11, 2000

It is also our opinion that the Department's review of the Plan should be limited. The Department should confirm that the items specified in Section 62-701.500(2), F.A.C., are addressed and that no proposed operating procedure violates any prohibition contained in Chapter 62-701, F.A.C.

It should be noted, however, that the Department's decision to edit and unilaterally revise the County's Plan would be considered highly inappropriate by many. The County's Plan was part of an Engineering Report prepared by Law Engineering, Inc.

With regard to the Department's review process in the future, Pasco County will comply with the rule changes in accordance with the provisions of Chapter 403.511(5)(a), F.S. The County also agrees that the procedures contained in Chapter 62-17.191(1)(c), do not apply to most of the activities and issues at the County's facilities, but it appears to establish a suitable framework for some purposes, which will need to be identified on a case-by-case basis. Minor changes in the County's Plan should be handled in a more expeditious fashion.

Pasco County is committed to compliance with Department rules and legislative statutes. We look forward to working with the Department to resolve these final issues. My staff will be contacting yours shortly to arrange a meeting to discuss any outstanding issues.

Sincerely,



John J. Gallagher
County Administrator

JJG/DS/mw/jjggetzoff(2)

Enclosure

cc: Robert J. Butera, P.E. III, FDEP, Tampa, FL
David S. Dee, Landers & Parsons, Post Office Box 271, Tallahassee, FL 32301
Kim B. Ford, P.E. I, FDEP, Tampa, FL
Hamilton Owen, P.E., Siting Coordination Office Administrator, FDEP, Tallahassee, FL
Daniel E. Strobbridge, QEP, Vice President, Camp Dresser & McKee Inc., 1715 N. Westshore Blvd.,
S-875, Tampa, FL 33607
Douglas S. Bramlett, Assistant County Administrator (Utilities Services)
~~Vincent Mancini, P.E., Solid Waste Facility Manager~~

REMAINING ISSUES

PASCO CONDITIONS OF CERTIFICATION

1. **Page 3 – III:** Request that language regarding shifting boiler emissions to another APC control train be deleted. (Air section issue that should be cleaned up when Title V permit limits are installed)
2. **Page 5 – A.7:** Remove “from the landfill” from the end of the first sentence. It is redundant.
3. **Page 7 – XI.B:** Insert “under these Conditions of Certification” following the word “required” in the second line. In the seventh line, replace “the conditions” with “these Conditions.”
4. **Page 8 – XI.B 1:** Insert “be” in the second line following the word “to.” Spell check the remaining new language in Paragraphs 2, 3, and 4.
5. **Page 9 – XIII:** Pasco County objects to the new reference to FAC 62-17.191 (1) (c) 2 as it significantly extends the time frame granted in the original conditions. Please remove this reference.
6. **Page 13 – XIV:** This entire section will need to be modified per the Title V permit. (Air Section and Buck Oven issue).
7. **Page 16 – XIV B:** The definition of acceptable fuels should mirror that definition in the Title V permit. (Air Section, Buck Oven issue?).
8. **Page 17 – XIV C. 3.:** The added language referencing the Law Operations Plan is inappropriate and does not need to be identified here. Reference to the Department approved Plan is sufficient. Please remove the added language.
9. **Page 18 – XIV.C.3. c:** The added language referencing certain details of the monitoring plan need not be identified here. The monitoring plan could be changed. Such changes to the monitoring plan need not require changes to the Conditions. Please remove the added language.
10. **Page 21 – XIV. E. 4.:** To avoid confusion, we suggest deleting the reference to XI.B and adding language that states: “The Department shall approve or disapprove requests for minor changes to the Operations Plan within 30 days of such change request. A minor change is defined to include: changes to filling sequence, changes to equipment used, dimensions of the working face, and similar daily operational issues.”

11. Page 23 – XIV. E. 11. d: In the first sentence, strike the words "at least."

In the second sentence, because it is impractical to pressure test a leachate collection system (the pipe is perforated), please change it to read as follows: "As part of the five-year assessment, the leachate collection and removal system, force mains, and gravity pipelines shall be visually or video inspected or water pressure cleaned where possible to verify adequate performance."

In the last sentence it is not clear what solids are to be tested and for what purpose. Please strike "solids testing."

TELECOM W/ VINCE MANNERLA

ITEMS OF DISCUSSION

4/30/01

JRM

Bob
also attached
is FAX FROM
CDM TO RESOLVE
CONSTRUCTION
FOR

Discussed by phone
w/ Vince & Bob
John & Kim
2:40pm 4/30/01

① Ridge Road LF

- NOTICE TO PUBLIC

- GAS FILLER OPERATION

- MONITOR NEW CONSTRUCTION DETAILS/LOCATION

- RESPONSES FROM CDM/CDME

W. PASO
INCLUDES
INCLUDES

Vince will discuss w/ JRM
REPAIRING AND REMEDIATING
CONTINUOUSLY AND DISCUSS
WITH AM SECTION
FOR PERIODICALLY

② W. PASO CLASS I

- GW MON. PLAN APPROVAL READY TO GO

- WILL PROVIDE SEPARATE APPROVAL LETTER TO COUNTY

- INSERT NEW DOCUMENT IN CONDITIONS OF CERTIFICATION?

Vince will check
w/ DAN - IF OK TO
REFERENCE NEW PLAN
w/ NEW CERTIFICATION

JRM
DAN
OBJECTION

Approval of Construction plans
for A-3 IS W.2 SIMULTANEOUSLY WITH
FINALIZING AND SENDING

NEW CONDITIONS OF CERTIFICATION

JRM
DAN
FINALIZE
OPS PLAN

DEVIATIONS FROM OPS PLAN

1995 ops OR THE JUNE 26, 2000 ops plan

PROCEDURES/NOTIFICATION FOR
DEVIATIONS FROM OPS PLAN

APR 27 2001 3:03PM

NO.811 P.1

FAX COVER SHEET

Bob

DATE:

4/27/2001

TO:

Kim Ford

FROM:

Alch

CAMP DRESSER & McKEE INC.

Westshore Center

1715 North Westshore Boulevard, Suite 875

Tampa, Florida 33607

(813) 288-8787

PN:

NUMBER OF PAGES SENT INCLUDING COVER SHEET:

3

NOTE:

Hard Copy to Follow

QUESTIONS/PROBLEMS: CONTACT

TERA/gmm

AT (813) 281-2900

APR 27 2001 3:03PM

NO. 811 P. 2

CDM Camp Dresser & McKee Inc.consulting
engineering
construction
operationsWestshore Center
1715 North Westshore Boulevard, Suite 875
Tampa, Florida 33607
Tel: 813 281-2800 Fax: 813 288-8787

April 27, 2001

ok fmv

Mr. Kim Ford, P.E.
Solid Waste Section
Division of Waste Management
Florida Department of Environmental Protection
3804 Coconut Palm Drive
Tampa, Florida 33619-8318

Subject: West Pasco Landfill Expansion Cells A3 and SW2

Dear Kim:

The following clarifications are provided per our telephone conversation on April 26, 2001:

1. The location of Groundwater Monitoring Wells No. 19d and 20d will be revised before construction to comply with the Groundwater Monitoring Plan dated March 29, 2001. As-built drawings will be provided at the completion of the project.
2. Two feet of sand layer will be provided above the liner on the side slopes, the detail will be revised before construction, as shown on the attached figure, to accommodate cap liner tie-in to the bottom liner. As-built drawings will be provided at the completion of the project.
3. The reclaimed water line is not tied to the leachate transport line. (See Detail C on Sheet M-1).
4. The purpose of the washdown stations is to provide a source of water for irrigation, and to washdown equipment and trucks, as necessary. Washdown activities will take place only on the area within the lined cells to eliminate washdown water discharge into surface drainage. This will be addressed in the Operational Plan, which will be prepared and submitted to FDEP prior to operation of the new cells.
5. The purpose of the reclaimed water supply to the pump station is to prime the pumps, if needed, in case of malfunction of the foot valve.

Please call me if you have any questions.

Very truly yours,

CAMP DRESSER & MCKEE INC.

A.R. Mulla Saleh
Abdul R. Mulla Saleh, P.E., DEE
Associate

Attachment

c: Vince Marnella, Pasco County
Dan Strobbridge, CDM

S:\PASCO\PAS_SW\T01031.doc

APR. 27. 2001 3:03PM

NO. 811 of P. 3

AMP DRESSER & MCKEE

CLIENT

JOB NO.

PROJECT WREST & SLO EXPANSION DATE CHECKED

DATE

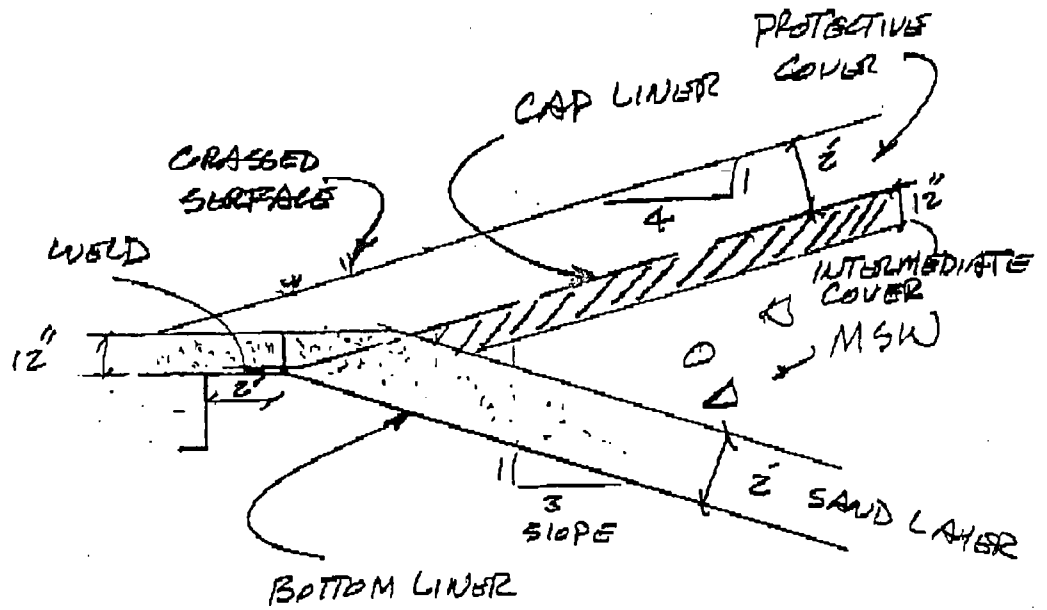
4/27/01

DETAIL

BOTTOM & CAP LINERS TIE-IN CHECKED BY

PAGE NO.

1



BOTTOM LINER / CAP LINER TIE-IN

Ford, Kim

From: Snipes, Ed
Sent: Friday, April 27, 2001 9:28 AM
To: Ford, Kim
Subject: FW: Meeting Thursday May 3, 2001



FWRC_2001.ppt



ATT12043.txt

-----Original Message-----

From: Leonard W. Casson [mailto:casson@engrng.pitt.edu]
Sent: Monday, April 16, 2001 12:25 PM
To: Snipes, Ed
Cc: bedgar@fuseinc.com; tory Champlin; pcutil3@pascocounty.com
Subject: Meeting Thursday May 3, 2001

Good Morning Ed,

As per your telephone conversation with Bill Edgar this morning, I am sending you a copy of our recent presentation to the Florida Water Resources Conference in Jacksonville. The attached presentation discusses the current state of our project which converts landfill ash leachate into sodium hypochlorite for the possible purpose of disinfecting wastewater treatment plant effluent from Shady Hills prior to entering a water reclamation/reuse system.

If possible, Bill and I would like to make a presentation to your staff concerning the status of this project. We are entering the final pilot-testing phase of this project and preparing to enter the design phase. The presentation I will make on May 3 will be based on the attached presentation and will provide you with the current state of the project.

In attendance from the project team will be me, Bill Edgar, Tory Champlin from Parsons Engineering Science, Incorporated. Also in attendance will be Bruce Kennedy from Pasco County. Please feel free to invite anyone else you think might have an interest

Please contact Bill Edgar at (352) 754-1259 or by e-mail @bedgar@fuseinc.com to confirm the meeting time. Also, please feel free to contact me if you have any questions I might be able to answer.

I look forward to seeing you in May,

Leonard

Ford, Kim

From: Snipes, Ed
Sent: Friday, April 27, 2001 9:29 AM
To: Ford, Kim
Subject: FW: Leachate Pilot Test Study & Report

-----Original Message-----

From: Bill Edgar [mailto:billedgar@drumcorp.com]
Sent: Monday, April 23, 2001 10:04 AM
To: Snipes, Ed
Cc: Casson, Leonard; Bruce Kennedy
Subject: Leachate Pilot Test Study & Report

Good Morning Ed,

As per our conversation, Friday, this is to confirm our presentation of the Pasco County Leachate Study to be held at your office on May 3rd at 2 PM. As we get closer to the time, please let me know the amount of handout and test result packages to bring. We would like to borrow your powerpoint projector, similar to the one from last time.

Sorry for the confusion from Tory Champlin, but he didn't know.

Have a Nice Day,
Bill Edgar
e-mail: bedgar@fuseinc.com
website: www.fuseinc.com

FAX COVER SHEET

*Beir*DATE: 4/27/2001TO: *Kim Ford*FROM: *Alch*

CAMP DRESSER & McKEE INC.
Westshore Center
1715 North Westshore Boulevard, Suite 875
Tampa, Florida 33607
(813) 288-8787

PN: _____

NUMBER OF PAGES SENT INCLUDING COVER SHEET: 3

NOTE:

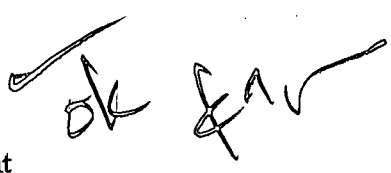
*Hard Copy to Follow*QUESTIONS/PROBLEMS: CONTACT *TERP/gm* AT (813) 281-2900

APR. 27, 2001 3:03PM

NO. 811 P. 2

CDM Camp Dresser & McKee Inc.consulting
engineering
construction
operationsWestshore Center
1715 North Westshore Boulevard, Suite 875
Tampa, Florida 33607
Tel: 813 281-2800 Fax: 813 288-8787

April 27, 2001



Mr. Kim Ford, P.E.
Solid Waste Section
Division of Waste Management
Florida Department of Environmental Protection
3804 Coconut Palm Drive
Tampa, Florida 33619-8318

Subject: West Pasco Landfill Expansion Cells A3 and SW2

Dear Kim:

The following clarifications are provided per our telephone conversation on April 26, 2001:

1. The location of Groundwater Monitoring Wells No. 19d and 20d will be revised before construction to comply with the Groundwater Monitoring Plan dated March 29, 2001. As-built drawings will be provided at the completion of the project.
2. Two feet of sand layer will be provided above the liner on the side slopes, the detail will be revised before construction, as shown on the attached figure, to accommodate cap liner tie-in to the bottom liner. As-built drawings will be provided at the completion of the project.
3. The reclaimed water line is not tied to the leachate transport line. (See Detail C on Sheet M-1).
4. The purpose of the washdown stations is to provide a source of water for irrigation, and to washdown equipment and trucks, as necessary. Washdown activities will take place only on the area within the lined cells to eliminate washdown water discharge into surface drainage. This will be addressed in the Operational Plan, which will be prepared and submitted to FDEP prior to operation of the new cells.
5. The purpose of the reclaimed water supply to the pump station is to prime the pumps, if needed, in case of malfunction of the foot valve.

Please call me if you have any questions.

Very truly yours,

CAMP DRESSER & MCKEE INC.

Abdul R. Mulla Saleh, P.E., DEE
Associate

Attachment

c: Vince Mannella, Pasco County
Dan Strobbridge, CDM

S:\PASCO\PAS_SW\Tb01091.doc

APR. 27, 2001 3:03PM

JNO. 811 of P. 3

CAMP DRESSER & MCKEE

CLIENT

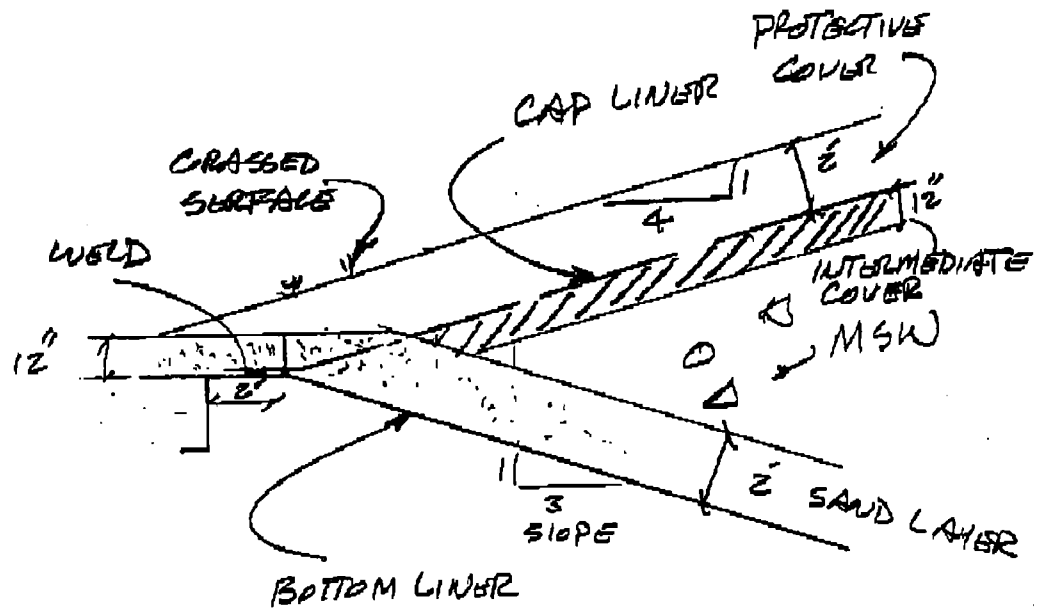
JOB NO.

DATE 4/27/01

PROJECT WEST V. 150 GRPAUSION DATE CHECKED

PAGE NO. 1

DETAIL BOTTOM CAP LINERS TIE-IN CHECKED BY



BOTTOM LINER / CAP LINER TIE-IN

2/27/01

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOUTHWEST DISTRICT

CONVERSATION RECORD

Date 4/27/01 Subject WPALU
Time 10:30 Permit No. _____
County PAUL
M ADDL S. Telephone No. 2812900
Representing CD
☐ Phoned Me ☒ Was Called ☐ Scheduled Meeting ☐ Unscheduled Meeting
Other Individuals Involved in Conversation/Meeting _____

Summary of Conversation/Meeting

I called AS to mention D. King from
Tennax question on GIGANT transmission
AS said Tennax used as example - cables are
1) all with > 40 cm/sec as required by rule and
previously provided
We discussed the same item as yesterday
and he said he will FAX response today
AS. said since ASK that can me to
let me know the difference of filling out
will be changes.

I explained to AS that if once hands
to DERATE temporarily from his ops plan
he needs to explain in writing and
tell when he will be filling as per ops plan

(continue on another
sheet, if necessary)

Signature

[Signature]

Title

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOUTHWEST DISTRICT

CONVERSATION RECORD

Date 4/26/01 Subject WPA 10 A 31 SW
Time 4:30 Permit No. PA89-23
County PA 10
M ABDUL SALAM Telephone No. 2812900
Representing CDM
☐ Phoned Me ☒ Was Called ☐ Scheduled Meeting ☐ Unscheduled Meeting
Other Individuals Involved in Conversation/Meeting _____

Summary of Conversation/Meeting I called Abdul to discuss plans
ABDUL SAID AN ADDENDUM FOR:
1. Plan sheet 2 to show new GW wells at same
Location as GW in plan approved by T morey
2. Sand layer on side slopes will be 24" and not taper.
Also, learn will confirm that 2' plan with
3. Reclean water line will not be connected to
4. Leachate Reclean and
5. Reclean water will be used for irrigation only.
6. Reclean water may be used to prime the pump
intake on a rare occasion in emergency
7. In mention's concern will plan for flow
measurement. ABDUL SAID HE IS CONFIDENT IN
DESIGN AND SPECIFICATIONS include flow measurement devices
ABDUL SAID OPS PLAN WILL BE UPDATED IN NECESSARY
prior to operation
(continue on another sheet, if necessary) Signature E C

Title _____

CDM Transmittal

CDM Camp Dresser & McKee Inc.
1715 N. Westshore Boulevard
Suite 875
Tampa, Florida 33607
Phone: (813) 281-2900
Fax: (813) 288-8787

To: Kim Ford **From:** Abdul Mulla Saleh
Organization/ Florida Department of Environmental **Date:** April 19, 2001
Address: Protection
Re: Pasco County Final Design Drawings

Via: **X Federal Express**

Mail:

Courier:

Enclosed please find:

Per Your Request

X

For your review

For your signature

For your information

Approved

Approved as noted

Message:


Enclosed, per your request, is a set of the Final Design Drawings for the above-referenced project.

Please call me if you have any questions.

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

APR 20 2001

SOUTHWEST DISTRICT
TAMPA


Signed



PASCO COUNTY, FLORIDA

KFL
D.E.P.
APR 13 2001
Southwest District Tampa

DADE CITY (352)521-4274
LAND O' LAKES (813)996-7341
SPRING HILL (727)856-0119
FAX (727)861-3099

VINCENT MANNELLA, P.E.
RESOURCE RECOVERY FACILITY
14230 HAYS ROAD
SPRING HILL, FL 34610

April 6, 2001

Mr. Robert Butera, P.E.
Florida Department of Environmental Protection
3804 Coconut Palm Drive
Tampa, FL 33619-8318

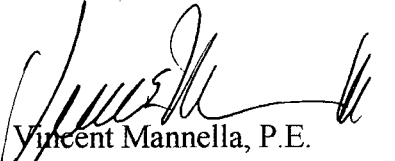
Re: Pasco County, West Pasco Class I Landfill Site

Dear Mr. Butera:

Please be advised that by passing will stop this date. Spring outages are scheduled to start on or about May 3rd and will continue via back to back outages thru May 25th. The noted dates are approximate and may vary somewhat. By passing of M.S.W. during this outage period may be expected, assuming the high level of incoming M.S.W.. By passed M.S.W. will be directed to SW-1, filling sequence will be from East to West.

Please call me direct at 727-856-0119 if you require any additional information.

Sincerely,


Vincent Mannella, P.E.
Solid Waste Facility Manager

VM/kj

cc: John J. Gallagher, County Administrator
Douglas S. Bramlett, Assistant County Administrator (Utilities)



D.E.P.

APR 10 2001

Southwest District Tampa

KF
SIS



PASCO COUNTY, FLORIDA

**VINCENT MANNELLA, P.E.
SOLID WASTE/RESOURCE RECOVERY FACILITY MANAGER**

**14230 Hays Road
Spring Hill, FL 34610**

**Phone: (727) 856-0119
Fax: (727) 861-3099**

DATE: April 3, 2001

TO: Bob Butera, Florida Department of Environmental Protection

FAX NUMBER: 813-744-6125

FROM: Vincent Mannella, P.E. 
Solid Waste Facility Manager

SUBJECT: By Passing M.S.W.

NUMBER OF PAGES: 1
(including cover)

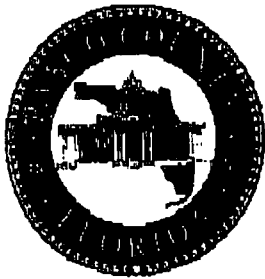
MESSAGE:

Please be advised that Pasco County has started, today, to by pass approximately 2,000 tons of M.S.W. to the Solid Waste Cell.

I will advise you when by passing has terminated.

If you do not receive all of the pages indicated above please call Kristin at the above number. Thank you.

cc: Douglas S. Bramlett, Assistant County Administrator

KF
JM JRM 4/4/01**PASCO COUNTY, FLORIDA**

VINCENT MANNELLA, P.E.
SOLID WASTE/RESOURCE RECOVERY FACILITY MANAGER

14230 Hays Road
Spring Hill, FL 34610

Phone: (727) 856-0119
Fax: (727) 861-3099

DATE: April 3, 2001

TO: Bob Butera, Florida Department of Environmental Protection

FAX NUMBER: 813-744-6125

FROM: Vincent Mannella, P.E. 
Solid Waste Facility Manager

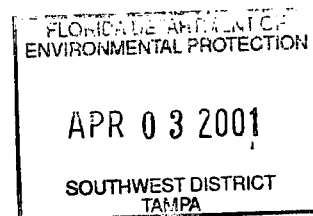
SUBJECT: By Passing M.S.W.

NUMBER OF PAGES: 1
(including cover)

MESSAGE:

Please be advised that Pasco County has started, today, to by pass approximately 2,000 tons of M.S.W. to the Solid Waste Cell.

I will advise you when by passing has terminated.



If you do not receive all of the pages indicated above please call Kristin at the above number. Thank you.

cc: Douglas S. Bramlett, Assistant County Administrator

WAS: MANAGEMENT TECHNICAL SUPP T
ROUTING FORM

PERMITTED FACILITIES

To: John Morris
From: Kim Ford
Date: 4/2/01
Subject: W. PATCO SW-2 & A-3 Expansion

Document Name: _____
Revision Number 3 County: PATCO
Facility Name: _____
Type of Facility: LF
Permit Number: _____ Issue Date: _____

Copy of Permit attached: _____

Document submitted in compliance with permit condition. _____

Document subject to permit timeclock. Y

Day 1: 3/30/01

Day 30: 4/28/01

PATS sheet attached: _____

Enforcement Case/CO/NOV/ associated with this site: _____

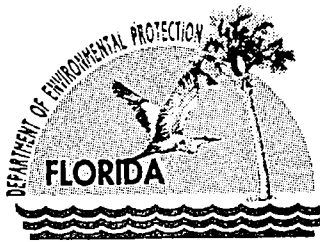
Files and related documents can be found in files

Please review and comment on the technical aspects of the attached document as you deem appropriate. In order to maintain progress with the permit review, please provide comments within 30 days or by 4/15/01.

Comments: _____

Module _____

Attachments



Department of Environmental Protection

Jeb Bush
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

Certified Mail
Return Receipt Requested

April 2, 2001

John Gallagher, County Administrator
Pasco County Board of County Commissioners
7530 Little Road
New Port Richey, FL 34654

Re: Draft Consent Agreement OGC Case # 99-1346
Pasco County Resource Recovery Solid Waste Management Facility

Dear Mr. Gallagher:

Attached to this letter is a copy of the revised draft Consent Agreement #99-1346 for your review and signature. As you will note, the document refers to submittal of an in-kind project, and a gas monitoring corrective action plan for SW-1 and groundwater monitoring corrective action plan for SW-1 which are to be made part of the Consent Agreement as exhibits. The Department has received, reviewed, and approved both your gas monitoring plan and groundwater monitoring corrective actions plans for SW-1 which are exhibits to the draft Consent Agreement.

In your January 18, 2001 meeting with the Department, you indicated a desire to provide an in-kind project proposal, which satisfies both this case and outstanding enforcement cases with other Department programs. The Department has no objection to this proposal. You are therefore requested to return a signed copy of this Consent Agreement to the Department within 30 days of receipt of this letter.

Should you or County staff have any questions or comments relating to these matters prior to providing the Department your written response, you may contact William Kutash, Southwest District Waste Program Administrator, at (813) 744-6100 ext. 353.

Your assistance in resolving this matter is appreciated.

Sincerely yours,

Deborah A. Getzoff
Director of District Management
Southwest District

Attachments

cc: Comm. Gary Blackwell, Chairman, Pasco Co. Board of County Commissioners
Doug Bramlett, Assistant County Administrator
Vincent Mannella, Pasco County Resource Recovery Facility Manager
Robert Butera, P.E., Solid Waste, Southwest District
Kim Ford, P.E., Solid Waste, Southwest District
Susan Pelz, Solid Waste, Southwest District

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION,

IN THE OFFICE OF THE
SOUTHWEST DISTRICT

Complainant,
vs.

OGC FILE NO. 99-1346

PASCO COUNTY, FLORIDA

Respondent.

CONSENT AGREEMENT

This Consent Agreement is made and entered into between the State of Florida Department of Environmental Protection ("Department") and Pasco County, Florida ("Respondent") to reach settlement of certain matters at issue between the Department and Respondent.

The Department finds and the Respondent neither admits or denies the following:

1. The Department is the administrative agency of the State of Florida having the power and duty to administer and enforce the provisions of Chapter 403, Florida Statutes, and the rules promulgated thereunder, Florida Administrative Code Title 62. The Department has jurisdiction over the matters addressed in this Consent Agreement.

2. Respondent is a person within the meaning of Section 403.031(5), Florida Statutes.

3. Respondent is the owner and operator of the Pasco County Recovery Facility ("RRF"), located on Hays Road, North of S.R. 52 in Spring Hill, Florida ("facility"). The facility is specifically located at Latitude 28°22'05" Longitude 82°33'30", Spring Hill, Pasco County, Florida. Respondent operates a solid waste incinerator and various solid waste management facilities at the facility under Department Site Certification No. PA87-23.

4. The incinerator ash is disposed of on-site in lined disposal units with leachate collection and removal systems. The ash leachate water is removed to a two million gallon on-site leachate storage tank, then sent to an on-site leachate treatment plant, and the resulting treated water used as process water at the resource recovery facility.

5. A site visit to the facility on March 18, 1997 revealed that Respondent had deviated from their design and operation plan by disposing of ash across all 3 segments and over the entire bottom of the 10 acre cell, requiring all storm water which fell over the entire 10 acres to be treated as leachate.

6. On June 10, 1997, the County notified the Department that they had placed the two million gallon storage tank into service, but that problems with the treatment plant were delaying operation of the plant at full capacity.

7. During a September 25, 1997, telephone conversation, Respondent stated that there was greater than 1 foot of ponded leachate over the entire 10 acre A-2 ash disposal unit; that the two million gallon leachate tank was full and no leachate had been removed from the disposal unit for some time and that the

leachate treatment plant, designed to treat 30,000 gal./day was only treating 12,000 gal./day. An October 6, 1997 inspection of the facility revealed 3-5 feet of leachate over the entire A-2 disposal unit. Salt bags disposed improperly in the A-2 disposal unit had also broken, causing leakage of salt into the waste.

8. During a November 4, 1997 telephone conversation, Respondent revealed that it had plugged the leachate collection system for the adjacent A-1 ash disposal unit and thus leachate was impounded there also.

9. In a meeting with the Department on December 11, 1997, Respondent informed the Department that they had altered the leachate collection system to allow for increased impoundment of leachate in disposal unit A-1.

10. On November 28, 1997 the Department issued Warning Letter WL97-008SW51SWD to Respondent for impounding leachate and for failing to maintain their leachate management system.

11. Between December 1997 and February 1998, Respondent recorded a total rainfall at the facility of 43.08 inches. By March 20, 1998, the ash disposal units had become impounded to within 28 inches of the top of the liner (approximately 14 feet of leachate) and the facility had approximately 35 million gallons of ash leachate impounded in the disposal units. In May 1998, faced with potential overtopping or a breach in the integrity of the liner system, Respondent began hauling 200,000 gal/day of leachate to the City of Tampa WWTP and installation of a rain cell cover on portions of disposal unit A-2.

12. On July 8, 1998, Respondent informed the Department that they had returned to compliance and were maintaining the level of leachate over the liner below 1 foot. This was confirmed by the Department. Respondent and the Department are currently working on a modification of the facility's site certification to reflect operational changes implemented as a result of the above conditions.

13. A review of Department records also revealed that monitor wells 4MW11D-4MW16D, which were to be located around disposal unit A-2 and installed by January 1, 1996, were in fact installed January 1998 (except for 4MW13D which was not yet installed), and the Department received well construction information and initial sampling results in July 1998.

14. The Department's November 17, 1999 inspection of the facility revealed that the western portion of SW-1 was now being used for permanent disposal of solid waste. During the time that the facility utilized SW-1 for temporary solid waste storage, the Department had not required the Respondent to upgrade the groundwater and gas monitoring programs for this area. However, with the initiation of permanent solid waste disposal in SW-1, the facility groundwater monitoring plan must be modified to comply with the water quality monitoring requirements of F.A.C. 62-701.510 and F.A.C. 62-522 and a gas monitoring program for SW-1 needed to be proposed, approved and implemented in accordance with F.A.C. 62-701.400(10)(c). On May 16, 2000, Respondent submitted a proposed gas monitoring program for SW-1, which was approved by Department letter dated May 17, 2000.

15. The November 17, 1999 facility inspection revealed that the facility is filling SW-1 in a west to east direction. The facility's approved operation plan indicates that the sequence of filling in all solid waste disposal units will be from east to west and the leachate collection system for SW-1 was designed to handle leachate generated from waste filled in an east to west direction. The November 17, 1999 facility inspection also revealed that monitor well 4MW13D still had not been installed.

16. Respondent's activities as outlined in paragraphs 5 through 11 and 13 through 15 have resulted in a violation of Section 403.161(1)(b) which makes it a violation to fail to comply with any rule or permit issued by the Department pursuant to its lawful authority.

17. The Department and the Respondent have met on several occasions on this matter. Having reached a resolution of the matter, the Department and the Respondent mutually agree and it is,

ORDERED:

18. In settlement of the matters addressed in this Consent Agreement, Respondent agrees to \$94,516 in civil penalties for alleged violations of Section 403.161, Florida Statutes, and of the Department's rules. However, in lieu of a cash payment, Respondent agrees to fulfill its obligations under the Consent Agreement by initiating and completing an approved in-kind project ('project'), whose projected costs and expenses are anticipated to be equal or greater than one and a half times the penalty amount, (not less than \$141,774). Within 60 days of the

effective date of this Consent Agreement, Respondent shall provide a proposed project to the Department, and upon approval by the Department, initiate and complete the project in strict accordance with the terms, conditions, and time frames specified by the approved project.

19. Within 30 days of completion of the project, documentation of the costs/expenses for the project shall be submitted to the Department for review and approval. In the event that the Department determines that any or all of the documented costs/expenses of the project do not meet the Department guidelines or additional information is required to evaluate the documentation of the cost/expenses of the project; the Department will make written notification of such to the Respondent and Respondent shall provide the additional information requested, to the Department, within 30 days of receipt of such written notification and request. Should the actual amount expended on the project or the Department approved project expenditures be less than \$141,774 (1 ½ times the monetary penalty amount of \$94,516), a monetary payment of the balance shall be submitted to the Department within 30 days of completion of the project. Payment shall be made by cashier's check or money order. The instrument shall be made payable to the "Department of Environmental Protection" and shall include thereon the OGC number assigned to this Consent Agreement and the notation "Ecosystem Management and Restoration Trust Fund".

20. In the event that the Respondent fails to provide an acceptable in-kind project to the Department within 150 days of the

effective date of this Consent Agreement, Respondent shall, within 30 days of receipt of written notification by the Department, pay the Department \$94,516 in settlement of the matters addressed in this Consent Agreement. This amount includes \$94,016 in civil penalties for alleged violations of Section 403.161, Florida Statutes, and of the Department's rules and \$500.00 for costs and expenses incurred by the Department during the investigation of this matter and the preparation and tracking of this Consent Agreement. Payment shall be made by cashier's check or money order. The instrument shall be made payable to the Department of Environmental Protection and shall include thereon the OGC number assigned to this Consent Agreement and the notation "Ecosystem Management and Restoration Trust Fund". The payment shall be sent to the Department of Environmental Protection, Southwest District, Waste Management Division, 3804 Coconut Palm Drive, Tampa, Florida 33619-8318.

21. Within 30 days of the effective date of this Consent Agreement, Respondent shall initiate the approved gas monitoring corrective action plan attached and made part of this Consent Agreement as Exhibit A and complete all activities in strict accordance with the terms, conditions, and time frames specified in the approved plan.

22. Within 30 days of the effective date of this Consent Agreement, Respondent shall initiate the approved groundwater monitoring corrective action plan attached and made part of this Consent Agreement as Exhibit B and complete all activities in

strict accordance with the terms, conditions, and time frames specified in the approved plan.

23. If any event, including administrative or judicial challenges by third parties unrelated to the Respondent, occurs which causes delay or the reasonable likelihood of delay, in complying with the requirements of this Consent Agreement, Respondent shall have the burden of proving the delay was or will be caused by circumstances beyond the reasonable control of the Respondent and could not have been or cannot be overcome by Respondent's due diligence. Economic circumstances shall not be considered circumstances beyond the control of Respondent, nor shall the failure of a contractor, subcontractor, materialman or other agent (collectively referred to as "contractor") to whom responsibility for performance is delegated to meet contractually imposed deadlines be a cause beyond the control of Respondent, unless the cause of the contractor's late performance was also beyond the contractor's control. Upon occurrence of an event causing delay, or upon becoming aware of a potential for delay, Respondent shall notify the Department orally within 24 hours or by the next working day and shall, within seven calendar days of oral notification to the Department, notify the Department in writing of the anticipated length and cause of the delay, the measures taken or to be taken to prevent or minimize the delay and the timetable by which Respondent intends to implement these measures. If the parties can agree that the delay or anticipated delay has been or will be caused by circumstances beyond the reasonable control of Respondent, the time for performance

hereunder shall be extended for a period equal to the agreed delay resulting from such circumstances. Such agreement shall adopt all reasonable measures necessary to avoid or minimize delay. Failure of Respondent to comply with the notice requirements of this Paragraph in a timely manner shall constitute a waiver of Respondent's right to request an extension of time for compliance with the requirements of this Consent Agreement.

24. Persons who are not parties to this Consent Agreement but whose substantial interests are affected by this Consent Agreement have a right, pursuant to Sections 120.569 and 120.57, Florida Statutes, to petition for an administrative hearing on it. The Petition must contain the information set forth below and must be filed (received) at the Department's Office of General Counsel, 3900 Commonwealth Boulevard, MS-35, Tallahassee, Florida 32399-3000, within 21 days of receipt of this notice. A copy of the Petition must also be mailed at the time of filing to the District Office named above at the address indicated. Failure to file a petition within the 21 days constitutes a waiver of any right such person has to an administrative hearing pursuant to Sections 120.569 and 120.57, Florida Statutes.

The petition shall contain the following information:

(a) The name, address, and telephone number of each petitioner; the Department's Consent Agreement identification number and the county in which the subject matter or activity is located; (b) A statement of how and when each petitioner received notice of the Consent Agreement; (c) A statement of how each petitioner's

substantial interests are affected by the Consent Agreement; (d) A statement of the material facts disputed by petitioner, if any; (e) A statement of facts which petitioner contends warrant reversal or modification of the Consent Agreement; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Consent Agreement; (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Consent Agreement.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the subject Consent Agreement have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 21 days of receipt of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Sections 120.569 and 120.57, Florida Statutes, and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-106.205, Florida Administrative Code.

A person whose substantial interests are affected by the Consent Agreement may file a timely petition for an

administrative hearing under Sections 120.569 and 120.57, Florida Statutes, or may choose to pursue mediation as an alternative remedy under Section 120.573, Florida Statutes, before the deadline for filing a petition. Choosing mediation will not adversely affect the right to a hearing if mediation does not result in a settlement. The procedures for pursuing mediation are set forth below.

Mediation may only take place if the Department and all the parties to the proceeding agree that mediation is appropriate. A person may pursue mediation by reaching a mediation agreement with all parties to the proceeding (which include the Respondent, the Department, and any person who has filed a timely and sufficient petition for a hearing) and by showing how the substantial interests of each mediating party are affected by the Consent Agreement. The agreement must be filed in (received by) the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, within 10 days after the deadline as set forth above for the filing of a petition.

The agreement to mediate must include the following:

- (a) The names, addresses, and telephone numbers of any persons who may attend the mediation;

- (b) The name, address, and telephone number of the mediator selected by the parties, or a provision for selecting a mediator within a specified time;

- (c) The agreed allocation of the costs and fees associated with the mediation;

(d) The agreement of the parties on the confidentiality of discussions and documents introduced during mediation;

(e) The date, time, and place of the first mediation session, or a deadline for holding the first session, if no mediator has yet been chosen;

(f) The name of each party's representative who shall have authority to settle or recommend settlement; and

(g) Either an explanation of how the substantial interests of each mediating party will be affected by the action or proposed action addressed in this notice of intent or a statement clearly identifying the petition for hearing that each party has already filed, and incorporating it by reference.

(h) The signatures of all parties or their authorized representatives.

As provided in Section 120.573, Florida Statutes, the timely agreement of all parties to mediate will toll the time limitations imposed by Sections 120.569 and 120.57, Florida Statutes, for requesting and holding an administrative hearing. Unless otherwise agreed by the parties, the mediation must be concluded within sixty days of the execution of the agreement. If mediation results in settlement of the administrative dispute, the Department must enter a final order incorporating the agreement of the parties. Persons whose substantial interests will be affected by such a modified final decision of the Department have a right to petition for a hearing only in accordance with the requirements for such petitions set forth above, and must therefore file their petitions within 21 days of

receipt of this notice. If mediation terminates without settlement of the dispute, the Department shall notify all parties in writing that the administrative hearing processes under Sections 120.569 and 120.57, Florida Statutes, remain available for disposition of the dispute, and the notice will specify the deadlines that then will apply for challenging the agency action and electing remedies under those two statutes.

25. Entry of this Consent Agreement does not relieve Respondent of the need to comply with applicable federal, state or local laws, regulations or ordinances.

26. The terms and conditions set forth in this Consent Agreement may be enforced in a court of competent jurisdiction pursuant to Sections 120.69 and 403.121, Florida Statutes. Failure to comply with the terms of this Consent Agreement shall constitute a violation of Section 403.161(1)(b), Florida Statutes.

27. Respondent is fully aware that a violation of the terms of this Consent Agreement may subject Respondent to judicial imposition of damages, civil penalties up to \$10,000.00 per day per violation and criminal penalties.

28. Respondent shall allow all authorized representatives of the Department access to the property and facility at reasonable times for the purpose of determining compliance with the terms of this Consent Agreement and the rules and statutes of the Department.

29. All submittals and payments required by this Consent Agreement to be submitted to the Department shall be sent to the

Florida Department of Environmental Protection, Southwest District, Waste Management Division, 3804 Coconut Palm Drive, Tampa, Florida 33619-8318.

30. The Department hereby expressly reserves the right to initiate appropriate legal action to prevent or prohibit any violations of applicable statutes, or the rules promulgated thereunder that are not specifically addressed by the terms of this Consent Agreement.

31. The Department, for and in consideration of the complete and timely performance by Respondent of the obligations agreed to in this Consent Agreement, hereby waives its right to seek judicial imposition of damages or civil penalties for alleged violations outlined in this Consent Agreement. Respondent acknowledges but waives its right to an administrative hearing pursuant to Sections 120.569 and 120.57, Florida Statutes, concerning the terms of this Consent Agreement. Respondent acknowledges its right to appeal the terms of this Consent Agreement pursuant to Section 120.68, Florida Statutes, but waives that right upon signing this Consent Agreement. However, Respondent reserves its right to contest any other agency action by the Department.

32. By signing and complying with the terms of this Consent Agreement, Respondent does not admit or acknowledge any guilt or liability, or any violation of the Department's permits, rules, or statutes.

33. No modifications of the terms of this Consent Agreement shall be effective until reduced to writing and executed by both Respondent and the Department.

34. In the event of a sale or conveyance of the facility or of the property upon which the facility is located, if all of the requirements of this Consent Agreement have not been fully satisfied, Respondent shall, at least 30 days prior to the sale or conveyance of the property or facility, (1) notify the Department of such sale or conveyance, (2) provide the name and address of the purchaser, or operator, or person(s) in control of the facility, and (3) provide a copy of this Consent Agreement with all attachments to the new owner. The sale or conveyance of the facility, or the property upon which the facility is located shall not relieve the Respondent of the obligations imposed in this Consent Agreement.

35. This Consent Agreement is a settlement of the Department's civil and administrative authority arising under Florida law to resolve the matters addressed herein. This Consent Agreement is not a settlement of any criminal liabilities which may arise under Florida law, nor is it a settlement of any violation which may be prosecuted criminally or civilly under federal law.

36. This Consent Agreement is a final order of the Department pursuant to Section 120.52(7), Florida Statutes, and it is final and effective on the date filed with the Clerk of the Department unless a Petition for Administrative Hearing is filed in accordance with Chapter 120, Florida Statutes. Upon the timely filing of a petition this Consent Agreement will not be effective until further order of the Department.

FOR THE RESPONDENT

DATE

Gary Blackwell, Chairman
Pasco County Board of County Commission

DONE AND ORDERED this _____ day of
_____, 2001, in Tampa, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Deborah A. Getzoff
Director of District Management
Southwest District

Copies furnished to:
Larry Morgan, OGC

West Pasco County Landfill Gas Migration Monitoring Program – Cell SW-1

D.E.P.
MAY 16 2000
Southwest District Tampa

A landfill gas migration monitoring program will be implemented to prevent explosions and fires outside of the limits of waste disposal, off-site odors and damage to vegetation. Monitoring will be conducted for the percent of the lower explosive limit for methane (LEL). The regulatory threshold for on-site structures is 25% of the LEL. The regulatory threshold for the landfill property boundary is 100% of the LEL. Monitoring shall be conducted quarterly in accordance with the regulations. If a regulatory exceedance is detected during routine monitoring, the landfill operator will submit a remediation plan within seven days to the FDEP. The plan will detail the nature and extent of the migration and the proposed remedy. The remedy will be complete/implemented within 60 days of the detection unless otherwise approved by the FDEP.

If migrating landfill gas is detected greater than 25 percent of the LEL for methane at any monitoring probe, a temporary monitoring probe will be established 50 feet in the direction opposite (further) from the cell. The temporary probe will be monitored on a monthly basis for at least one quarter and until monitoring of the temporary probe indicates zero percent of the LEL for methane.

The landfill gas migration monitoring program will include monitoring of Cell SW-1 perimeter. There are no structures in the immediate or close proximity to Cell SW-1. Therefore, the monitoring probes will be constructed at the perimeter of cell SW-1 as shown on Figure 2. The monitoring probes will be constructed as shown on Figure 3. A Gas Tester Model DigiFlam 2000, as manufactured by Neotronic or equivalent will be used. The monitoring probes will be advanced to the low seasonal groundwater table. The one-inch well screen will extend from the low seasonal groundwater table to two feet below ground surface. The one-inch well riser will extend approximately three feet above ground surface. The annular space will be backfilled with pea gravel. Six inches of select sand backfill will be placed over the gravel pack. A one-foot thick bentonite seal will be placed over the select sand backfill. Six inches of compacted native soil will be placed on the one foot bentonite seal. The probe will have a quick connect to facilitate sampling.

The landfill gas migration monitoring locations include four landfill gas monitoring probes as described and numbered GMP-1 through GMP-4.

11/01/00

21/39/23

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D.E.P.
MAY 16 2000
Southwest District Tampa

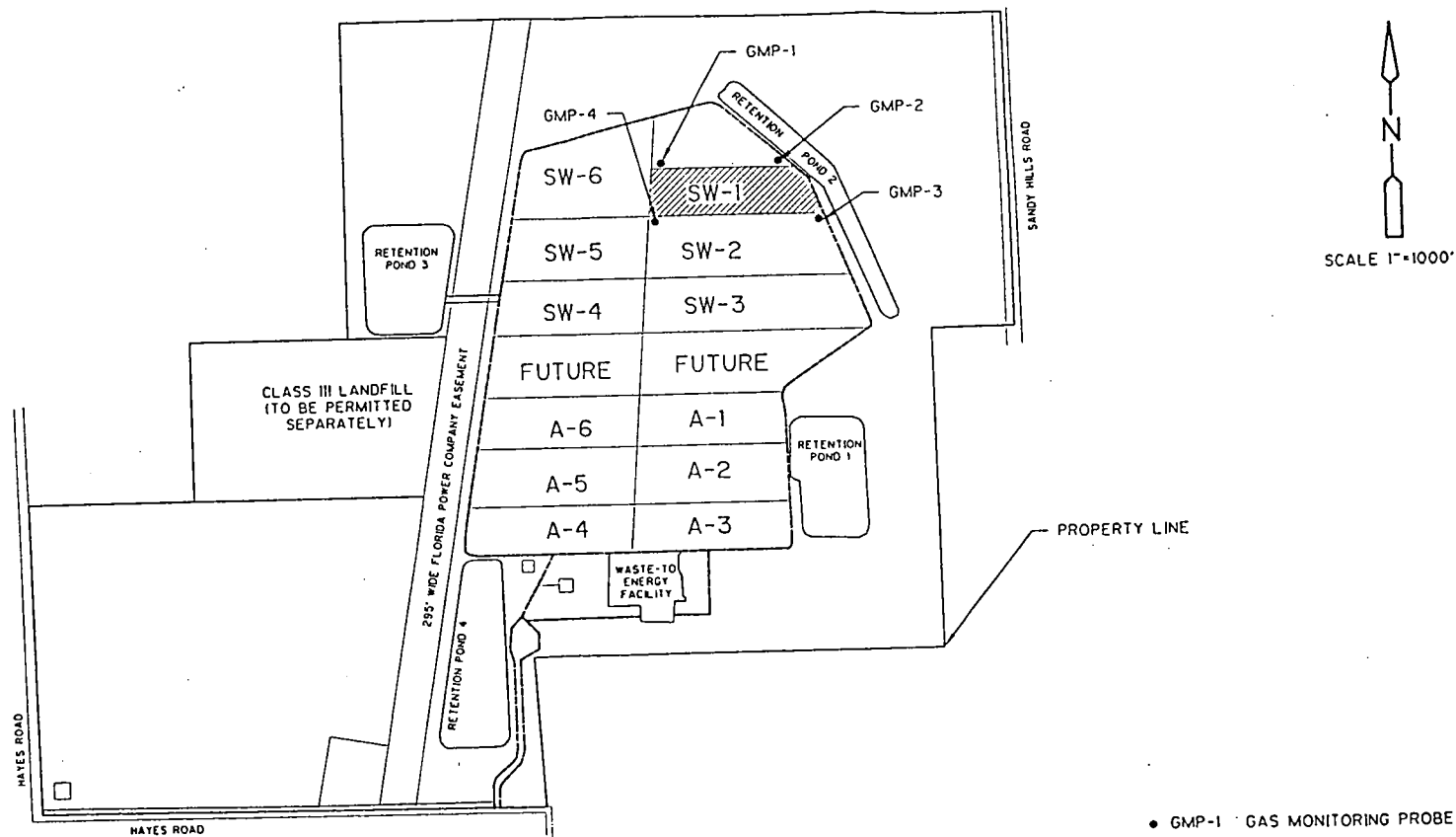


FIGURE 2
PROPOSED LOCATION OF GAS MONITORING PROBES
PASCO COUNTY LANDFILL
SITE LAYOUT
MAY 16 2000

seconds

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poco2

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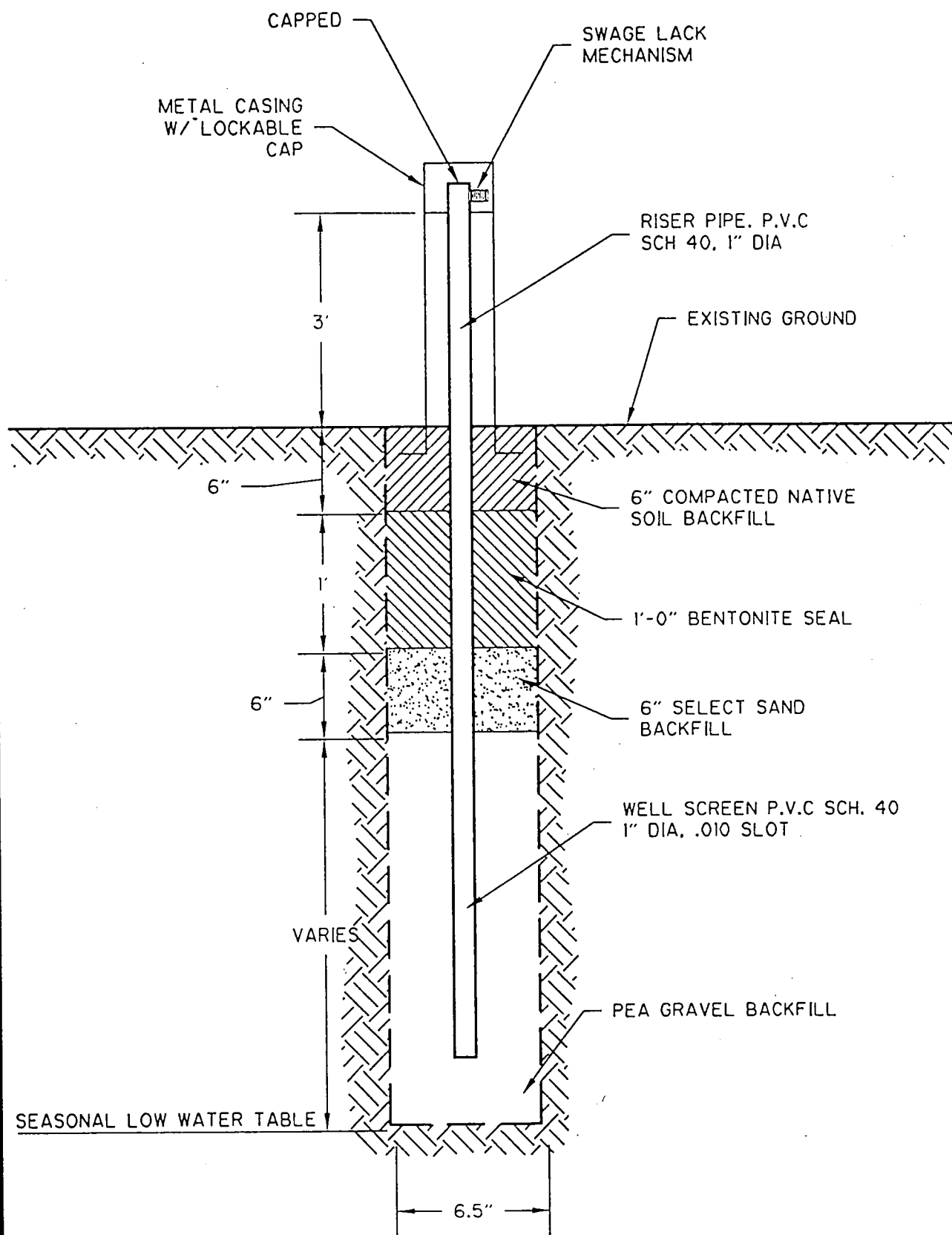


Figure No. 3
GAS MONITORING PROBE
MAY 16 2000

seconds

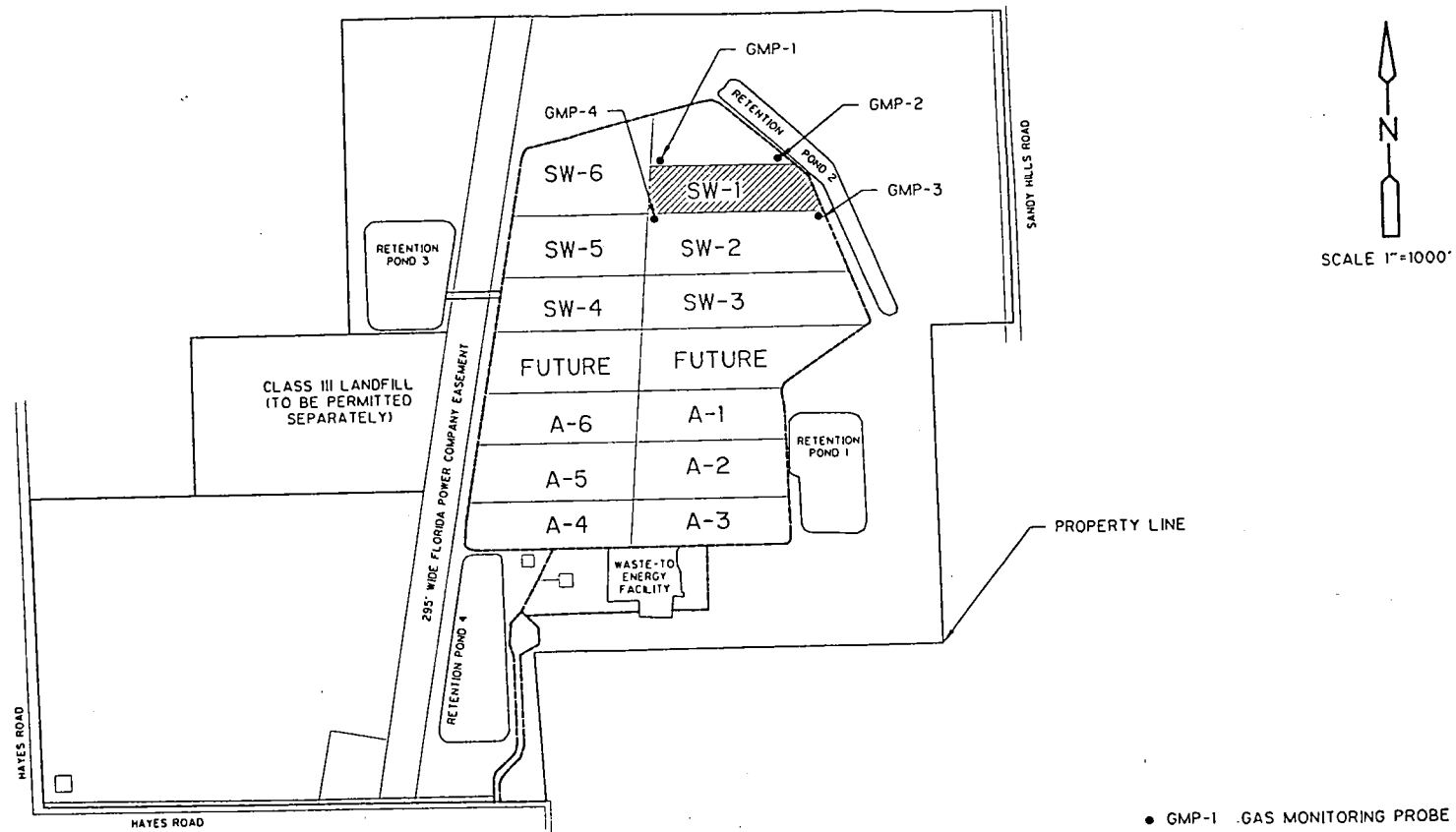
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05/15/00 14:38:13

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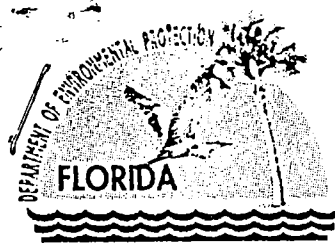
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D.E.P.
MAY 16 2000
Southwest District Tampa



• GMP-1 GAS MONITORING PROBE

FIGURE 2
PROPOSED LOCATION OF GAS MONITORING PROBES
PASCO COUNTY LANDFILL
SITE LAYOUT
MAY 16 2000



Jeb Bush
Governor

EXHIBIT B
Department of
Environmental Protection

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

Mr. Vincent Mannella, P.E.
Pasco County Solid Waste, Resource Recovery Facility
14230 Hays Road
New Port Richey, FL 34610

December 4, 2000

Re: West Pasco Class I Landfill, Pasco County
Ground Water Monitoring Corrective Action Plan, Cell SW-1
PA 87-23
OGC File No. 99-1346

Dear Mr. Mannella:

The Department has reviewed the document entitled *Ground Water Monitoring Corrective Action Plan, West Pasco Class I Landfill, Pasco County, Florida*, prepared by QORE, Inc., received July 25, 2000. This document was submitted to the Department in accordance with Paragraph 14 of draft Consent Order 99-1346 to implement ground water monitoring at Cell SW-1. It is intended that this letter and the above-referenced document will constitute Exhibit B as referenced in Paragraph 20 the executed Consent Order.

The Department has no objection to installation of the proposed monitor wells in proximity to Cell SW-1 subject to the following conditions:

1. A standard penetration test boring shall be conducted at each of the two proposed detection well locations to verify lithology and determine the occurrence of the first water-bearing unit. A boring log shall be submitted to the Department along with the monitor well construction details.
2. As noted in Section 2.4 of the referenced submittal, the thickness of the surficial sands and the depth to limestone are highly variable in the vicinity of Cell SW-1. In the event that considerable thicknesses of sand and/or clayey sediments are encountered that appear to be saturated, the installation of shallow and deep well pairs shall be required to monitor the surficial and Floridan aquifers, respectively. As required by Rule 62-701.510(3)(d)4., F.A.C., well screens shall not act as conduits through confining layers between water-bearing strata. If a shallow well is required, the well screen shall be located to straddle the water table surface.
3. The well screen slot and sand pack shall be sized to the formation of the targeted monitoring zones to allow the collection of representative ground water samples from the proposed detection wells.
4. The well construction details to be provided to the Department as indicated in Section 3.2 of the referenced submittal be supplemented by the information presented on attached DEP Form No. 62-522.900(3).

"More Protection, Less Process"

Mr. Vincent Mannella, P.E.

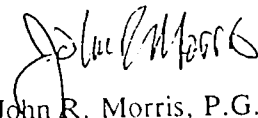
December 4, 2000

Page 2

5. An initial sampling event of the proposed monitor wells shall be conducted for the parameters listed in Rule 62-701.510(8)(a) and (8)(d), F.A.C.
6. The semi-annual sampling events conducted at the proposed monitor wells for the field and laboratory parameters listed in Section 3.3 of the referenced submittal and shall also include the laboratory analyses of the parameters listed in 40 CFR Part 258, Appendix I.
7. Within 90 days of execution of Consent Order 99-1346 the following activities shall be completed: the proposed detection wells shall be installed and developed; the initial sampling event shall be conducted; and, the monitor well construction details and the results of analyses of the initial sampling event shall be submitted to the Department.
8. Routine sampling of the proposed detection wells at Cell SW-1 shall be performed during the semi-annual sampling events conducted at the other monitor wells at the West Pasco Class I landfill. Paragraph 20 of Consent Order 99-1346 shall be considered to be satisfactorily completed when a revised ground water monitoring plan which includes all existing and proposed wells is approved by the Department to replace the existing ground water monitoring plan.

The Department appreciates the County's efforts to implement ground water monitoring in the vicinity of Cell SW-1. Please contact me at (813) 744-6100 extension 336 if you have questions.

Sincerely,



John R. Morris, P.G.
Solid Waste Section

Attachment

cc: John J. Gallagher, County Administrator, 7530 Little Road, S-340, New Port Richey, FL 34654
Douglas Bramlett, Assistant County Administrator, Pasco County Utilities Services,
7530 Little Road, S-204, New Port Richey, FL 34654
Lawrence J. Maron, P.E., QORE, Inc., 1211 Tech Blvd., Suite 200, Tampa, FL 33619
Deborah A. Getzoff, FDEP Tampa, w/o attachment
William Kutash, FDEP Tampa, w/o attachment
fb Robert Butera, P.E., FDEP Tampa, w/o attachment
Kim Ford, P.E., FDEP Tampa, w/o attachment
Steve Morgan, FDEP Tampa, w/o attachment

Florida Department of Environmental Protection
Twin Towers Office Bldg 2600 Blair Stone Road Tallahassee, Florida 32399-2400

DEP Form # 62-522-900(3)
Form Title <u>MONITOR WELL COMPLETION REPORT</u>
Effective Date _____
DEP Application No _____ (Filled in by DEP)

MONITOR WELL COMPLETION REPORT

DATE: _____

INSTALLATION NAME: _____

DEP PERMIT NUMBER: _____ GMS NUMBER: _____

WELL NUMBER: _____ WELL NAME: _____

DESIGNATION: Background _____ Immediate _____ Compliance _____

LATITUDE/LONGITUDE: _____

AQUIFER MONITORED: _____

INSTALLATION METHOD: _____

INSTALLED BY: _____

TOTAL DEPTH: _____ DEPTH OF SCREEN: _____ (bls)
(bls)

SCREEN LENGTH: _____ SCREEN SLOT SIZE: _____ SCREEN TYPE: _____

CASING DIAMETER: _____ CASING TYPE: _____

LENGTH OF CASING: _____ FILTER PACK MATERIAL: _____

TOP OF CASING ELEVATION (MSL): _____

GROUND SURFACE ELEVATION (MSL): _____

COMPLETION DATE: _____

DESCRIBE WELL DEVELOPMENT: _____

POST DEVELOPMENT WATER LEVER ELEVATION (MSL): _____

DATE AND TIME MEASURED: _____

REMARKS: (soils information, stratigraphy, etc.): _____

REPORT PREPARED BY: _____
(name, company, phone number)

NOTE PLEASE ATTACH BORING LOG

(bls)= Below Land Surface



Camp Dresser McKee Inc.

consulting
engineering
construction
operations

Westshore Center
1715 North Westshore Boulevard, Suite 875
Tampa, Florida 33607
Tel: 813 281-2900 Fax: 813 288-8787

March 30, 2001

Mr. Kim Ford, P.E.
Solid Waste Section
Division of Waste Management
Florida Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

D.E.P.
MAR 30 2001
Southwest District Tampa

Subject: West Pasco Landfill Cells SW-2 and A-3, Responses to DEP
Comments Dated March 20, 2001

Dear Mr. Ford:

The following is in response to your request for additional clarification on the above-referenced project, dated March 20, 2001. Your comments are bold type, and our responses follow:

1. **62-701.510: Groundwater Monitoring Plan and required supporting information in response to Mr. John Morris's March 16, 2001 memorandum (attached).**

Response: Attached is a complete copy of the revised Groundwater Monitoring Plan, and the Groundwater Monitoring Plan Evaluation.

2. **Condition of Certification XIII: Replacement sheets for the construction plans were received on January 19, February 19, and March 1, 2001. One complete set of construction plans with all revisions is requested.**

Response: A complete set of the final construction plans will be submitted to FDEP. It is anticipated that the final construction plans will be completed within two weeks.

- **Sheets C-3 and C-4: Description of flow meters for gravity flow from each old lift station is requested. Please provide a list of similar type projects for each type of proposed flow meters**

Response: Specifications for the flow meters and a list of similar installations are provided in Exhibit 3.1

- **Sheets C-5 and C-6: Notes on Sheet C-5 appear to allow demolition and removal of existing piping without providing for the leachate containment described on**

Mr. Kim Ford, P.E.
March 30, 2001
Page 2

D.E.P.
MAR 30 2001
Southwest District Tampa

Sheet C-6. Combining these notes on one sheet as a sequence of events is suggested. Aggregate specifications on Sheet C-6 should be included.

Response: The containment berm has been added to Sheet C-5 for continuity. The course aggregate shall be FDOT No. 4 washed river rock or non-carbonate crushed river rock. The aggregate specifications have been included on Sheet C-6. See Exhibit *A.2*

- **Sheet CD-1: The secondary collection header pipe should be shown on Detail I.**

Response: Detail I has been modified to show the secondary collection header pipe. See Exhibit *5:3*

Please call if you have any questions or comments. We appreciate your immediate attention to this information.

Very truly yours,

CAMP DRESSER & MCKEE INC.

A. R. Mulla Saleh
for


Daniel E. Strobridge, QEP
Vice President

Abdul Mulla Saleh, P.E., D.E.E.
Associate

- c: B. Butera w/Enclosures
J. Morris w/Enclosures
D. Bramlett
V. Mannella
A. Mulla Saleh
D. Rojas



STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOUTHWEST DISTRICT

8/3/22
KF 

CONVERSATION RECORD

Date 3/22/01

Subject W. Pasco @ Class I 3 WTE

Time 9:15 AM

Permit No. _____

County Pasco

Mr Ron Walker

Telephone No. 727 856 0119

Representing ~~PA~~ Pasco County Solid Waste


☒ Phoned Me ☐ Was Called ☐ Scheduled Meeting ☐ Unscheduled Meeting

Other Individuals Involved in Conversation/Meeting None

Summary of Conversation/Meeting _____

Ron called as courtesy to let Department know that the WTE is bypassing waste for a few days to SW 1.

(continue on another
sheet, if necessary)

Signature 

Title EST, OPS

WASTE MGT TAMPA SWD ax:8137446125

** Transmit Conf. Report **

P.1

Mar 20 2001 14:50

Telephone Number	Mode	Start	Time	Pages	Result	Note
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FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

3804 Coconut Palm Drive
Tampa, FL 33619-8318

FAX

Date:

3/20/01

Number of pages including cover sheet:

8

To:

DAN STROBRIDGE

Lion

Phone:

281 2900

Fax phone:

2888787

CC:

From:

K. M. Foss

Phone:

(813) 744-6100

x 382

Fax phone:

(813) 744-6125

REMARKS:

☐ Urgent☒ For your review☒ Reply ASAP☐ Please comment

W. M. S.

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

3804 Coconut Palm Drive
Tampa, FL 33619-8318

FAX

Date:

2/20/01

Number of pages including cover sheet:

5

To:

DAN STROBRIDGE

Don

Phone:

281 2900

Fax phone:

2888787

CC:

From:

Kim Foss

Phone:

(813) 744-6100

x 382

Fax phone:

(813) 744-6125

REMARKS:

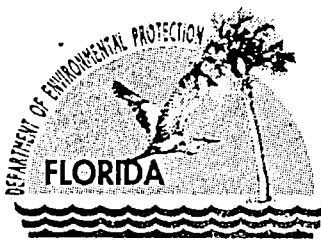
☐ Urgent

☒ For your review

☒ Reply ASAP

☐ Please comment

W AS no



Department of Environmental Protection

Jeb Bush
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

March 20, 2001

Mr. Daniel Strobbridge
CDM
Westshore Center
1715 No. Westshore Blvd., Suite 875
Tampa, FL 33607

Re: West Pasco County Landfill and Resource Recovery Facility
Construction of Disposal Units SW-2 and A-3
Certification #PA 87-23, Pasco County

Dear Mr. Strobbridge:

This is to acknowledge receipt of the supplemental construction submittals for new disposal units SW-2 and A-3 received February 19 and March 1, 2001.

Additional clarification is requested. This is the Department's 3rd request for information. Please provide the information listed below promptly. Evaluation of your proposed project will be delayed until all requested information has been received.

The following information is needed to demonstrate compliance with Chapter 62-701, Florida Administrative Code (F.A.C.). Please provide:

1. **62-701.510.** Groundwater monitoring plan and required supporting information in response to Mr. John Morris's March 16, 2001 memorandum (attached).
2. **Condition of Certification XIII.** Replacement sheets for the construction plans have been received on January 19, February 19, and March 1, 2001. One complete set of construction plan with all revisions is requested.
 - **Sheets C-3 and C-4** - Description of flow meters for gravity flow from each old lift station is requested. Please provide a list of similar type projects for each type proposed flow meter.
 - **Sheets C-5 and C-6** - Notes on Sheet C-5 appear to allow demolition and removal of existing piping without providing for the leachate containment described on Sheet C-6. Combining these notes on one sheet as a sequence of events is suggested. Aggregate specifications on Sheet C-6 should be included.
 - **Sheet CD-1** - The secondary collection header pipe should be shown on Detail I.

"More Protection, Less Process"

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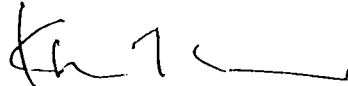
Mr. Daniel Strobbridge
CDM

March 20, 2001
Page 2

Please provide all responses that relate to engineering required for construction, signed and sealed by a professional engineer.

Please submit your response to this letter as one complete package. On all future correspondence, please include Robert Butera on distribution. If you have any questions you may call me at (813) 744-6100, extension 382.

Sincerely,



Kim B. Ford, P.E.
Solid Waste Section
Division of Waste Management

KBF/ab
Attachment

cc: Douglas Bramlett, Pasco County
Vincent Mannella, Pasco County
Robert Butera, P.E., FDEP Tampa */s/ KB*
John Morris, P.G., FDEP Tampa

Memorandum

Florida Department of Environmental Protection

TO: Kim Ford, P.E.
FROM: John R. Morris, P.G. *JRM*
DATE: March 16, 2001
SUBJECT: Pasco County Resource Recovery Facility and Class I Landfills
Proposed Expansion - Cells A-3 and SW-2
Water Quality Monitoring Plan Review Comments
cc: Robert Butera, P.E.

I have reviewed the submittal entitled *Water Quality Monitoring Plan for the West Pasco County Class I Landfill*, prepared by Camp Dresser & McKee, Inc. (CDM), dated and received February 19, 2001. Following resolution of the remaining comments indicated below (Nos. 1.a., 1.f., and 1.h.), I recommend that the Department prepare a letter that both approves the monitoring plan and indicates that it replaces the current monitoring plan dated January 5, 1995. It is requested that replacement pages that are provided include revision dates to facilitate tracking the revised section. The comment numbers presented below are consistent with my memorandum dated January 8, 2001.

1. Section 6.0 - Ground Water Monitoring Plan (*renumbered in the February 19, 2001 submittal*)

- a. The referenced submittal provides a comprehensive monitoring plan that addresses the water quality and leachate monitoring requirements of Rule 62-701.510, F.A.C., for the filled, active and proposed cells (A-1, A-2, A-3, SW-1, and SW-2), with one omission. Please revise Section 5.0 to include the requirements of Rule 62-701.510(9)(b), F.A.C., regarding the technical report to be submitted at two year intervals. The most recent monitoring plan evaluation provided for the subject facility was received February 1, 1999, and it included an evaluation of analytical data collected through the July 1998 sampling event. The next monitoring plan evaluation should review the data collected during 1999 and 2000, and is due to the Department by March 31, 2001, with subsequent reports to be submitted at two year intervals.
- b. The evaluation of the aquifers and confining layers within the footprint of proposed cell A-3 provided in Section 2.1 to justify the proposed monitor well construction is acceptable. No additional information is requested.
- c. The completion of a standard penetration test boring at each proposed well location to verify the location of aquifers and confining units, sizing the well screen slot and sand pack to the formation encountered in the targeted monitoring zone, and constructing the Floridan aquifer monitor wells so they shall not act as conduits through confining layers as indicated in Section 2.1 are acceptable. No additional information is requested.
- d. The installation of the proposed Floridan aquifer monitor wells (2MW-15DA, 2MW-19D, and 2MW-20D) appears to be appropriate based on the provided cross-sections (Figures 4 and 5) that characterized site lithology. In the event that a considerable thickness of saturated sand and/or clayey sediments are encountered during construction of the proposed wells, the installation of a shallow well or shallow/deep well pairs shall be required at each location to monitor the uppermost aquifer. No additional information is requested.

"Protect, Conserve and Manage Florida's Environment and Natural Resources"

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e. Based on the results of hydraulic conductivity testing conducted at wells 4MW-13D and 2MW-18D provided in Section 6.0 and Appendix B, the estimated ground water flow velocity of 33 feet/year supports the proposed semi-annual ground water sampling frequency. No additional information is requested.

f. Section 3.2 of the referenced submittal indicates at least one sample will be collected and analyzed from each background well for the parameters listed Rules 62-701.510(8)(a) and 62-701.510(8)(d), F.A.C. Please revise this section to be consistent with Rule 62-701.510(6)(a), F.A.C., and indicate that background water quality (i.e., an initial sampling event) shall be determined for each new well by conducting analysis for the parameters listed in Rules 62-701.510(8)(a) and (8)(d), F.A.C.

g. The procedure provided in Section 2.1 for monitor well abandonment is acceptable. No additional information is requested.

h. The well spacing for wells 2MW-17S and 2MW-18D shown on Figure 1 of the submittal and Sheet G-3 (plan sheets prepared by CDM, dated January 18, 2001, received January 19, 2001) meets the requirements of Rule 62-701.510(3)(d)3, F.A.C. The existing disposal cells and monitor wells are not clearly legible on the copy of Figure 1 provided in the submittal. Please provide a revised copy of Figure 1 that clearly shows both existing and proposed features.

i. The well spacing for wells 2MW-19D and 2MW-20D shown on Figure 1 of the submittal and Sheet G-3 (plan sheets prepared by CDM, dated January 18, 2001, received January 19, 2001) meets the requirements of Rule 62-701.510(3)(d)3, F.A.C. No additional information is requested.

j. The discussion of the alphanumeric well numbering system provided in Section 2.1 is noted. No additional information is requested.

k. The designation of the proposed well west of Cell A-3 as 2MW-20D is noted. No additional information is requested.

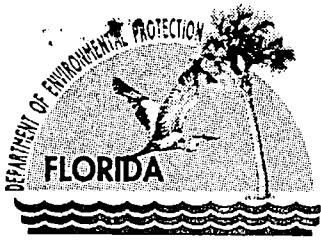
2. Section 7.0 – Leachate Monitoring Plan (*renumbered in the February 19, 2001 submittal*)

a. The procedure provided in Sections 2.2 and 3.3 that describes the collection of separate leachate samples for the solid waste cells and for the ash disposal cells meets the requirements of Rule 62-701.510(5), F.A.C. No additional information is requested.

b. The list of parameters and the leachate sampling frequency provided in Section 3.3 meets the requirements of Rule 62-701.510(6)(b), F.A.C. No additional information is requested.

Please have the applicant contact me at (813) 744-6100, extension 336, to discuss these comments if there are any questions.

jrm



Jeb Bush
Governor

Department of Environmental Protection

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

March 20, 2001

Mr. Daniel Strobbridge
CDM
Westshore Center
1715 No. Westshore Blvd., Suite 875
Tampa, FL 33607

**Re: West Pasco County Landfill and Resource Recovery Facility
Construction of Disposal Units SW-2 and A-3
Certification #PA 87-23, Pasco County**

Dear Mr. Strobbridge:

This is to acknowledge receipt of the supplemental construction submittals for new disposal units SW-2 and A-3 received February 19 and March 1, 2001.

Additional clarification is requested. This is the Department's 3rd request for information. Please provide the information listed below promptly. Evaluation of your proposed project will be delayed until all requested information has been received.

The following information is needed to demonstrate compliance with Chapter 62-701, Florida Administrative Code (F.A.C.). Please provide:

1. **62-701.510.** Groundwater monitoring plan and required supporting information in response to Mr. John Morris's March 16, 2001 memorandum (attached).
2. **Condition of Certification XIII.** Replacement sheets for the construction plans have been received on January 19, February 19, and March 1, 2001. One complete set of construction plan with all revisions is requested.
 - **Sheets C-3 and C-4** - Description of flow meters for gravity flow from each old lift station is requested. Please provide a list of similar type projects for each type proposed flow meter.
 - **Sheets C-5 and C-6** - Notes on Sheet C-5 appear to allow demolition and removal of existing piping without providing for the leachate containment described on Sheet C-6. Combining these notes on one sheet as a sequence of events is suggested. Aggregate specifications on Sheet C-6 should be included.
 - **Sheet CD-1** - The secondary collection header pipe should be shown on Detail I.

"More Protection, Less Process"

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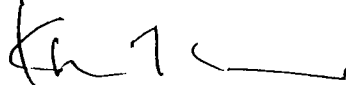
Mr. Daniel Strobbridge
CDM

March 20, 2001
Page 2

Please provide all responses that relate to engineering required for construction, signed and sealed by a professional engineer.

Please submit your response to this letter as one complete package. On all future correspondence, please include Robert Butera on distribution. If you have any questions you may call me at (813) 744-6100, extension 382.

Sincerely,



Kim B. Ford, P.E.
Solid Waste Section
Division of Waste Management

KBF/ab
Attachment

cc: Douglas Bramlett, Pasco County
Vincent Mannella, Pasco County
Robert Butera, P.E., FDEP Tampa */s/ KB*
John Morris, P.G., FDEP Tampa

Memorandum

Florida Department of Environmental Protection

TO: Kim Ford, P.E.
FROM: John R. Morris, P.G. *JRM*
DATE: March 16, 2001
SUBJECT: Pasco County Resource Recovery Facility and Class I Landfills
Proposed Expansion - Cells A-3 and SW-2
Water Quality Monitoring Plan Review Comments
cc: Robert Butera, P.E.

I have reviewed the submittal entitled *Water Quality Monitoring Plan for the West Pasco County Class I Landfill*, prepared by Camp Dresser & McKee, Inc. (CDM), dated and received February 19, 2001. Following resolution of the remaining comments indicated below (Nos. 1.a., 1.f., and 1.h.), I recommend that the Department prepare a letter that both approves the monitoring plan and indicates that it replaces the current monitoring plan dated January 5, 1995. It is requested that replacement pages that are provided include revision dates to facilitate tracking the revised section. The comment numbers presented below are consistent with my memorandum dated January 8, 2001.

1. Section 6.0 - Ground Water Monitoring Plan (*renumbered in the February 19, 2001 submittal*)

- a. The referenced submittal provides a comprehensive monitoring plan that addresses the water quality and leachate monitoring requirements of Rule 62-701.510, F.A.C., for the filled, active and proposed cells (A-1, A-2, A-3, SW-1, and SW-2), with one omission. Please revise Section 5.0 to include the requirements of Rule 62-701.510(9)(b), F.A.C., regarding the technical report to be submitted at two year intervals. The most recent monitoring plan evaluation provided for the subject facility was received February 1, 1999, and it included an evaluation of analytical data collected through the July 1998 sampling event. The next monitoring plan evaluation should review the data collected during 1999 and 2000, and is due to the Department by March 31, 2001, with subsequent reports to be submitted at two year intervals.
- b. The evaluation of the aquifers and confining layers within the footprint of proposed cell A-3 provided in Section 2.1 to justify the proposed monitor well construction is acceptable. No additional information is requested.
- c. The completion of a standard penetration test boring at each proposed well location to verify the location of aquifers and confining units, sizing the well screen slot and sand pack to the formation encountered in the targeted monitoring zone, and constructing the Floridan aquifer monitor wells so they shall not act as conduits through confining layers as indicated in Section 2.1 are acceptable. No additional information is requested.
- d. The installation of the proposed Floridan aquifer monitor wells (2MW-15DA, 2MW-19D, and 2MW-20D) appears to be appropriate based on the provided cross-sections (Figures 4 and 5) that characterized site lithology. In the event that a considerable thickness of saturated sand and/or clayey sediments are encountered during construction of the proposed wells, the installation of a shallow well or shallow/deep well pairs shall be required at each location to monitor the uppermost aquifer. No additional information is requested.

"Protect, Conserve and Manage Florida's Environment and Natural Resources"

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e. Based on the results of hydraulic conductivity testing conducted at wells 4MW-13D and 2MW-18D provided in Section 6.0 and Appendix B, the estimated ground water flow velocity of 33 feet/year supports the proposed semi-annual ground water sampling frequency. No additional information is requested.

f. Section 3.2 of the referenced submittal indicates at least one sample will be collected and analyzed from each background well for the parameters listed Rules 62-701.510(8)(a) and 62-701.510(8)(d), F.A.C. Please revise this section to be consistent with Rule 62-701.510(6)(a), F.A.C., and indicate that background water quality (i.e., an initial sampling event) shall be determined for each new well by conducting analysis for the parameters listed in Rules 62-701.510(8)(a) and (8)(d), F.A.C.

g. The procedure provided in Section 2.1 for monitor well abandonment is acceptable. No additional information is requested.

h. The well spacing for wells 2MW-17S and 2MW-18D shown on Figure 1 of the submittal and Sheet G-3 (plan sheets prepared by CDM, dated January 18, 2001, received January 19, 2001) meets the requirements of Rule 62-701.510(3)(d)3, F.A.C. The existing disposal cells and monitor wells are not clearly legible on the copy of Figure 1 provided in the submittal. Please provide a revised copy of Figure 1 that clearly shows both existing and proposed features.

i. The well spacing for wells 2MW-19D and 2MW-20D shown on Figure 1 of the submittal and Sheet G-3 (plan sheets prepared by CDM, dated January 18, 2001, received January 19, 2001) meets the requirements of Rule 62-701.510(3)(d)3, F.A.C. No additional information is requested.

j. The discussion of the alphanumeric well numbering system provided in Section 2.1 is noted. No additional information is requested.

k. The designation of the proposed well west of Cell A-3 as 2MW-20D is noted. No additional information is requested.

2. Section 7.0 – Leachate Monitoring Plan (*renumbered in the February 19, 2001 submittal*)

a. The procedure provided in Sections 2.2 and 3.3 that describes the collection of separate leachate samples for the solid waste cells and for the ash disposal cells meets the requirements of Rule 62-701.510(5), F.A.C. No additional information is requested.

b. The list of parameters and the leachate sampling frequency provided in Section 3.3 meets the requirements of Rule 62-701.510(6)(b), F.A.C. No additional information is requested.

Please have the applicant contact me at (813) 744-6100, extension 336, to discuss these comments if there are any questions.

jrm

Florida Department of
Environmental Protection

Memorandum

TO: Kim Ford, P.E.
FROM: John R. Morris, P.G. *JRM*
DATE: March 16, 2001
SUBJECT: Pasco County Resource Recovery Facility and Class I Landfills
Proposed Expansion - Cells A-3 and SW-2
Water Quality Monitoring Plan Review Comments
cc: Robert Butera, P.E.

I have reviewed the submittal entitled *Water Quality Monitoring Plan for the West Pasco County Class I Landfill*, prepared by Camp Dresser & McKee, Inc. (CDM), dated and received February 19, 2001. Following resolution of the remaining comments indicated below (Nos. 1.a., 1.f., and 1.h.), I recommend that the Department prepare a letter that both approves the monitoring plan and indicates that it replaces the current monitoring plan dated January 5, 1995. It is requested that replacement pages that are provided include revision dates to facilitate tracking the revised section. The comment numbers presented below are consistent with my memorandum dated January 8, 2001.

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- a. The referenced submittal provides a comprehensive monitoring plan that addresses the water quality and leachate monitoring requirements of Rule 62-701.510, F.A.C., for the filled, active and proposed cells (A-1, A-2, A-3, SW-1, and SW-2), with one omission. Please revise Section 5.0 to include the requirements of Rule 62-701.510(9)(b), F.A.C., regarding the technical report to be submitted at two year intervals. The most recent monitoring plan evaluation provided for the subject facility was received February 1, 1999, and it included an evaluation of analytical data collected through the July 1998 sampling event. The next monitoring plan evaluation should review the data collected during 1999 and 2000, and is due to the Department by March 31, 2001, with subsequent reports to be submitted at two year intervals.
- b. The evaluation of the aquifers and confining layers within the footprint of proposed cell A-3 provided in Section 2.1 to justify the proposed monitor well construction is acceptable. No additional information is requested.
- c. The completion of a standard penetration test boring at each proposed well location to verify the location of aquifers and confining units, sizing the well screen slot and sand pack to the formation encountered in the targeted monitoring zone, and constructing the Floridan aquifer monitor wells so they shall not act as conduits through confining layers as indicated in Section 2.1 are acceptable. No additional information is requested.
- d. The installation of the proposed Floridan aquifer monitor wells (2MW-15DA, 2MW-19D, and 2MW-20D) appears to be appropriate based on the provided cross-sections (Figures 4 and 5) that characterized site lithology. In the event that a considerable thickness of saturated sand and/or clayey sediments are encountered during construction of the proposed wells, the installation of a shallow well or shallow/deep well pairs shall be required at each location to monitor the uppermost aquifer. No additional information is requested.

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- e. Based on the results of hydraulic conductivity testing conducted at wells 4MW-13D and 2MW-18D provided in Section 6.0 and Appendix B, the estimated ground water flow velocity of 33 feet/year supports the proposed semi-annual ground water sampling frequency. No additional information is requested.
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 - h. The well spacing for wells 2MW-17S and 2MW-18D shown on Figure 1 of the submittal and Sheet G-3 (plan sheets prepared by CDM, dated January 18, 2001, received January 19, 2001) meets the requirements of Rule 62-701.510(3)(d)3, F.A.C. The existing disposal cells and monitor wells are not clearly legible on the copy of Figure 1 provided in the submittal. Please provide a revised copy of Figure 1 that clearly shows both existing and proposed features.
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- a. The procedure provided in Sections 2.2 and 3.3 that describes the collection of separate leachate samples for the solid waste cells and for the ash disposal cells meets the requirements of Rule 62-701.510(5), F.A.C. No additional information is requested.
 - b. The list of parameters and the leachate sampling frequency provided in Section 3.3 meets the requirements of Rule 62-701.510(6)(b), F.A.C. No additional information is requested.

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jrm



Camp Dresser & McKee Inc.

consulting
engineering
construction
operations

Westshore Center
1715 North Westshore Boulevard, Suite 875
Tampa, Florida 33607
Tel: 813 281-2900 Fax: 813 288-8787

February 19, 2001

Mr. Kim Ford, P.E.
Solid Waste Section
Division of Waste Management
Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

D.E.P.
FEB 19 2001
Southwest District Tampa

Subject: West Pasco County Landfill Cells SW-2 and A-3, Responses to DEP Comments dated February 14, 2001

Dear Mr. Ford:

This letter transmits a comprehensive Water Quality Monitoring Plan for the West Pasco County Class I landfill. This Plan supplements our responses provided to the Department on January 16, 2001. The Plan specifically addresses all of the comments contained in the January 8, 2001 memorandum from Mr. John Morris, and Item Number 1 of your letter dated February 14, 2001. This Plan also replaces Items 6 and 7 contained in our original submittal to the Department dated December 2000.

The remainder of this letter responds to the other comments contained in your February 14, 2001 letter. Your comments are in bold type, and our responses follow.

Sheet G-3 - The top of the clay elevation for boring c-13+35

We checked the clay elevation shown in this boring. It is correct as shown. The department's previous comment in this regard was in error. See Exhibit 1.

Sheet C-1 - Note 5 is unclear regarding the location of transition from smooth to textured liner.

To save our client money, we have decided to use textured liner throughout the project. Therefore, no transition now exists. A copy of the geocomposit drainage net requirements, general specifications, and HELP Model results are shown in Exhibit 2.

Sheet C-4 - Ball valves not shown. Cross-section details are needed for the 8" pipe penetration through the inter cell separation berm.

To save our client money we have eliminated the ball valves at these locations and have replaced them with inflatable plugs. The detail for these plugs and the requested detail are shown on drawing CD-1 in Exhibit 3.

Sheets C-6, CD-1, and CD-2 - The inter cell separation berm appears to be drawn incorrectly and lacks detail for welding at ends. Detail K on Sheet CD-2 does not show pipe penetrations through the inter cell separation berm. Detail B on Sheet CD-1 appears to conflict with specifications on Page 2623-5, Section 2.03A for perforation locations.


Agreed
JRM
3/16/01

CDM Transmittal

CDM Camp Dresser & McKee Inc.

1715 N. Westshore Boulevard
Suite 875
Tampa, Florida 33607
Phone: (813) 281-2900
Fax: (813) 288-8787

D.E.P.
MAR 01 2001
Southwest District Tampa

To: Kim Ford
From: Abdul Mulla Saleh 
Re: West Pasco County Landfill Expansion
Cells A-3 and SW-2
Date: February 28, 2001

Kim,

As requested, enclosed please find three (3) copies each of Drawings C-3, C-4, and C-7 for the above-referenced project.

Please call me if you have any questions.

WASTE MANAGEMENT TECHNICAL SUPPORT
ROUTING FORM

PERMITTED FACILITIES

To: John Morris
From: Tom Ford
Date: 2/20/01
Subject: W PASCO

Document Name: _____
Revision Number _____ County: PASCO
Facility Name: _____
Type of Facility: LC
Permit Number: _____ Issue Date: _____

Copy of Permit attached: _____

Document submitted in compliance with permit condition. _____

Document subject to permit timeclock. YES

Day 1: 2/19/01

Day 30: 3/15/01

PATS sheet attached: _____

Enforcement Case/CO/NOV/ associated with this site: _____

Files and related documents can be found _____

Please review and comment on the technical aspects of the attached document as you deem appropriate. In order to maintain progress with the permit review, please provide comments within 30 days or by 3/10.

Comments: ITS A COW M PLAN

Module _____

Attachments



Camp Dresser & McKee Inc.

consulting
engineering
construction
operations

Westshore Center
1715 North Westshore Boulevard, Suite 875
Tampa, Florida 33607
Tel: 813 281-2900 Fax: 813 288-8787

February 19, 2001

Mr. Kim Ford, P.E.
Solid Waste Section
Division of Waste Management
Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

D.E.P.
FEB 19 2001
Southwest District Tampa

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Report

Pasco County, Florida

Water Quality Monitoring Plan
For The West Pasco County Class I Landfill

February 19, 2001



Camp Dresser & McKee Inc.

consulting
engineering
construction
operations

Westshore Center
1715 North Westshore Boulevard, Suite 875
Tampa, Florida 33607
Tel: 813 281-2900 Fax: 813 288-8787

February 19, 2001

Mr. Kim Ford, P.E.
Solid Waste Section
Division of Waste Management
Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

RECEIVED
FEB 19 2001

Department of Environmental Protection
SOUTHWEST DISTRICT
BY _____

Subject: West Pasco County Landfill Cells SW-2 and A-3, Responses to DEP Comments
dated February 14, 2001

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Mr. Kim Ford, P.E.
February 19, 2001
Page 2

The inter cell separation berm has been modified and penetration details have been added. Detail B on Drawing CD-2 is correct. The specifications have been modified accordingly (2 rows of 1/2-inch perforations). See drawings in Exhibit 3.

Sheet C-7 - Cross-sections for liner system tie-in to existing liner do not include sufficient detail. Assurance that ADS pipes will not intercept leachate is requested.

The ADS pipes have been eliminated from the design. A liner flap which rests on the filter sand will serve as a stormwater conveyance. (See Drawing C-1 Detail A, CD-2). Once the waste in the cell reaches the elevation of the flap, it will be cut and removed from the cell to prevent it from being a leachate conveyance. The contour and location of this stormwater conveyance allows operation of the cell in concert with the inter cell separation berms.

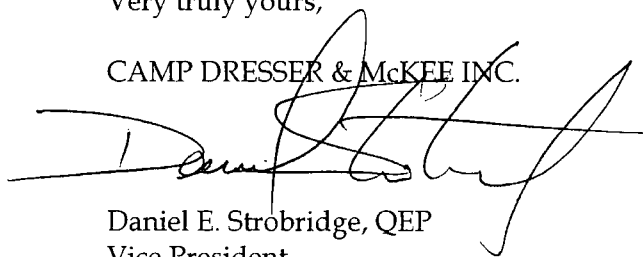
Condition of Certification XIV Operational Plans and Drawings are needed prior to operation of the new disposal units. The current Department-approved Operations Plan should be revised to describe the fill sequences, operation of the inter cell separation berms, leachate system operation and maintenance, testing and cleaning of leachate pipes, record keeping for leachate leakage and removal, and any other aspects of the plan that may have changed. Drawings are needed to show grades for proper drainage, cross-section of lifts and special drainage devices.

As indicated in our previous correspondence with the Department, Pasco County will provide an updated Operations Plan to the Department prior to operation of the new cells. The updated Operations Plan will address the sequence of filling, operation of the inter cell berms and leachate collection system as well as the stormwater control system features designed for each new cell.

If you have any questions in this regard, do not hesitate contacting me.

Very truly yours,

CAMP DRESSER & MCKEE INC.

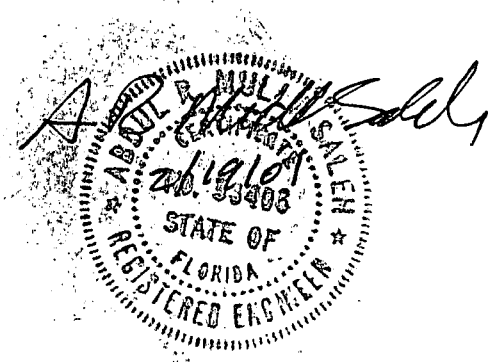


Daniel E. Strobbridge, QEP
Vice President

Abdul Mulla-Saleh, P.E.
Associate

Enclosures

- c: V. Mannella
A. Mulla Saleh
D. Rojas
B. Butera
J. Morris



CDM

Camp Dresser & McKee

Report

Pasco County, Florida

Water Quality Monitoring Plan
For The West Pasco County Class I Landfill

February 19, 2001

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

FEB 19 2001

SOUTHWEST DISTRICT
TAMPA

Water Quality Monitoring Plan For The West Pasco County Class I Landfill

Prepared for

PASCO COUNTY, FLORIDA

Prepared by:

Camp Dresser & McKee Inc.
1715 N. Westshore Boulevard
Suite 875
Tampa, Florida 33607

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

FEB 19 2001

SOUTHWEST DISTRICT
TAMPA

FEBRUARY 2001

Abdul Mulla-Saleh
Florida Registered
Professional Engineer
No. 38403

Abdul Mulla-Saleh
Date: 2/19/01

Exhibit 1

Boring C-13+35

RECEIVED
FEB 19 2001

Department of Environmental Protection
SOUTHWEST DISTRICT
BY _____

AF 37008 C

C-13+35 B+150-13+35 B-13+

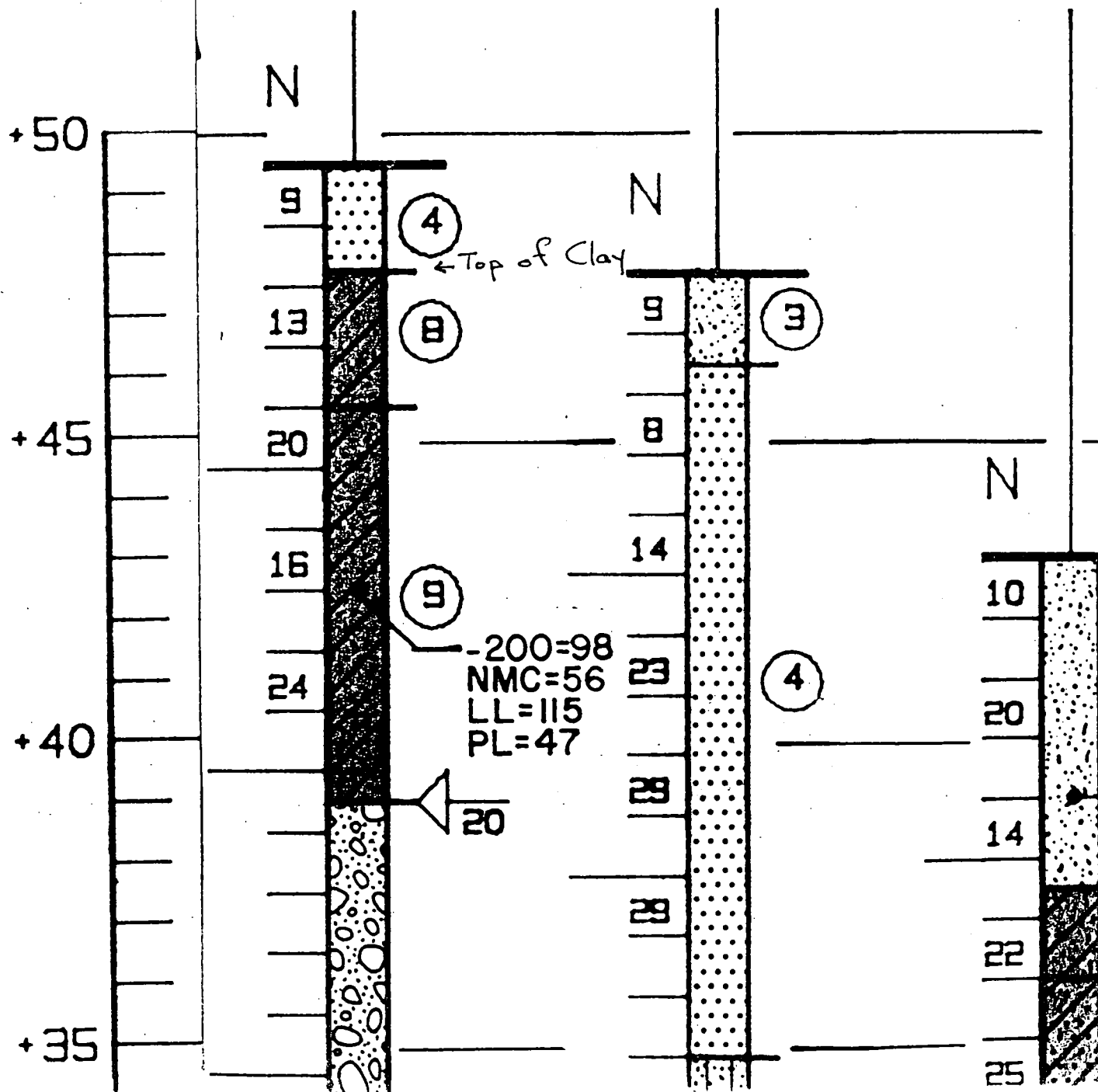


Exhibit 2

Composite Drainage Net and HELP Products

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

FEB 19 2001

SOUTHWEST DISTRICT
TAMPA

TENAX Corporation

1635 Jamestown Place
Pittsburgh, PA 15235
Phone: 412-371-2973
Fax: 412-371-2974

TO: Abdul Mulla Saleh, P.E. **COMPANY:** Camp Dresser & McKee Inc.
FAX #: 813-288-8787 **DATE:** 2/1/01
FROM: J. P. Kline **RE:** Pasco County
Regional Engineer

I am transmitting 3 pages including this cover sheet. If there is any problems in receiving this transmission, please contact me at 412-371-2973.

Abdul,

The Tendrain 770-2 double-sided drainage geocomposite has an ultimate hydraulic transmissivity of $1.8 \times 10^{-3} \text{ m}^3/\text{sec-m}$ tested between sand (on top) and membrane at a normal load of 15000 psf, a hydraulic gradient of 0.1 and a 100 hour seating period. This results in an ultimate permeability of 35.43 cm/sec at a thickness of 0.2 inches (beginning thickness of .310 inches with minimum 65% retained \approx 0.2 inches).

Based on the parameters Darwish provided me:

1. 150 ft waste height @ 1700 lb/cy = 9445 psf
2. Slope 150 ft horizontal: 3 ft vertical = 2% or $I = 0.02$; use gradient of 0.1 for more reliable data.
3. Assumption: 50% of permeability (10 cm/sec) is lost at design height compared to permeability (20 cm/sec) without any load.
4. Thickness at design load is 0.2 inches (representative of the Tendrain product).

This ultimate permeability can be reduced to a required transmissivity to be compared to your design requirement.

My assumptions are as follows:

1. Design normal load of 15000 psf (1.5 times the maximum anticipated load)
2. Reduction factors for creep and intrusion are accounted for due to the assumption of 50% permeability (factor of 2) and the 100-hour seating period in-situ transmissivity test.
3. Average reduction factors for biological (1.75) and chemical (1.75) clogging.
4. Universal factor of safety of 2.0
5. Hydraulic gradient of 0.1 which provides a conservative value compared to values tested at 0.02.

Thus, the required permeability for design purposes is:

$$K_{req} = (35.43 \text{ cm/sec}) / (2 * 1.75 * 1.75) = 5.78 \text{ cm/sec}$$

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

FEB 19 2001

SOUTHWEST DISTRICT
TAMPA

The Tendrain 770-2 double layered drainage geocomposite will meet the required design permeability of 5 cm/sec. The ultimate transmissivity of $1.8 \times 10^{-3} \text{ m}^3/\text{sec-m}$ used in the above calculation is a minimum transmissivity value from our standard specification. Tenax incorporates an industrial factor of safety into our published minimum values to guarantee that all products shipped to the site will perform greater than the specified transmissivity value. Please note that these calculations are based on the performance of the Tendrain Tri-planar product. Any consideration of other products would have to be analyzed based on that product's performance characteristics.

The assumption to negate the reduction factors for intrusion and creep in calculating the required permeability are representative of the tri-planar product. An in-soil transmissivity test will capture the majority of the expected intrusion due to the extended seating period of 100 hours. Also, the Tendrain geonet core, based on long term (10,000 hour) compressive creep testing, demonstrated a loss of less than 10% of its thickness from hour 100 to 10,000 of the compressive creep test at 25,000psf. The actual reduction factor for creep of the Tendrain product, based on the creep testing and the use of a 100 hour transmissivity test, would be 1.1. Thus, the reduction factors for creep and intrusion are accounted for in the assumption Darwish gave me of 50% reduction of permeability (factor of 2) at full cell height.

Included is a specification sheet for the Tendrain 770-2 product. I can forward an electronic copy of this specification at your request. Please contact me at 412 -371-2973 if you have any questions or need further assistance.

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

FEB 19 2001

SOUTHWEST DISTRICT
TAMPA

TENDRAIN 770-2

DOUBLE-SIDED GEOCOMPOSITE

The drainage geocomposite is comprised of a tri-planar geonet structure consisting of thick supporting ribs with diagonally placed top and bottom ribs and with a thermally bonded, non-woven geotextile on both sides. The product is capable of providing high Transmissivity in a soil environment under high normal loads and will have properties conforming with the values and test methods listed below:

PROPERTIES	TEST METHOD	UNIT	VALUE	QUALIFIER
GEONET CORE				
Tensile Strength - MD	ASTM D4595	lb/ft (kN/m)	1000 (14.6)	c, Note 1, 4
Compressive Behavior (% Retained thickness)				
@ 50,000 psf (short term)	ASTM D1621	%	50	a, Note 2, 4
@ 25,000 psf (10,000 hours)		%	65	a, Note 4
Density	ASTM D1505	g/cm ³	0.94	c, Note 4
Melt Flow Index	ASTM D1238	g/10 min.	1.0	d, Note 4
Carbon Black Content	ASTM D4218	%	2.0	c, Note 4
Thickness	ASTM D5199	mils (mm)	300 (7.6)	a, Note 3, 4
GEOTEXTILE				
Apparent Opening Size (AOS)	ASTM D4751	US Sieve (mm)	70 (0.21)	b, Note 4
Weight	ASTM D3776	oz/yd ² (g/m ²)	6 (203)	b, Note 4
Water Flow Rate	ASTM D4491	gal/min/ft ² (lpm/m ²)	110 (4483)	b, Note 4
Permeability	ASTM D4491	cm/sec	0.2	b, Note 4
Permittivity	ASTM D4491	sec ⁻¹	1.3	b, Note 4
Puncture Strength	ASTM D4833	lbs (N)	90 (400)	b, Note 4
Trapezoid Tear	ASTM D4533	lbs (N)	65 (290)	b, Note 4
Grab Tensile Strength	ASTM D4632	lbs (N)	160 (712)	b, Note 4
Grab Elongation	ASTM D4632	%	50	b, Note 4
Mullen Burst	ASTM D3786	psi (kPa)	325 (2241)	b, Note 4
UV Resistance @ 500 Hours	ASTM D4355	%	70	b, Note 4
GEOCOMPOSITE				
Roll Width		ft (m)	6.7 (2.0)	a, Note 5
Roll Length		ft (m)	200 (61)	a, Note 5
Ply Adhesion	ASTM F904 (modified)	lb/in (N/m)	1.0 (175)	c, Note 6

HYDRAULIC BEHAVIOR OF GEOCOMPOSITE

Transmissivity - MD, ASTM D 4716-99 (m ² /sec)				c, Notes 7
Gradient/Load:				
0.1	15,000 psf (720 kPa)	25,000 psf (1200 kPa)		
	1.8x10 ⁻³	1.0x10 ⁻³		
	Qualifiers: a = Typical Value	b = Minimum Average Roll Value (MARV)		
	c = Minimum Value	d = Maximum Value		

NOTES:

- Tensile properties tested by manufacturer every 40,000 square feet of product per ASTM D4595 with a specimen width of 8.0 in. and cross-head speed of 0.04 in/min
- Short term compressive behavior tested by manufacturer every 40,000 square feet of product per ASTM D1621 with a 2 in. x 2 in. specimen and a constant rate of strain of 0.04 in./min.
- Thickness measured by manufacturer every 40,000 square feet of product per ASTM D5199 with a 2.22 in. diameter presser foot and 2.9 psi pressure.
- Geotextile and geonet properties listed are prior to lamination.
- Roll dimensions are measured at the time of manufacture.
- Ply Adhesion is tested by the manufacturer every 100,000 sf of production per modified ASTM F904, with a 2 inch wide (5 longitudinal ribs) by 10 inch long strip. The geotextile bonded to either side of the geonet is pulled apart at a peeling rate of 12 in./min., for at least 4 inches of peeling distance. The reported value for each laminated side is the average of the "peak" values from 5 tested samples. The 5 samples are cut evenly distributed along the roll width with a 1 foot margin from both edges of the roll.
- Geocomposite transmissivity measured by manufacturer every 200,000 square feet of product as per ASTM D4716-99 with testing boundary conditions as follows: steel plate / uniform sand / geocomposite / 60 mil HDPE geomembrane / steel plate, and seating period of 100 hours.

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

FEB 19 2001

SOUTHWEST DISTRICT
TAMPA

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**
**      HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE
**      HELP MODEL VERSION 3.07  (1 NOVEMBER 1997)
**      DEVELOPED BY ENVIRONMENTAL LABORATORY
**      USAE WATERWAYS EXPERIMENT STATION
**      FOR USEPA RISK REDUCTION ENGINEERING LABORATORY
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PRECIPITATION DATA FILE:  O:\HELP3\DATA4PO.D4
TEMPERATURE DATA FILE:   O:\HELP3\DATA7PO.D7
SOLAR RADIATION DATA FILE: O:\HELP3\DATA13PO.D13
EVAPOTRANSPIRATION DATA:  O:\HELP3\DATA11PO.D11
SOIL AND DESIGN DATA FILE: O:\HELP3\PASCO5NA.D10
OUTPUT DATA FILE:         O:\HELP3\PASCO5NA.OUT

```

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

FEB 19 2001

SOUTHWEST DISTRICT
TAMPA

TIME: 13:55 DATE: 1/30/2001

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*****
TITLE:  PASCO COUNTY LANDFILL, CELL 3 WITH 5 FEET OF ASH
*****

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NOTE: INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER WERE
COMPUTED AS NEARLY STEADY-STATE VALUES BY THE PROGRAM.

LAYER 1

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 31

THICKNESS	=	60.00	INCHES
POROSITY	=	0.5780	VOL/VOL
FIELD CAPACITY	=	0.0760	VOL/VOL
WILTING POINT	=	0.0250	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.1569	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.410000002000E-02	CM/SEC

LAYER 2

TYPE 1 - VERTICAL PERCOLATION LAYER

MATERIAL TEXTURE NUMBER 5

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4570	VOL/VOL
FIELD CAPACITY	=	0.1310	VOL/VOL
WILTING POINT	=	0.0580	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.2105	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000005000E-02	CM/SEC

LAYER 3

TYPE 2 - LATERAL DRAINAGE LAYER

MATERIAL TEXTURE NUMBER 52

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0275	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	5.000000000000	CM/SEC
SLOPE	=	2.00	PERCENT
DRAINAGE LENGTH	=	130.0	FEET

LAYER 4

TYPE 4 - FLEXIBLE MEMBRANE LINER

MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.20	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.00	HOLES/ACRE
FML INSTALLATION DEFECTS	=	0.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	1 - PERFECT	

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT
SOIL DATA BASE USING SOIL TEXTURE #31 WITH BARE
GROUND CONDITIONS, A SURFACE SLOPE OF 2.% AND
A SLOPE LENGTH OF 150. FEET.

SCS RUNOFF CURVE NUMBER	=	96.90
FRACTION OF AREA ALLOWING RUNOFF	=	0.0 PERCENT

AREA PROJECTED C. HORIZONTAL PLANE	=	100	ACRES
EVAPORATIVE ZONE DEPTH	=	10.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	0.680	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	5.780	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	0.250	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	14.474	INCHES
TOTAL INITIAL WATER	=	14.474	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
TAMPA FLORIDA

STATION LATITUDE	=	26.90	DEGREES
MAXIMUM LEAF AREA INDEX	=	0.00	
START OF GROWING SEASON (JULIAN DATE)	=	0	
END OF GROWING SEASON (JULIAN DATE)	=	367	
EVAPORATIVE ZONE DEPTH	=	10.0	INCHES
AVERAGE ANNUAL WIND SPEED	=	9.50	MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	71.00	%
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	72.00	%
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	77.00	%
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	74.00	%

NOTE: PRECIPITATION DATA FOR TAMPA FLORIDA
WAS ENTERED FROM THE DEFAULT DATA FILE.

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR TAMPA FLORIDA

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
59.80	60.80	66.20	71.60	77.10	80.90
82.20	82.20	80.90	74.50	66.70	61.30

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR TAMPA FLORIDA
AND STATION LATITUDE = 27.58 DEGREES

MONTHLY TOTALS (IN INCHES) FOR YEAR 1974

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.17 3.43	0.89 4.67	2.35 4.00	0.38 0.23	1.11 0.12	13.75 2.80
RUNOFF	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000
EVAPOTRANSPIRATION	0.396 2.785	0.142 3.955	1.365 2.541	0.500 0.359	1.042 0.247	4.725 1.411
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.4756 5.5864	0.2886 1.2392	0.6150 0.7071	0.5212 1.6260	0.2008 0.8641	1.7490 0.5624
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON TOP OF LAYER 4	0.004 0.146	0.002 0.009	0.005 0.005	0.004 0.012	0.001 0.007	0.319 0.004
STD. DEVIATION OF DAILY HEAD ON TOP OF LAYER 4	0.001 0.610	0.002 0.002	0.001 0.003	0.001 0.002	0.001 0.001	1.349 0.001

ANNUAL TOTALS FOR YEAR 1974

	INCHES	CU. FEET	PERCENT
PRECIPITATION	33.90	123056.992	100.00
RUNOFF	0.000	0.000	0.00
EVAPOTRANSPIRATION	19.467	70665.070	57.42
DRAINAGE COLLECTED FROM LAYER 3	14.4354	52400.348	42.58
PERC./LEAKAGE THROUGH LAYER 4	0.000003	0.010	0.00
AVG. HEAD ON TOP OF LAYER 4	0.0432		
CHANGE IN WATER STORAGE	-0.002	-8.398	-0.01
SOIL WATER AT START OF YEAR	14.476	52546.066	
SOIL WATER AT END OF YEAR	14.473	52537.668	

SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	-0.035	0.00

MONTHLY TOTALS (IN INCHES) FOR YEAR 1975

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.91 6.65	1.56 4.24	1.09 11.25	0.91 4.94	2.07 0.22	8.73 0.87
RUNOFF	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000
EVAPOTRANSPIRATION	0.860 3.361	1.286 4.023	1.004 5.703	1.186 3.308	1.371 0.851	4.644 0.305
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.4755 1.6703	0.2911 2.1408	0.6169 2.1512	0.4512 4.2348	0.3402 1.5941	0.2597 1.2830
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON TOP OF LAYER 4	0.004 0.012	0.002 0.016	0.005 0.016	0.003 0.031	0.003 0.012	0.002 0.009
STD. DEVIATION OF DAILY HEAD ON TOP OF LAYER 4	0.001 0.010	0.002 0.006	0.000 0.011	0.000 0.015	0.000 0.005	0.001 0.002

ANNUAL TOTALS FOR YEAR 1975

	INCHES	CU. FEET	PERCENT
PRECIPITATION	43.44	157687.156	100.00

RUNOFF	0.000	0.000	0.00
EVAPOTRANSPIRATION	27.902	101282.711	64.23
DRAINAGE COLLECTED FROM LAYER 3	15.5089	56297.148	35.70
PERC./LEAKAGE THROUGH LAYER 4	0.000002	0.009	0.00
AVG. HEAD ON TOP OF LAYER 4	0.0097		
CHANGE IN WATER STORAGE	0.030	107.355	0.07
SOIL WATER AT START OF YEAR	14.473	52537.668	
SOIL WATER AT END OF YEAR	14.503	52645.023	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	-0.071	0.00

MONTHLY TOTALS (IN INCHES) FOR YEAR 1976

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.40 4.58	0.49 7.02	1.64 6.04	1.83 1.30	8.13 1.59	7.22 1.49
RUNOFF	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000
EVAPOTRANSPIRATION	0.859 3.207	0.299 3.863	1.570 3.730	1.616 2.231	4.132 1.341	3.457 1.394
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.7188 3.4123	0.4783 2.5836	0.3968 2.6147	0.3108 0.9207	0.2469 1.0867	1.2572 0.7603
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.005	0.004	0.003	0.002	0.002	0.010
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TOP OF LAYER 4	0.025	0.019	0.000	0.007	0.008	0.006
STD. DEVIATION OF DAILY	0.001	0.000	0.000	0.000	0.001	0.010
HEAD ON TOP OF LAYER 4	0.011	0.013	0.008	0.003	0.001	0.001

ANNUAL TOTALS FOR YEAR 1976

	INCHES	CU. FEET	PERCENT
PRECIPITATION	41.73	151479.906	100.00
RUNOFF	0.000	0.000	0.00
EVAPOTRANSPIRATION	27.699	100548.742	66.38
DRAINAGE COLLECTED FROM LAYER 3	14.7872	53677.531	35.44
PERC./LEAKAGE THROUGH LAYER 4	0.000002	0.009	0.00
AVG. HEAD ON TOP OF LAYER 4	0.0092		
CHANGE IN WATER STORAGE	-0.757	-2746.335	-1.81
SOIL WATER AT START OF YEAR	14.503	52645.023	
SOIL WATER AT END OF YEAR	13.746	49898.687	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	-0.040	0.00

MONTHLY TOTALS (IN INCHES) FOR YEAR 1977

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	2.99	2.72	0.74	0.86	0.72	2.57
	5.46	5.96	4.30	0.42	1.87	3.42
RUNOFF	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000

EVAPOTRANSPIRATION	2.169	2.017	1.555	1.045	0.792	1.581
	4.641	4.268	3.159	0.669	0.951	3.143
LATERAL DRAINAGE COLLECTED	0.4085	0.4143	0.2502	0.2502	0.3577	0.3241
FROM LAYER 3	0.2752	0.2911	0.1653	1.2544	1.0000	0.6500
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.003	0.003	0.002	0.002	0.003	0.002
TOP OF LAYER 4	0.002	0.002	0.001	0.009	0.008	0.005
STD. DEVIATION OF DAILY	0.001	0.001	0.001	0.000	0.000	0.000
HEAD ON TOP OF LAYER 4	0.000	0.001	0.001	0.003	0.001	0.001

ANNUAL TOTALS FOR YEAR 1977

	INCHES	CU. FEET	PERCENT
	-----	-----	-----
PRECIPITATION	32.03	116268.922	100.00
RUNOFF	0.000	0.000	0.00
EVAPOTRANSPIRATION	25.737	93426.789	80.35
DRAINAGE COLLECTED FROM LAYER 3	5.6410	20476.973	17.61
PERC./LEAKAGE THROUGH LAYER 4	0.000002	0.009	0.00
AVG. HEAD ON TOP OF LAYER 4	0.0035		
CHANGE IN WATER STORAGE	0.652	2365.155	2.03
SOIL WATER AT START OF YEAR	13.746	49898.687	
SOIL WATER AT END OF YEAR	14.398	52263.844	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	-0.004	0.00

MONTHLY TOTALS (IN INCHES) FOR YEAR 1978

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	2.82 6.06	5.16 5.80	2.45 3.32	0.94 3.44	5.00 0.01	1.73 3.12
RUNOFF	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000
EVAPOTRANSPIRATION	2.464 4.491	2.415 4.529	2.153 3.154	0.452 1.469	3.306 1.193	1.717 1.026
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.5104 0.7633	0.2421 0.7852	1.5241 0.8158	1.2129 0.7971	0.8834 0.7718	0.5348 1.2032
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON TOP OF LAYER 4	0.004 0.006	0.002 0.006	0.011 0.006	0.009 0.006	0.007 0.006	0.004 0.009
STD. DEVIATION OF DAILY HEAD ON TOP OF LAYER 4	0.001 0.003	0.001 0.002	0.008 0.004	0.001 0.002	0.002 0.003	0.002 0.001

ANNUAL TOTALS FOR YEAR 1978

	INCHES	CU. FEET	PERCENT
PRECIPITATION	39.85	144655.484	100.00
RUNOFF	0.000	0.000	0.00
EVAPOTRANSPIRATION	28.367	102972.555	71.18
DRAINAGE COLLECTED FROM LAYER 3	10.0442	36460.457	25.21
PERC./LEAKAGE THROUGH LAYER 4	0.000002	0.009	0.00
AVG. HEAD ON TOP OF LAYER 4	0.0063		
CHANGE IN WATER STORAGE	1.439	5222.497	3.61

PRECIPITATION

RUNOFF

EVAPOTRANSPIRATION

LATERAL DRAINAGE COLLECTED FROM LAYER 3

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ON TOP OF LAYER 4

AVERAGES	0.0038	0.0028	0.0050	0.0042	0.0030	0.0674
	0.0383	0.0104	0.0099	0.0131	0.0081	0.0066
STD. DEVIATIONS	0.0009	0.0008	0.0037	0.0030	0.0020	0.1407
	0.0609	0.0070	0.0080	0.0105	0.0025	0.0024

AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1974 THROUGH 1978

	INCHES		CU. FEET	PERCENT
	-----	-----	-----	-----
PRECIPITATION	38.19	(4.980)	138629.7	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	25.834	(3.6986)	93779.18	67.647
LATERAL DRAINAGE COLLECTED FROM LAYER 3	12.08333	(4.19041)	43862.492	31.64004
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.009	0.00001
AVERAGE HEAD ON TOP OF LAYER 4	0.014	(0.016)		
CHANGE IN WATER STORAGE	0.272	(0.8212)	988.05	0.713

PEAK DAILY VALUES FOR YEARS 1974 THROUGH 1978

	(INCHES)	(CU. FT.)
PRECIPITATION	5.47	19856.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 3	0.87971	3193.33252
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00087
AVERAGE HEAD ON TOP OF LAYER 4	7.075	
MAXIMUM HEAD ON TOP OF LAYER 4	9.330	
LOCATION OF MAXIMUM HEAD IN LAYER 3 (DISTANCE FROM DRAIN)	44.4 FEET	
SNOW WATER	0.00	0.0000
MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.3944	
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0250	

*** Maximum heads are computed using McEnroe's equations. ***

Reference: Maximum Saturated Depth over Landfill Liner
by Bruce M. McEnroe, University of Kansas
ASCE Journal of Environmental Engineering
Vol. 119, No. 2, March 1993, pp. 262-270.

FINAL WATER STORAGE AT END OF YEAR 1978

LAYER	(INCHES)	(VOL/VOL)
1	10.4629	0.1744
2	5.3634	0.2235
3	0.0082	0.0410
4	0.0000	0.0000
SNOW WATER	0.000	


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**      HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE
**      HELP MODEL VERSION 3.07  (1 NOVEMBER 1997)
**      DEVELOPED BY ENVIRONMENTAL LABORATORY
**      USAE WATERWAYS EXPERIMENT STATION
**      FOR USEPA RISK REDUCTION ENGINEERING LABORATORY
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PRECIPITATION DATA FILE:  O:\HELP3\DATA4PO.D4
TEMPERATURE DATA FILE:   O:\HELP3\DATA7PO.D7
SOLAR RADIATION DATA FILE: O:\HELP3\DATA13PO.D13
EVAPOTRANSPIRATION DATA:  O:\HELP3\DATA11PO.D11
SOIL AND DESIGN DATA FILE: O:\HELP3\PASCO5NW.D10
OUTPUT DATA FILE:         O:\HELP3\PASCO5NW.OUT

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TIME: 15:47 DATE: 1/30/2001

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*****
TITLE:  PASCO COUNTY LANDFILL, CELL 2A WITH 5 FEET OF MSW
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NOTE: INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER WERE
COMPUTED AS NEARLY STEADY-STATE VALUES BY THE PROGRAM.

LAYER 1

```

      TYPE 1 - VERTICAL PERCOLATION LAYER
      MATERIAL TEXTURE NUMBER 18
THICKNESS           =      60.00  INCHES
POROSITY             =      0.6710 VOL/VOL
FIELD CAPACITY       =      0.2920 VOL/VOL
WILTING POINT        =      0.0770 VOL/VOL
INITIAL SOIL WATER CONTENT =      0.2659 VOL/VOL
EFFECTIVE SAT. HYD. COND. = 0.100000005000E-02 CM/SEC

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LAYER 2

TYPE 1 - VERTICAL PERCOLATION LAYER

MATERIAL TEXTURE NUMBER 5

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4570	VOL/VOL
FIELD CAPACITY	=	0.1310	VOL/VOL
WILTING POINT	=	0.0580	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.1906	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000005000E-02	CM/SEC

LAYER 3

TYPE 2 - LATERAL DRAINAGE LAYER

MATERIAL TEXTURE NUMBER 52

THICKNESS	=	0.20	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0100	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	5.000000000000	CM/SEC
SLOPE	=	2.00	PERCENT
DRAINAGE LENGTH	=	130.0	FEET

LAYER 4

TYPE 4 - FLEXIBLE MEMBRANE LINER

MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.20	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	0.00	HOLES/ACRE
FML INSTALLATION DEFECTS	=	0.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	1	- PERFECT

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT
SOIL DATA BASE USING SOIL TEXTURE #18 WITH BARE
GROUND CONDITIONS, A SURFACE SLOPE OF 2.% AND
A SLOPE LENGTH OF 150. FEET.

SCS RUNOFF CURVE NUMBER	=	80.60
FRACTION OF AREA ALLOWING RUNOFF	=	0.0 PERCENT

AREA PROJECTED ON HORIZONTAL PLANE	=	2.000	ACRES
EVAPORATIVE ZONE DEPTH	=	10.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	1.355	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	6.710	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	0.770	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	20.531	INCHES
TOTAL INITIAL WATER	=	20.531	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
TAMPA FLORIDA

STATION LATITUDE	=	26.90	DEGREES
MAXIMUM LEAF AREA INDEX	=	0.00	
START OF GROWING SEASON (JULIAN DATE)	=	0	
END OF GROWING SEASON (JULIAN DATE)	=	367	
EVAPORATIVE ZONE DEPTH	=	10.0	INCHES
AVERAGE ANNUAL WIND SPEED	=	9.50	MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	71.00	%
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	72.00	%
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	77.00	%
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	74.00	%

NOTE: PRECIPITATION DATA FOR TAMPA FLORIDA
WAS ENTERED FROM THE DEFAULT DATA FILE.

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR TAMPA FLORIDA

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
-----	-----	-----	-----	-----	-----
59.80	60.80	66.20	71.60	77.10	80.90
82.20	82.20	80.90	74.50	66.70	61.30

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR TAMPA FLORIDA
AND STATION LATITUDE = 27.58 DEGREES

MONTHLY TOTALS (IN INCHES) FOR YEAR 1974

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.17 3.43	0.89 4.67	2.35 4.00	0.38 0.23	1.11 0.12	13.75 2.80
RUNOFF	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000
EVAPOTRANSPIRATION	0.748 3.902	0.220 4.440	1.938 3.322	0.909 0.584	0.467 0.383	5.701 2.025
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.1453 6.4636	0.1692 0.4722	0.1434 0.2391	0.0679 0.5890	0.1228 0.2607	0.4401 0.1539
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON TOP OF LAYER 4	0.001 0.262	0.001 0.003	0.001 0.002	0.001 0.004	0.001 0.002	0.041 0.001
STD. DEVIATION OF DAILY HEAD ON TOP OF LAYER 4	0.001 1.219	0.000 0.001	0.000 0.001	0.000 0.001	0.000 0.000	0.220 0.000

ANNUAL TOTALS FOR YEAR 1974

	INCHES	CU. FEET	PERCENT
PRECIPITATION	33.90	123056.992	100.00
RUNOFF	0.000	0.000	0.00
EVAPOTRANSPIRATION	24.638	89437.156	72.68
DRAINAGE COLLECTED FROM LAYER 3	9.2673	33640.383	27.34
PERC./LEAKAGE THROUGH LAYER 4	0.000003	0.009	0.00
AVG. HEAD ON TOP OF LAYER 4	0.0267		
CHANGE IN WATER STORAGE	-0.006	-20.494	-0.02
SOIL WATER AT START OF YEAR	20.533	74533.039	
SOIL WATER AT END OF YEAR	20.527	74512.547	

SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	-0.061	0.00

MONTHLY TOTALS (IN INCHES) FOR YEAR 1975

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.91 6.65	1.56 4.24	1.09 11.25	0.91 4.94	2.07 0.22	8.73 0.87
RUNOFF	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000
EVAPOTRANSPIRATION	0.824 4.903	1.352 4.962	1.347 6.002	0.701 4.328	1.609 1.780	6.104 0.298
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.1441 1.7004	0.1782 0.9317	0.1429 1.0755	0.1024 4.0386	0.0829 0.6661	0.0703 0.2615
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON TOP OF LAYER 4	0.001 0.013	0.001 0.007	0.001 0.008	0.001 0.030	0.001 0.005	0.001 0.002
STD. DEVIATION OF DAILY HEAD ON TOP OF LAYER 4	0.001 0.012	0.000 0.003	0.000 0.013	0.000 0.014	0.000 0.002	0.000 0.000

ANNUAL TOTALS FOR YEAR 1975

	INCHES	CU. FEET	PERCENT
PRECIPITATION	43.44	157687.156	100.00

RUNOFF	0.000	0.000	0.00
EVAPOTRANSPIRATION	34.209	124178.492	78.75
DRAINAGE COLLECTED FROM LAYER 3	9.3944	34101.820	21.63
PERC./LEAKAGE THROUGH LAYER 4	0.000002	0.009	0.00
AVG. HEAD ON TOP OF LAYER 4	0.0058		
CHANGE IN WATER STORAGE	-0.163	-593.158	-0.38
SOIL WATER AT START OF YEAR	20.527	74512.547	
SOIL WATER AT END OF YEAR	20.363	73919.391	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	-0.005	0.00

MONTHLY TOTALS (IN INCHES) FOR YEAR 1976

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	0.40 4.58	0.49 7.02	1.64 6.04	1.83 1.30	8.13 1.59	7.22 1.49
RUNOFF	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000
EVAPOTRANSPIRATION	0.333 4.658	0.409 4.780	2.006 4.612	1.826 2.849	4.443 1.516	4.300 1.107
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.1597 2.5667	0.1064 0.9117	0.0878 2.2319	0.0686 0.3660	0.2349 0.1889	1.8971 0.1310
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.001	0.001	0.001	0.001	0.002	0.015
-----------------------	-------	-------	-------	-------	-------	-------

TOP OF LAYER 4	0.019	0.007	0.007	0.003	0.001	0.001
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.006	0.013
HEAD ON TOP OF LAYER 4	0.015	0.012	0.015	0.001	0.000	0.000

ANNUAL TOTALS FOR YEAR 1976

	INCHES	CU. FEET	PERCENT
PRECIPITATION	41.73	151479.906	100.00
RUNOFF	0.000	0.000	0.00
EVAPOTRANSPIRATION	32.838	119203.125	78.69
DRAINAGE COLLECTED FROM LAYER 3	8.9506	32490.697	21.45
PERC./LEAKAGE THROUGH LAYER 4	0.000002	0.009	0.00
AVG. HEAD ON TOP OF LAYER 4	0.0056		
CHANGE IN WATER STORAGE	-0.059	-213.858	-0.14
SOIL WATER AT START OF YEAR	20.363	73919.391	
SOIL WATER AT END OF YEAR	20.305	73705.531	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	-0.057	0.00

MONTHLY TOTALS (IN INCHES) FOR YEAR 1977

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
	-----	-----	-----	-----	-----	-----
PRECIPITATION	2.99	2.72	0.74	0.86	0.72	2.57
	5.46	5.96	4.30	0.42	1.87	3.42
RUNOFF	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000

EVAPOTRANSPIRATION	2.906	2.162	1. . . 6	0.666	0.654	2.343
	5.548	4.916	4.753	0.866	1.037	3.118
LATERAL DRAINAGE COLLECTED	0.0862	0.0659	0.0793	0.0697	0.0611	0.0527
FROM LAYER 3	0.0522	0.0317	0.1358	0.2402	0.1603	0.1189
PERCOLATION/LEAKAGE THROUGH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LAYER 4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON	0.001	0.001	0.001	0.001	0.000	0.000
TOP OF LAYER 4	0.000	0.000	0.001	0.002	0.001	0.001
STD. DEVIATION OF DAILY	0.000	0.000	0.000	0.000	0.000	0.000
HEAD ON TOP OF LAYER 4	0.000	0.000	0.001	0.000	0.000	0.000

ANNUAL TOTALS FOR YEAR 1977

	INCHES	CU. FEET	PERCENT
	-----	-----	-----
PRECIPITATION	32.03	116268.922	100.00
RUNOFF	0.000	0.000	0.00
EVAPOTRANSPIRATION	30.425	110444.055	94.99
DRAINAGE COLLECTED FROM LAYER 3	1.1539	4188.624	3.60
PERC./LEAKAGE THROUGH LAYER 4	0.000002	0.008	0.00
AVG. HEAD ON TOP OF LAYER 4	0.0007		
CHANGE IN WATER STORAGE	0.451	1636.217	1.41
SOIL WATER AT START OF YEAR	20.305	73705.531	
SOIL WATER AT END OF YEAR	20.755	75341.750	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	0.019	0.00

MONTHLY TOTALS (IN INCHES) FOR YEAR 1978

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	2.82 6.06	5.16 5.80	2.45 3.32	0.94 3.44	5.00 0.01	1.73 3.12
RUNOFF	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000
EVAPOTRANSPIRATION	3.254 5.149	2.858 5.305	3.439 3.995	0.326 2.088	4.373 2.107	2.117 0.808
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.0862 0.1053	0.0596 0.0634	1.1704 0.2212	0.4075 0.1751	0.2059 0.0977	0.1262 0.1392
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000

MONTHLY SUMMARIES FOR DAILY HEADS (INCHES)

AVERAGE DAILY HEAD ON TOP OF LAYER 4	0.001 0.001	0.000 0.000	0.009 0.002	0.003 0.001	0.002 0.001	0.001 0.001
STD. DEVIATION OF DAILY HEAD ON TOP OF LAYER 4	0.000 0.000	0.000 0.001	0.008 0.000	0.001 0.000	0.000 0.000	0.000 0.000

ANNUAL TOTALS FOR YEAR 1978

	INCHES	CU. FEET	PERCENT
PRECIPITATION	39.85	144655.484	100.00
RUNOFF	0.000	0.000	0.00
EVAPOTRANSPIRATION	35.820	130025.937	89.89
DRAINAGE COLLECTED FROM LAYER 3	2.8578	10373.763	7.17
PERC./LEAKAGE THROUGH LAYER 4	0.000002	0.009	0.00
AVG. HEAD ON TOP OF LAYER 4	0.0018		
CHANGE IN WATER STORAGE	1.172	4255.783	2.94

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
-----	-----	-----	-----	-----	-----	-----
PRECIPITATION						

TOTALS	1.46	2.16	1.65	0.98	3.41	6.80
	5.24	5.54	5.78	2.07	0.76	2.34
STD. DEVIATIONS	1.35	1.88	0.75	0.53	3.13	4.89
	1.27	1.10	3.22	2.05	0.89	1.10
RUNOFF						

TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						

TOTALS	1.613	1.400	2.037	0.886	2.309	4.113
	4.832	4.881	4.537	2.143	1.365	1.471
STD. DEVIATIONS	1.358	1.127	0.835	0.566	1.964	1.847
	0.615	0.313	0.996	1.528	0.674	1.114
LATERAL DRAINAGE COLLECTED FROM LAYER 3						

TOTALS	0.1243	0.1159	0.3248	0.1432	0.1415	0.5173
	2.1776	0.4821	0.7807	1.0818	0.2747	0.1609
STD. DEVIATIONS	0.0353	0.0558	0.4737	0.1485	0.0760	0.7872
	2.6249	0.4373	0.8965	1.6604	0.2265	0.0577
PERCOLATION/LEAKAGE THROUGH LAYER 4						

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ON TOP OF LAYER 4

AVERAGES	0.0009	0.0009	0.0024	0.0011	0.0010	0.0114
	0.0589	0.0036	0.0060	0.0080	0.0021	0.0012
STD. DEVIATIONS	0.0003	0.0005	0.0035	0.0011	0.0006	0.0174
	0.1136	0.0032	0.0069	0.0123	0.0017	0.0004

AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1974 THROUGH 1978

	INCHES		CU. FEET	PERCENT
	-----	-----	-----	-----
PRECIPITATION	38.19	(4.980)	138629.7	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	31.586	(4.3586)	114657.75	82.708
LATERAL DRAINAGE COLLECTED FROM LAYER 3	6.32481	(3.99169)	22959.057	16.56143
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00000	(0.00000)	0.009	0.00001
AVERAGE HEAD ON TOP OF LAYER 4	0.008	(0.011)		
CHANGE IN WATER STORAGE	0.279	(0.5519)	1012.90	0.731

PEAK DAILY VALUES FOR YEARS 1974 THROUGH 1978

	(INCHES)	(CU. FT.)
PRECIPITATION	5.47	19856.100
RUNOFF	0.000	0.0000
DRAINAGE COLLECTED FROM LAYER 3	0.87860	3189.30103
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000000	0.00084
AVERAGE HEAD ON TOP OF LAYER 4	6.828	
MAXIMUM HEAD ON TOP OF LAYER 4	9.063	
LOCATION OF MAXIMUM HEAD IN LAYER 3 (DISTANCE FROM DRAIN)	43.8 FEET	
SNOW WATER	0.00	0.0000
MAXIMUM VEG. SOIL WATER (VOL/VOL)		0.6475
MINIMUM VEG. SOIL WATER (VOL/VOL)		0.0770

*** Maximum heads are computed using McEnroe's equations. ***

Reference: Maximum Saturated Depth over Landfill Liner
by Bruce M. McEnroe, University of Kansas
ASCE Journal of Environmental Engineering
Vol. 119, No. 2, March 1993, pp. 262-270.

FINAL WATER STORAGE AT END OF YEAR 1978

LAYER	(INCHES)	(VOL/VOL)
-----	-----	-----
1	17.7102	0.2952
2	4.2123	0.1755
3	0.0032	0.0160
4	0.0000	0.0000
SNOW WATER	0.000	

Exhibit 3

Drawings

To:

DAN STROBRIDGE

CDN

Phone:

2812900

Fax phone:

2888787

CC:

From:

En food

Phone:

- (813) 744-6100 x362

Fax phone:

(813) 744-6125

REMARKS:

☐

Urgent

☒

For your review

☐

Reply ASAP

☐

Please comment

W pasco

revisions missing

CLASSIFICATION REQUESTED

I would like to meet

AT W pasco on WED. FEB 21 AT 2pm

TAX

fr

928888787	NORMAL	15,15:40	0'37"	3	# 0 K	
Telephone Number	Mode	Start	Time	Pages	Result	Note

Feb 15 2001 15:41

P.1

** Transmit Conf. Report **

WASTE MGT TAMPA SUD Fax:8137446125

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

3804 Coconut Palm Drive
Tampa, FL 33619-8318

FAX

Date:

2/15/01

Number of pages including cover sheet:

3

To:

DAN STROZINSKI

CDM

Phone:

2812900

Fax phone:

2888787

CC:

From:

for FORD

Phone:

(813) 744-6100 x362

Fax phone:

(813) 744-6125

REMARKS:

☐

Urgent

☒

For your review

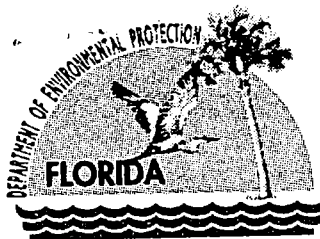
☐

Reply ASAP

☐

Please comment

W PRSCO
REVISIONS MISSING
CLASSIFICATION REQUESTED
I WOULD LIKE TO MEET
AT W PRSCO ON WED. FEB 21 AT 2pm
TALK
for



Department of Environmental Protection

Jeb Bush
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

February 14, 2001

Mr. Daniel Strobbridge
CDM
Westshore Center
1715 No. Westshore Blvd., Suite 875
Tampa, FL 33607

**Re: West Pasco County Landfill and Resource Recovery Facility
Construction of Disposal Units SW-2 and A-3
Certification #PA 87-23, Pasco County**

Dear Mr. Strobbridge:

This is to acknowledge receipt of the supplemental construction submittals for new disposal units SW-2 and A-3 received January 16 and 19, 2001.

Additional clarification is requested. This is the Department's 2nd request for information. Please provide the information listed below promptly. Evaluation of your proposed project will be delayed until all requested information has been received.

The following information is needed to demonstrate compliance with Chapter 62-701, Florida Administrative Code (F.A.C.). Please provide:

1. **62-701.510.** Groundwater monitoring plan and required supporting information in response to Mr. John Morris's January 8, 2001 memorandum (previously provided). As you indicated by phone on February 12, 2001, a comprehensive groundwater monitoring plan will be provided to the Department to resolve this item.
2. **Condition of Certification XIII.** Construction plans with revisions for clarification on the following items:
 - **Sheet G-3** - The top of clay elevations for boring C-13+35 not revised.
 - **Sheet C-1** - Note 5. is unclear regarding the location of transition from smooth to textured liner.
 - **Sheet C-4** - Ball valves not shown. Cross-section details are needed for the 8" pipe penetration through the inter cell separation berm.
 - **Sheets C-6, CD-1 and CD-2** - The inter cell separation berm appears to be drawn incorrectly and lacks detail for welding at ends. Detail K on Sheet CD-2 does not show pipe penetrations through the inter cell separation berm. Detail B on Sheet CD-1 appears to conflict with specifications on page 2623-5, Section 2.03A. for perforation locations.
 - **Sheet C-7** - Cross-sections for liner system tie-in to existing liner do not include sufficient detail. Assurance that ADS pipes will not intercept leachate is requested.

"More Protection, Less Process"

Printed on recycled paper.

Mr. Daniel Strobbridge
CDM

February 14, 2001
Page 2

3. **Condition of Certification XIV.** Operational plans and drawings are needed prior to operation of the new disposal units. The current Department-approved operations plan should be revised to describe the fill sequences, operation of the inter cell separation berms, leachate system operation and maintenance, testing and cleaning of leachate pipes, record-keeping for leachate leakage and removal, and any other aspects of the plan that may have changed. Drawings are needed to show grades for proper drainage, cross-section of lifts, and special drainage devices.

Please provide all responses that relate to engineering required for construction, signed and sealed by a professional engineer.

Please submit your response to this letter as one complete package. On all future correspondence, please include Robert Butera on distribution. If you have any questions you may call me at (813) 744-6100, extension 382.

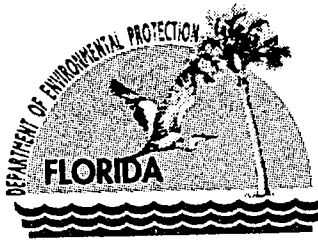
Sincerely,



Kim B. Ford, P.E.
Solid Waste Section
Division of Waste Management

KBF/ab

cc: Douglas Bramlett, Pasco County
Vincent Mannella, Pasco County
Robert Butera, P.E., FDEP Tampa
John Morris, P.G., FDEP Tampa



Department of Environmental Protection

Jeb Bush
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

February 14, 2001

Mr. Daniel Strobbridge
CDM
Westshore Center
1715 No. Westshore Blvd., Suite 875
Tampa, FL 33607

**Re: West Pasco County Landfill and Resource Recovery Facility
Construction of Disposal Units SW-2 and A-3
Certification #PA 87-23, Pasco County**

Dear Mr. Strobbridge:

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The following information is needed to demonstrate compliance with Chapter 62-701, Florida Administrative Code (F.A.C.). Please provide:

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 - **Sheets C-6, CD-1 and CD-2** - The inter cell separation berm appears to be drawn incorrectly and lacks detail for welding at ends. Detail K on Sheet CD-2 does not show pipe penetrations through the inter cell separation berm. Detail B on Sheet CD-1 appears to conflict with specifications on page 2623-5, Section 2.03A. for perforation locations.
 - **Sheet C-7** - Cross-sections for liner system tie-in to existing liner do not include sufficient detail. Assurance that ADS pipes will not intercept leachate is requested.

"More Protection, Less Process"

Printed on recycled paper.

Mr. Daniel Strobbridge
CDM

February 14, 2001
Page 2

3. **Condition of Certification XIV.** Operational plans and drawings are needed prior to operation of the new disposal units. The current Department-approved operations plan should be revised to describe the fill sequences, operation of the inter cell separation berms, leachate system operation and maintenance, testing and cleaning of leachate pipes, record-keeping for leachate leakage and removal, and any other aspects of the plan that may have changed. Drawings are needed to show grades for proper drainage, cross-section of lifts, and special drainage devices.

Please provide all responses that relate to engineering required for construction, signed and sealed by a professional engineer.

Please submit your response to this letter as one complete package. On all future correspondence, please include Robert Butera on distribution. If you have any questions you may call me at (813) 744-6100, extension 382.

Sincerely,



Kim B. Ford, P.E.
Solid Waste Section
Division of Waste Management

KBF/ab

cc: Douglas Bramlett, Pasco County
Vincent Mannella, Pasco County
Robert Butera, P.E., FDEP Tampa
John Morris, P.G., FDEP Tampa

603 ^{AB}
Johanna

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOUTHWEST DISTRICT

CONVERSATION RECORD

Date 2/12/01 Subject W PALEO Expansion
Time 2:05 Permit No. —
County PALEO
M Dan SOD BRIDLE Telephone No. 281 2900
Representing can

☒ Phoned Me ☒ Was Called ☐ Scheduled Meeting ☐ Unscheduled Meeting
Other Individuals Involved in Conversation/Meeting —

Summary of Conversation/Meeting —

DS RETURNED my call

DS SAID A COMPLETE GW ~~in~~ plan
IS COMING AT END OF THIS WEEK
AND SHOULD INCLUDE ALL REQUESTED
in John's previous comments

I CONFIRMED AND WENT FOR JOHN
TO REVIEW THE JAN 16th RESPONSES

DS AGREES

I SAID THE REVIEW THIS WEEK WILL
BE FOR THE DESIGN OF THE
LEACH SYSTEM

(continue on another
sheet, if necessary)

Signature E L J

Title —



if ✓
Comments: SEE 5/31/01 WHO 2/21 EN ✓
PASCO COUNTY, FLORIDA

DADE CITY (352)521-4274
LAND O' LAKES (813)996-7341
SPRING HILL (727)856-0119
FAX (727)861-3099

VINCENT MANNELLA, P.E.
RESOURCE RECOVERY FACILITY
14230 HAYS ROAD
SPRING HILL, FL 34610

February 5, 2001

RECEIVED
FEB 09 2001

Department of Environmental Protection
BY _____
SOUTHWEST DISTRICT

Mr. Bob Butera, P.E.
Florida Department of Environmental Protection
3804 Coconut Palm Blvd
Tampa, Florida 33619

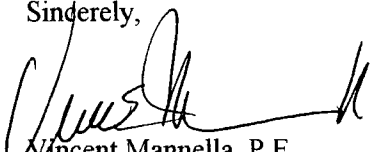
Re: A-2 Maintenance

Dear Mr. Butera:

Be advised that on or about February 15, 2001 I will be starting to close section A-3 of Ash Disposal Unit A-2 by placing dirt over this section in preparation of covering with a rain cap. In this process section A-4 will be uncovered making this section available to receive the Resource Recovery Plant Ash.

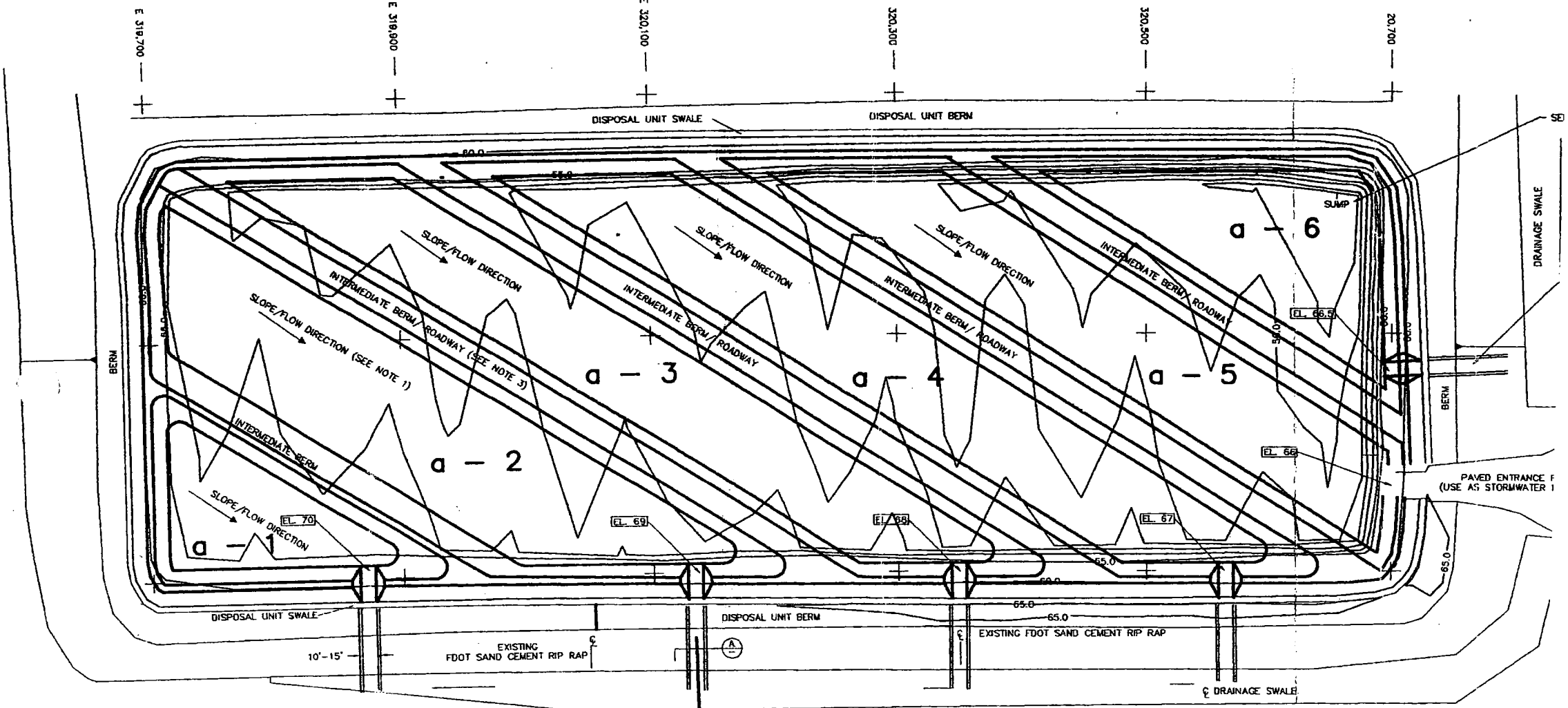
This action is in compliance with the Approved Operations Plan and is forwarded for information purposes.

Sincerely,

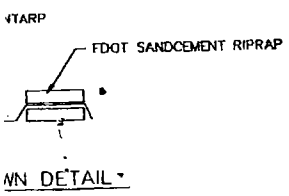

Vincent Mannella, P.E.
Solid Waste Facility Manager

VM/kj

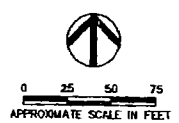
cc: John J. Gallagher, County Administrator
Douglas S. Bramlett, Assistant County Administrator
Ron Walker, Solid Waste Superintendent



STORMWATER LETDOWN
Typical of 5



- 1. SLOPE 1/4"
 - 2. LEAVE 1/4"
 - 3. 3'-4' HIC
- EL. 67 ELEVATION



STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOUTHWEST DISTRICT

CONVERSATION RECORD

Date 2/1/01

Subject WEST PASCO CLASS I

Time 1000

Permit No. _____

County PASCO

M.R. DAVE ROJAS

Telephone No. 913-281-2900

Representing CDM

☒ Phoned Me ☒ Was Called ☐ Scheduled Meeting ☐ Unscheduled Meeting

Other Individuals Involved in Conversation/Meeting _____

Summary of Conversation/Meeting _____

1/31/01 - D.R. LEFT VOICE MAIL @ 1120 & 1410 REGARDING LEACHATE SAMPLING REQUIREMENTS

- TAKE COMBINED LEACHATE FROM 1° & 2° - BOTH GO TO LIFT STATIONS (NEW CONSTRUCTION)
- WILL METER QUANTITIES SEPARATELY FROM 1° & 2° LEACHATE, BUT DO NOT HAVE ABILITY TO SAMPLE SEPARATELY; LIFT STATION SUMPS WILL BE SAMPLED VIA BAUER SO THE SAMPLES WILL NOT BE PUMPED PRIOR TO COLLECTION (GRAVITY DRAINAGE)
- PLANNING TWO SEPARATE LEACHATE SAMPLES - ONE FROM WASTE CELLS; ONE FROM ASH CELLS
- D.R. INDICATED HE TALKED W/ DIVERSIFIED DRILLING REGARDING REWORK OF WELLS 4MW-110, -120, -140, -150 & -160 - PUT SCREEN IN TO SAME INTERVALS AS COMPLETED INITIALLY AS OPEN HOLE (25 FT SCREEN INTERVALS); DID NOT GET WELL CONSTRUCTION DETAILS FROM LAW ENVIRONMENTAL
- INFORMED DAVE OF RECENT WORK BY CORE TO INSTALL THE 2 WELLS LOCATED NORTH OF CELL SW-1 & THE OCCURRENCE OF SATURATED SANDS AT THE EXISTING WELL; HE WILL CALL LARRY MARON AT CORE TO DISCUSS & WILL INCLUDE SUMMARY OF WELL CONSTRUCTION OF THESE NEW WELLS IN THE UPDATED SITE-WIDE MON. PLAN.

(continue on another
sheet, if necessary)

Signature J. MARON

Title _____

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOUTHWEST DISTRICT

CONVERSATION RECORD

Date 1/24/01 Subject WEST PASCO CLASS I
Time 1000 Permit No. _____
County PASCO
MR. LARRY MATSON Telephone No. _____

Representing QORE

☒ [x] Phoned Me ☐ [] Was Called ☐ [] Scheduled Meeting ☐ [] Unscheduled Meeting

Other Individuals Involved in Conversation/Meeting _____

Summary of Conversation/Meeting _____

- QORE IS INSTALLING NEW WELLS AT CELL S&T
- EASTERN WELL ENCOUNTERED CLAY AT DEPTH OF 39 FT; LS. NOT ENCOUNTERED TO DEPTH OF 41 FT;
GW AT ~ 30 FT DEPTH - LOOKS LIKE A LOCALIZED SURFICIAL AQUIFER AT THIS LOCATION
- WESTERN WELL ENCOUNTERED CLAY AT DEPTH OF 10 FT; LS. AT DEPTH OF 22 FT; GW AT DEPTH 28 FT;
SANDY SEDIMENTS ABOVE CLAY NOT SATURATED; SET SCREEN 23-38 FT - FLOWING WELL
- MOVED ~ 5 FT AWAY FROM EASTERN SURFICIAL WELL & ENCOUNTERED LS AT DEPTH OF 25 FT,
DID NOT RUN SPT BOREHOLE, JUST AUGERED DOWN - LOOKS LIKE 0.5 FT CLAY ABOVE LS.
FRAGMENTS RETURNING W/ CUTTINGS

@ 1130 L.M. CALLED BACK TO PROVIDE UPDATE

- AT AUGER BOREHOLE ADJACENT TO EASTERN WELL (SURFICIAL) KEPT DRILLING DOWN TO DEPTH
OF 32 FT IN LIMESTONE, LOST CIRCULATION AT ~ 32.5 FT; DRILLER TOLD L.M. THAT
LS. APPEARED CONTINUOUS & NOT AN ISOLATED INCLUSION - TOLD L.M. DID NOT NEED
TO DRILL DEEPER AT THIS LOCATION; ASKED HIM TO DISCUSS LITHOLOGY ENCOUNTERED
AT SPT & AUGER BOREHOLES WHEN PREPARE CONSTRUCTION DETAILS

(continue on another
sheet, if necessary)

Signature J. Morris

Title _____



Camp Dresser & McKee Inc.

consulting
engineering
construction
operations

Westshore Center
1715 North Westshore Boulevard, Suite 875
Tampa, Florida 33607
Tel: 813 281-2900 Fax: 813 288-8787

D.E.P.
JAN 19 2001
Southwest District Tampa

January 18, 2001

Mr. Kim Ford, P.E.
Florida Department of Environmental Protection
3804 Coconut Palm Drive
Tampa, Florida 33619-8318

Subject: Pasco County Landfill Project

Dear Mr. Kim Ford:

Enclosed is a signed and sealed set of design drawings for the Pasco County landfill project for your use. This set includes the modification we discussed at our meeting on January 16, 2001.

I am also including a manufacturer cut sheet for the bootless pipe penetration from the GSE catalog.

If you have any questions or comments, please let me know.

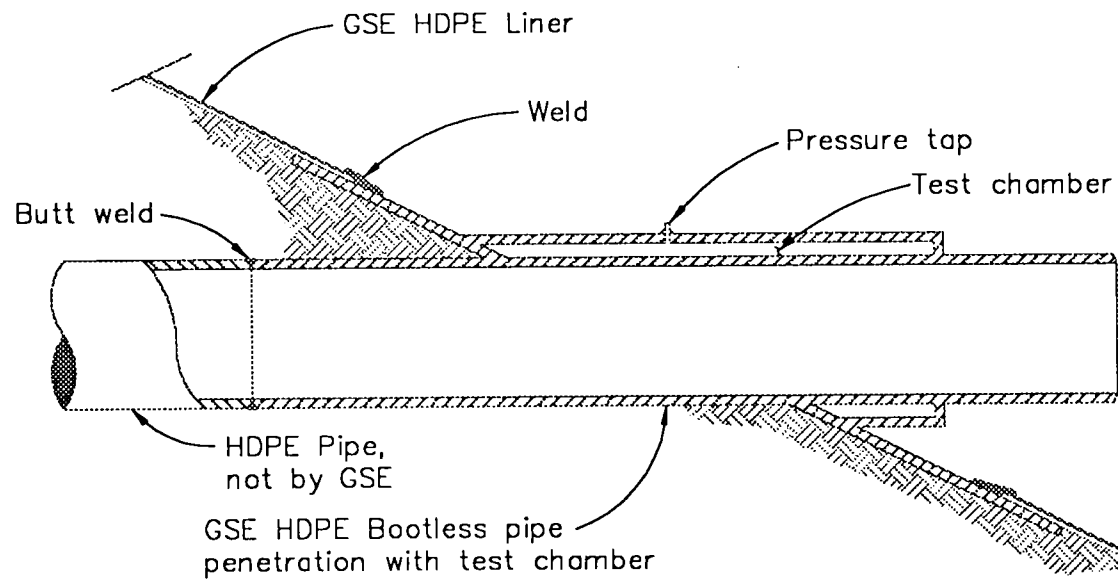
Very truly yours,

CAMP DRESSER & McKEE INC.

Darwish El-Hajji, P.E.

Attachments

c: Robert Butera, FDEP
Vince Mannella, Pasco County
Dan Strobridge, CDM



Typical Bootless Pipe Penetration With Test Chamber
Not to scale

D.E.P.
JAN 19 2001
Southwest District Tampa



GSE Lining Technology, Inc.

19103 Gunde Road
Houston, Texas 77073-3508
(800)435-2008 / (281)443-8564

NO PART OF THIS DOCUMENT MAY BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS, OR STORED IN A DATA BASE OR RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN PERMISSION OF GSE Lining Technology, Inc.

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DRAWN

By

DATE

12-15-00

REVISION

1

DWG. NO.

D-PTD.36



Camp Dresser McKee Inc.

consulting
engineering
construction
operations

Westshore Center
1715 North Westshore Boulevard, Suite 875
Tampa, Florida 33607
Tel: 813 281-2900 Fax: 813 288-8787

To Bob B &
Kim R.

December 12, 2000

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

JAN 18 2001

SOUTHWEST DISTRICT
TAMPA

Mr. Doug Bramlett
Assistant County Administrator
Pasco County
7530 Little Road
New Port Richey, FL 33553

Subject: Conditions of Certifications Dated November 28, 2000

Dear Doug:

I have reviewed the referenced set of Conditions. It appears that the Department has incorporated most of our previous comments with the exception of the fuel and air emissions issues, which are apparently Buck Oven's responsibility. Below are my remaining comments that are largely editorial in nature.

Page 7 - XI.B: In the fifth line, "the conditions of certification" should be "these Conditions of Certification."

Page 17 - XIV.C.3.: I would suggest that the second full sentence referencing the Law Operations Plan be moved to follow the second paragraph and be included only as a Permitting Note. This will avoid any future confusion over this issue. As a practical matter, the monitoring plan submitted with our construction drawings on December 8, 2000 should probably be referenced as it incorporates the QORE groundwater monitoring plan and will supercede the Law Monitoring Plan.

Page 18 - XIV.C.3. c: The words "or its approved successor" should be deleted from the end of this paragraph. The changes suggested above make this language superfluous.

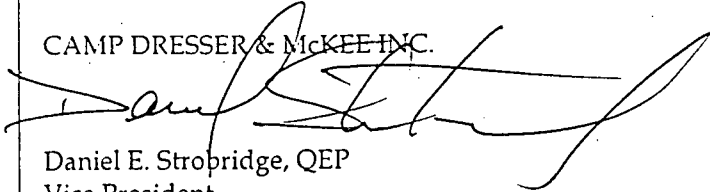
Page 23 - XIV.E.13. d: In the first sentence, the words "at least" should be deleted.

Please note that the Department recommends that a meeting be established to finalize these Conditions and the Consent Order In-Kind issues. Has such a meeting been arranged yet?

If you have any questions in this regard, do not hesitate to contact me.

Very truly yours,

CAMP DRESSER & MCKEE INC.


Daniel E. Strobridge, QEP
Vice President

c: John Gallagher, Pasco County Administrator
Vince Mannella, Pasco County
David Dee, Landers & Parsons



Camp Dresser & McKee Inc.

consulting
engineering
construction
operations

Westshore Center
1715 North Westshore Boulevard, Suite 875
Tampa, Florida 33607
Tel: 813 281-2900 Fax: 813 288-8787

January 16, 2001

Mr. Kim Ford, P.E.
Solid Waste Section
Division of Waste Management
Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 3319

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

JAN 16 2001

SOUTHWEST DISTRICT
TAMPA

Subject: West Pasco County Landfill Cells SW-2 and A-3, Responses to DEP Comments

Dear Mr. Ford:

This letter responds to the comments and requests for clarification contained in the Department's letter in this regard dated January 8, 2001. The Department's comments are noted in bold and our responses immediately follow.

- ✓ 1. 62-701.400 (3) (a). **GCL/leachate compatibility test results, and other projects where the Department has previously approved use of the GCL as the liner subbase.**
✓ The test results are provided as Attachment No.1. CGL was approved for use at the Hernando County Landfill expansion, Bay County Steelfield Landfill, Martin County Landfill, and Palm Beach Solid Waste Authority Landfill.
- ✓ 2. 62-701.400 (3) (c). **Maximum water vapor transmission rate of the liner, and the minimum hydraulic conductivity of the leak detection system.**

✓ All geomembranes used for waste containment systems have water vapor transmission rate less than 0.24 grams per square meter per day ($\text{g}/\text{m}^2 \times \text{day}$), as determined by ASTM E96-80. Our geomembrane specifications have been updated per GRI Standard GM 13, adapted June 17, 1997, and revised October 1998. Several tests of HDPE specifications have been omitted from this standard because they are outdated, irrelevant or generate information that is not necessary to evaluate the produced product on a routine Manufacturing Quality Control (MQC) basis. Water vapor transmission is one of these tests (refer to GRI Standard GM 13 document, Pages 3 and 4). If it is necessary, this test can be added to the manufacturer's certification requirements.

The maximum hydraulic conductivity of the leak detection system is 10 cm/sec. Please refer to Appendix C, calculations provided by TENAX Corporation.

Mr. Kim Ford, P.E.
January 16, 2001
Page 2

3. 62-701.400 (3) (d) 3. Operational plans for placement of the first layer of four feet of selected wastes and removal of large, rigid objects that may damage the liner.

For the ash cell, A-3, only ash that has been subjected to the ferrous removal system in the ash handling building will be placed in the first four-foot layer. Oversized and nonprocessable items will be placed in the existing A-2 cell. In solid waste cell, SW-2, only residential waste will be placed in the first four-foot lift. These loads will be dumped and carefully inspected for large rigid objects, which could damage the liner. Such object will be removed prior to spreading and compacting the waste. Objects removed will be disposed in the existing A-1 cell.

4. 62-701.400 (4) (a) 4. Method for testing and cleaning leachate pipes.

In the event that a clog is suspected, the following steps will be taken: (1) the pipe will be flushed with water, (2) if the clog persists, the pipe will be cleaned using sewer jet flushing equipment, (3) if necessary, the pipe will be video inspected and appropriate corrective measures will be taken.

62-701.400 (4) (b). Demonstration of equivalency using the specified project permeability of 1×10^{-4} cm/sec for the 24 inches of sand and geonet over the liner compared to the permeability of 1×10^{-3} cm/sec for the sand layer specified in Department rule. Geotextile intrusion into the geonet should be considered a factor in geonet performance.

We have changed the specification for the drainage sand layer to have a permeability of 1×10^{-3} cm/sec. HELP Model results for the new permeability are included as Attachment No. 2.

6. 62-701.510. Groundwater monitoring plan and required supporting information is response to Mr. John Morris's January 8, 2001 memorandum (attached). Please call Mr. Morris at extension 336 to discuss this item.

See separate responses to Mr. Morris' Memorandum.

7. Condition of Certification III. Financial assurance is required for the new disposal units SW-2 and A-3 prior to operation. Please call Ms. Susan Pelz at extension 386 to discuss this item.

Financial Assurance documentation will be provided for cells SW-2 and A-3 prior to operation.

8. Condition of Certification XIII. In support of the construction plans, construction specifications for all related materials and equipment, installation and testing are requested.

Mr. Kim Ford, P.E.
January 16, 2001
Page 3

Construction plans with revisions for clarification on the following items:

- ✓ **Sheet C-1, Detail A** - The sand permeability to match that used for the HELP model. The sand layer should be designed for rapid percolation to reduce mounding inside the landfill. The geonet design should include the geotextile to match that used for the HELP model.
- ✓ Specification for the sand layer has been changed to 1×10^{-3} cm/sec. See response to No. 5 above.
- ✓ **Sheet C-2, Notes** - On-site burning of land clearing debris may require an air permit. Please provide a letter from the FDEP Air Section that no permit is required.
- ✓ Please see note number 4 on sheet C-2. It clearly states that if the contractor wishes to burn land clearing debris, he must secure permits to do so at his expense.
- ✓ **Sheets C-3 and C-4** - (1) The purpose of the plug valves is unclear. Clarification is requested to provide assurance that leachate will be allowed to flow freely out of the landfill at all times.

- Not Revised*
- ✓ (1) Plug valves should have been noted as ball valves. These provide a means to temporarily shut off flow for maintenance purposes if needed. These valves will be open at all times other than during maintenance.
 - ✓ (2) The purpose of the back flow preventer is unclear. Please provide the reason for installing backflow preventors if a positive outfall into the gravity pipeline will be maintained.
 - ✓ (2) The backflow preventor was removed in final design as unnecessary
 - ✓ (3) Elevations are needed for all connections into manholes and lift station float switches.
 - ✓ (3) Sheet M-1 provides a table for the on-off elevations of the lift station. Elevations of all manhole inverts are shown on the drawings.
 - ✓ (4) Manufacturers literature is requested for the bootless pipe penetrations. Please demonstrate how "bootless penetrations" prevent leakage and how they will be tested?
 - ✓ (4) See Sheet CD-1 for detail. Manufacturer's literature is not readily available. Testing is done by pressurizing the test chamber to 5 psi for 5 minutes. If no drop in pressure is observed, the installation is acceptable. Once the pressure test is successfully completed, the annulus is filled with grout.

Mr. Kim Ford, P.E.

January 16, 2001

Page 4

- (5) All materials and equipment for the leachate collection and removal system should be described in the specifications.
- (5) The collection system will include perforated and nonperforated HDPE pipes. A copy of the HDPE pipe specification is included as Attachment No.3.

- ✓ (6) The 2% pipe slope for the 8" perforated pipe appears to be incorrect.
- ✓ (6) The slope of the pipe in question is noted as .2%. The final drawing will note it as 0.2% to avoid confusion.

- (7) Cross-section details are needed for the 8" pipe penetration through the inter cell separation berm.

- X (7) The detail of the boot penetration is provided as Detail K on sheet CD-2.

- (8) The operation of all components of the leachate collection and removal system should be described in the operations and contingency plan.

- (8) The operations plan will be provided prior to operations of the new cells

- ✓ (9) Cleanouts are required for pipes in disposal unit A-2.

- ✓ (9) The existing pipes are equipped with cleanouts. The new section of pipe will be cleaned from the manhole.

- (10) Flow meters should be installed for each primary and secondary liner system to independently evaluate system leakage and rates of leachate removal.

- (10) Flow meters are provided as integral components of each cell manhole. Manufacturer's literature on metering manholes systems is provided as Attachment No. 4.

- not really X
▪ Sheet C-6 - The inter cell separation berm appears to be drawn incorrectly and lacks liner welding details for the end connections to inside slopes and pipe penetrations details.

This detail has been modified accordingly

✓ A cross-section detail with elevations is needed for the lift station and float switch elevations.

✓ See response to (3) above

✓ Special techniques for installing the lift station and leachate pipes below the water table may be required and should be included in the specifications.

✓ Contractor will be required to dewater if necessary. It is the contractor's responsibility to design and implement a dewatering plan appropriate to the site conditions. The contractor is also responsible for obtaining necessary permits for the dewatering system. CDM's standard specifications are clear in this regard.

Mr. Kim Ford, P.E.
January 16, 2001
Page 5

- Sheet CD-1 - The inter cell separation berm appears to be drawn incorrectly and lacks detail for welding at ends and pipe penetrations.

See response above.

Details E and F pipe slopes and locations appear to conflict with Detail C. Detail C liner system does not include the GCL.

Details have been revised accordingly.

Top holes on the perforated collection pipe may allow infiltration of fines and may not be needed.

Collection pipe has been revised to eliminate holes at top.

9. Condition of Certification XIV.E.8. Operational plans and drawings are needed prior to operation of the new disposal units. The current Department-approved operations plan should be revised to describe the fill sequences, operation of the inter cell separation berms, leachate system operation and maintenance, testing and cleaning of leachate pipes, recordkeeping for leachate leakage and removal, and any other aspects of the plan that may have changed. Drawings are needed to show grades for proper drainage, cross-section of lifts, and special drainage devices.

Operational plans will be provided prior to operation of the new cells.

The following are comments contained in Mr. Morris' Memorandum:

1. Section 6.0 - Ground Water Monitoring Plan
 - a. The statement that the current ground water monitoring plan includes monitoring wells around the entire site (compliance wells) and specific detection wells located downgradient of Cells A-1, A-2, and SW-1 is incorrect. The currently approved monitoring plan is presented in Section 9.0 (Water Quality and Leachate Monitoring Requirements) of the submittal entitled *Engineering Report and Application to Construct Disposal Unit A-2*, prepared by Law Environmental, revised January 5, 1995, and addresses the compliance wells, detection wells adjacent to Cells A-1 and A-2, and leachate collection from Cells A-1 and A-2. The submittal entitled *Ground Water Monitoring Corrective Action Plan, Cell SW-1*, prepared by QORE, Inc., dated July 25, 2000, included the proposed locations for two detection wells adjacent to Cell SW-1, and was conditionally approved by the Department in correspondence dated December 4, 2000; the QORE, Inc. submittal does not address leachate

Mr. Kim Ford, P.E.
January 16, 2001
Page 6

collection from Cell SW-1. As indicated in the Department's correspondence dated November 28, 2000 it is intended that the currently approved monitoring plan be modified to include the proposed cells. Copies of the referenced Department correspondence are attached. Please provide a comprehensive monitoring plan to address the water quality and leachate monitoring requirements of Rule 62-701.510, F.A.C., for the filled, active and proposed cells (A-1, A-2, A-3, SW-1, and SW-2).

Proposed revisions to the Groundwater Monitoring Plan to include the proposed detection wells around the SW-1 and SW-2 cells and Cell A-3 have been submitted in Section 6 of the submitted engineering report. These proposed additions and information regarding a proposed plan for monitoring the leachate from the SW-1 and SW-2 cells will be added to a comprehensive monitoring plan to revise the approved Groundwater Monitoring Plan.

- b. The Department agrees that the QORE, Inc. submittal (Appendix I) provides adequate information to characterize the site-specific hydrogeology of proposed Cell SW-2 and provides the basis for the proposed monitor well construction. However the footprint of Cell A-3 is not addressed by the QORE, Inc. submittal (Appendix I). Please provide an evaluation of the aquifers and confining layers within the footprint of proposed cell A-3 to justify the proposed monitor well construction (Rule 62-701.510(2), F.A.C.).

An evaluation of the aquifers and confining layers within the footprint of proposed cell A-3 will be conducted using the soil boring logs generated from borings that have previously been performed in the area to determine proposed specific well construction aspects (i.e. proposed well depths, screened interval, sand pack construction, etc.). Although, it is not anticipated that the general aspects of the proposed well construction methodology will change from what was previously used, a summary of the evaluation will be provided.

- c. The construction details of the proposed detection wells for Cells A-3 and SW-2 are subject to the conditions provided in the Department's correspondence dated December 4, 2000. Specifically, a standard penetration test boring shall be conducted at each proposed well location to verify the location of aquifers and confining units, the well screen slot and sand pack shall be sized to the formation of the targeted monitoring zone, and the wells shall not act as conduits through confining layers (Rules 62-701.510(2), 62-701.510(3), 62-701.510(6), F.A.C.).

A standard penetration test boring will be conducted at each proposed well location to a depth equivalent to the proposed total depth of the well in an attempt to verify the location of aquifers and confining units. In addition, samples from the proposed screened interval will be collected for sieve analysis to evaluate the proposed well screen slot and sand pack construction.

Mr. Kim Ford, P.E.
January 16, 2001
Page 7

- d. Please note that Rule 62-701.510(2)(b), F.A.C., requires the monitoring system to include wells installed to yield ground water samples from the uppermost aquifer. In the event that a considerable thickness of saturated sand and/or clayey sediments are encountered during construction of the proposed wells, the installation of shallow and deep well pairs shall be required to monitor the surficial and Floridan aquifers, respectively.

The screened interval of the proposed monitor wells is within the Upper Floridan aquifer.

There are existing monitor wells screened within the shallow unconfined Surficial aquifer that are located around the perimeter of the landfill area. All of these shallow wells have been dry over the past few semiannual sampling events. Therefore, the installation of shallow and deep well pairs is not recommended for the proposed detection wells.

- e. Ground water flow velocity values ranging from 2 to 4.54 feet/day for the upper Floridan aquifer at the site are presented in Technical Appendix E, Section 3.0 of the application entitled *Pasco County, Florida, Solid Waste Resource Recovery Facility, Application for Power Plant Certification, Volume IV - Landfill/Ashfill*, prepared by CDM, dated November 1987. Please summarize any supplemental ground water velocity calculations that have been conducted in the vicinity of the disposal cells. As indicated in Rule 62-701.510(6)(c), F.A.C., ground water sample collection shall be conducted at least semi-annually for lined landfills. The appropriateness of conducting routine ground water sampling events at a semi-annual frequency will be evaluated on the basis of the seasonal range of ground water velocities reported for the site.

Multiple years of groundwater potentiometric surface data have been evaluated. These data indicate that while groundwater elevations have varied, hydraulic gradients have remained relatively consistent. This indicates that groundwater flow velocities are relatively constant and consistent with those reported by Jammal. Consequently, no additional flow velocities need to be calculated.

- f. Please note the requirement of Rule 62-701.510(6)(a), F.A.C., that an initial sampling event shall be conducted at the proposed wells for the parameters listed Rules 62-701.510(8)(a) and 62-701.510(8)(d), F.A.C.

The groundwater samples collected from the new wells will be sampled for the parameters listed in the referenced rules.

- g. Please note the requirements of Rule 62-701.510(3)(d)4, F.A.C., and Section 9.1.3.7 of the submittal entitled *Engineering Report and Application to Construct Disposal Unit A-2*, prepared by Law Environmental, revised

Mr. Kim Ford, P.E.
January 16, 2001
Page 8

January 5, 1995, regarding monitor well abandonment shall apply to wells 4MW-15D and 4MW-16D.

The requirements listed in the referenced rule will be used to develop the methodologies to be used to abandon wells 4MW-15D and 4MW-16D.

- h. Please note that Well 2MW-17D as described in Section 3.1 and shown on Plate No. 11 of the QORE, Inc. submittal (Appendix I) was proposed to be located 500 feet east of the northwest corner of Cell SW-1. This spacing between proposed wells 2MW-17D and 2MW-18D meets the requirements of Rule 62-701.510(3)(d)3, F.A.C. Please revise the location of this proposed well on Figure No. 1 and Sheet G-3 to be consistent with the QORE, Inc. submittal (Appendix I).**

The spacing between proposed wells 2MW-17D and 2MW-18D will be revised to be consistent with the QORE, Inc. submittal.

- i. It does not appear that proposed locations of wells 2MW-19D and 2MW-20D meet the spacing requirements of Rule 62-701.510(3)(d)3, F.A.C., relative to the existing detection wells. Please evaluate the spacing of the proposed downgradient wells on the west sides of Cells SW-1 and SW-2 and of Cells A-1, A-2, and A-3 and revise as appropriate.**

The spacing between the proposed wells on the west sides of Cells SW-1 and SW-2 and of Cells A-1, A-2, and A-3 will be revised to be consistent with the spacing requirements of Rule 62-701.510(3)(d)3, F.A.C.

- j. It is noted that the proposed wells are indicated on Plate No. 12 of the QORE, Inc. submittal (Appendix I) to be constructed with 2-inch diameter casing and screen. It is the Department's understanding that the alphanumeric well numbering system used at the site includes the well diameter as the first character, therefore the proposed wells should be numbered 2MW-15DA, 2MW-17D, 2MW-18D, 2MW-19D, and 2MW-20D. Please revise the text, figures, and plan sheets to reflect this numbering system, as appropriate. Please also include the location of well 4MW-13D on the figures and plan sheets.**

The numbering system for the proposed wells will be revised to be compatible with the existing alphanumeric well numbering system.

- k. The text describes the proposed well west of Cell A-3 as 4MW-21D. Please verify that the intended well designation west of Cell A-3 is 2MW-20D.**

The text will be revised to indicate that the proposed well west of Cell A-3 will be identified as 4MW-20D.

Mr. Kim Ford, P.E.
January 16, 2001
Page 9

2. Section 7.0 - Leachate Monitoring Plan

- a. Please indicate how the proposed collection of leachate samples from the new pump stations for Cells A-3 and SW-2 complies with the requirements of Rule 62-701.510(5), F.A.C. Please show the proposed leachate sampling locations on a figure or plan sheet.

The leachate sampling locations are the two new lift stations shown on drawings C-3 and C-4. One serves the solid waste cells and one serves the ash cells. All leachate flows via gravity to the lift stations. Samples are "dipped" from the lift station wetwell through an access hatch. Samples obtained at this point are a composite of either all ash or all solid waste cells and will not have been subject to any pumping.

- b. The Department does not object to the analysis of leachate samples for the parameters listed in this section of the CDM Engineering Report, however it is noted that Rule 62-701.510(6)(b), F.A.C., does not require semi-annual analysis of the parameters listed in 40 CFR Part 258, Appendix II.

40 CFR Part 258, Appendix II parameters will be sampled annually. This page has been revised and is contained as Attachment No. 5. Please include it in our original submittal.

CONSTRUCTION DRAWINGS

3. Plan Sheet G-3 - The confining layer contours provided for Cells A-3 and SW-2 were compared with Attachment 2 (Geotechnical/Hydrogeologic Study conducted by Jammal & Associates, Inc. dated April 1987) of the application entitled *Pasco County, Florida, Solid Waste Resource Recovery Facility, Application for Power Plant Certification, Volume IV - Landfill/Ashfill*, prepared by CDM, dated November 1987. Please evaluate the following apparent inconsistencies and revise the confining layer contours as needed.

- a. The boring located north of Cell SW-2 shown as C + 13 - 35 should be C - 13 + 35.
- b. The top of clay elevation at boring C - 13 + 35 should be changed to +38 feet.
- c. The top of clay elevation at boring B-6 should be changed to +40 feet.
- d. The top of clay elevation at boring D-40 should be changed to +37 feet.

We have reviewed this information and made changes where appropriate.

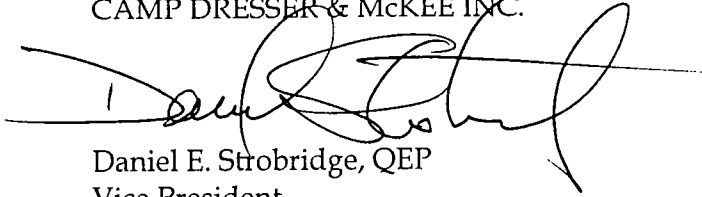
For your convenience, we have enclosed a full set of drawings that include the modifications addressed in this submittal.

Mr. Kim Ford, P.E.
January 16, 2001
Page 10


We trust that this information addresses all of the issues raised in your letter. If you have any questions do not hesitate to contact Darwish or me.

Very truly yours,

CAMP DRESSER & MCKEE INC.

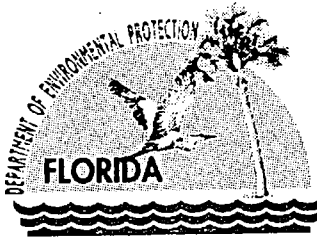


Daniel E. Strobbridge, QEP
Vice President



Darwish Q. El-Hajji, P.E.
Project Engineer

cc: Doug Bramlett, Pasco County
Vincent Mannella, Pasco County
Robert Butera, FDEP Tampa
John Morris, FDEP Tampa
Susan Pelz, FDEP Tampa



Jeb Bush
Governor

Department of Environmental Protection

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

January 8, 2001

Mr. Daniel Strobbridge
CDM
Westshore Center
1715 No. Westshore Blvd., Suite 875
Tampa, FL 33607

**Re: West Pasco County Landfill
Construction of Disposal Units SW-2 and A-3
Pasco County**

Dear Mr. Strobbridge:

This is to acknowledge receipt of the December 2000 construction submittal for new disposal units SW-2 and A-3 received December 6, 2000.

Additional clarification is requested. This is the Department's 1st request for information. Please provide the information listed below promptly. Evaluation of your proposed project will be delayed until all requested information has been received.

The following information is needed to demonstrate compliance with Chapter 62-701, Florida Administrative Code (F.A.C.). Please provide:

1. **62-701.400(3)(a)**. GCL/leachate compatibility test results, and other projects where the Department has previously approved use of the GCL as the liner subbase.
2. **62-701.400(3)(c)**. Maximum water vapor transmission rate of the liner, and the minimum hydraulic conductivity of the leak detection system.
3. **62-701.400(3)(d) 3**. Operational plans for placement of the first layer of four feet of selected wastes and removal of large, rigid objects that may damage the liner.
4. **62-701.400(4)(a) 4**. Method for testing and cleaning leachate pipes.
5. **62-701.400(4)(b)**. Demonstration of equivalency using the specified project permeability of 1×10^{-4} cm/sec for the 24 inches of sand and geonet over the liner compared to the permeability of 1×10^{-3} cm/sec for the sand layer specified in Department rule. Geotextile intrusion into the geonet should be considered a factor in geonet performance.

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6. **62-701.510.** Groundwater monitoring plan and required supporting information in response to Mr. John Morris's January 8, 2001 memorandum (attached). Please call Mr. Morris at extension 336 to discuss this item.
7. **Condition of Certification III.** Financial assurance is required for the new disposal units SW-2 and A-3 prior to operation. Please call Ms. Susan Pelz at extension 386 to discuss this item.
8. **Condition of Certification XIII.** In support of the construction plans, construction specifications for all related materials and equipment, installation and testing are requested. Construction plans with revisions for clarification on the following items:
 - **Sheet C-1, Detail A** - The sand permeability to match that used for the HELP model. The sand layer should be designed for rapid percolation to reduce mounding inside the landfill. The geonet design should include the geotextile to match that used for the HELP model.
 - **Sheet C-2, Notes** - On-site burning of land clearing debris may require an air permit. Please provide a letter from the FDEP Air Section that no permit is required.
 - **Sheets C-3 and C-4** - (1) The purpose of the plug valves is unclear. Clarification is requested to provide assurance that leachate will be allowed to flow freely out of the landfill at all times. (2) The purpose of the back flow preventer is unclear. Please provide the reason for installing backflow preventors if a positive outfall into the gravity pipeline will be maintained. (3) Elevations are needed for all connections into manholes and lift station float switches. (4) Manufacturers literature is requested for the bootless pipe penetrations. Please demonstrate how "bootless penetrations" prevent leakage and how they will be tested? (5) All materials and equipment for the leachate collection and removal system should be described in the specifications. (6) The 2% pipe slope for the 8" perforated pipe appears to be incorrect. (7) Cross-section details are needed for the 8" pipe penetration through the inter cell separation berm. (8) The operation of all components of the leachate collection and removal system should be described in the operations and contingency plan. (9) Cleanouts are required for pipes in disposal unit A-2. (10) Flow meters should be installed for each primary and secondary liner system to independently evaluate system leakage and rates of leachate removal.

- **Sheet C-6** - The inter cell separation berm appears to be drawn incorrectly and lacks liner welding details for the end connections to inside slopes and pipe penetrations details. A cross-section detail with elevations is needed for the lift station and float switch elevations. Special techniques for installing the lift station and leachate pipes below the water table may be required and should be included in the specifications.
 - **Sheet CD-1** - The inter cell separation berm appears to be drawn incorrectly and lacks detail for welding at ends and pipe penetrations. Details E and F pipe slopes and locations appear to conflict with Detail C. Detail C liner system does not include the GCL. Top holes on the perforated collection pipe may allow infiltration of fines and may not be needed.
9. **Condition of Certification XIV.E.8.** Operational plans and drawings are needed prior to operation of the new disposal units. The current Department-approved operations plan should be revised to describe the fill sequences, operation of the inter cell separation berms, leachate system operation and maintenance, testing and cleaning of leachate pipes, record-keeping for leachate leakage and removal, and any other aspects of the plan that may have changed. Drawings are needed to show grades for proper drainage, cross-section of lifts, and special drainage devices.

Please provide all responses that relate to engineering required for construction, signed and sealed by a professional engineer.

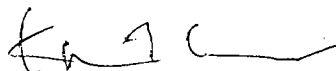
"NOTICE! Pursuant to the provisions of Section 120.60, F.S., if the Department does not receive a response to this request for information within 90 days of the date of this letter, the Department may issue a final order denying your application. You need to respond within 30 days after you receive this letter, responding to as many of the information requests as possible and indicating when a response to any unanswered questions will be submitted. If the response will require longer than 30 days to develop, you should develop a specific time table for the submission of the requested information for Department review and consideration. Failure to comply with a time table accepted by the Department will be grounds for the Department to issue a Final Order of Denial for lack of timely response. A denial for lack of information or response will be unbiased as to the merits of the application. The applicant can reapply as soon as the requested information is available."

Mr. Daniel Strobridge
CDM

January 8, 2001
Page 4

You are requested to arrange a meeting with DEP staff to discuss the items in this letter prior to responding. Please submit your response to this letter as one complete package. On all future correspondence, please include Robert Butera on distribution. If you have any questions you may call me at (813) 744-6100, extension 382.

Sincerely,



Kim B. Ford, P.E.
Solid Waste Section
Division of Waste Management

KBF/ab

Attachment

cc: Douglas Bramlett, Pasco County
Vincent Mannella, Pasco County
Darwish El-Hajji, P.E., CDM
RB Robert Butera, P.E., FDEP Tampa
John Morris, P.G., FDEP Tampa
Susan Pelz, P.E., FDEP Tampa

Florida Department of
Environmental Protection

Memorandum

TO: Kim Ford, P.E.
FROM: John R. Morris, P.G. JRM
DATE: January 8, 2001
SUBJECT: Pasco County Resource Recovery Facility and Class I Landfills
Proposed Expansion - Cells A-3 and SW-2
Hydrogeologic and Monitoring Review Comments
CC: Robert Butera, P.E.

I have reviewed the submittal entitled *Engineering Report for the Resource Recovery Landfill Cell Construction*, and the construction drawings entitled *West Pasco County Landfill Expansion, Cells A-3 and SW-2*, prepared by Camp, Dresser & McKee, Inc. (CDM), received December 6, 2000. My review focused on the hydrogeologic and monitoring aspects of the proposed expansion. Additional information is needed to evaluate the proposed monitoring plan modification. Please have the applicant address the following comments. The comment numbers are referenced to the CDM submittal.

ENGINEERING REPORT

1. Section 6.0 - Ground Water Monitoring Plan

a. The statement that the current ground water monitoring plan includes monitoring wells around the entire site (compliance wells) and specific detection wells located downgradient of Cells A-1, A-2, and SW-1 is incorrect. The currently approved monitoring plan is presented in Section 9.0 (Water Quality and Leachate Monitoring Requirements) of the submittal entitled *Engineering Report and Application to Construct Disposal Unit A-2*, prepared by Law Environmental, revised January 5, 1995, and addresses the compliance wells, detection wells adjacent to Cells A-1 and A-2, and leachate collection from Cells A-1 and A-2. The submittal entitled *Ground Water Monitoring Corrective Action Plan, Cell SW-1*, prepared by QORE, Inc., dated July 25, 2000, included the proposed locations for two detection wells adjacent to Cell SW-1, and was conditionally approved by the Department in correspondence dated December 4, 2000; the QORE, Inc., submittal does not address leachate collection from Cell SW-1. As indicated in the Department's correspondence dated November 28, 2000 it is intended that the currently approved monitoring plan be modified to include the proposed cells. Copies of the referenced Department correspondence are attached. Please provide a comprehensive monitoring plan to address the water quality and leachate monitoring requirements of Rule 62-701.510, F.A.C., for the filled, active and proposed cells (A-1, A-2, A-3, SW-1, and SW-2).

b. The Department agrees that the QORE, Inc., submittal (Appendix I) provides adequate information to characterize the site-specific hydrogeology of proposed Cell SW-2 and provides the basis for the proposed monitor well construction. However the footprint of Cell A-3 is not addressed by the QORE, Inc., submittal (Appendix I). Please provide an evaluation of the aquifers and confining layers within the footprint of proposed cell A-3 to justify the proposed monitor well construction (Rule 62-701.510(2), F.A.C.).

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- c. The construction details of the proposed detection wells for Cells A-3 and SW-2 are subject to the conditions provided in the Department's correspondence dated December 4, 2000. Specifically, a standard penetration test boring shall be conducted at each proposed well location to verify the location of aquifers and confining units, the well screen slot and sand pack shall be sized to the formation of the targeted monitoring zone, and the wells shall not act as conduits through confining layers (Rules 62-701.510(2), 62-701.510(3), 62-701.510(6), F.A.C.)
- d. Please note that Rule 62-701.510(2)(b), F.A.C., requires the monitoring system to include wells installed to yield ground water samples from the uppermost aquifer. In the event that a considerable thickness of saturated sand and/or clayey sediments are encountered during construction of the proposed wells, the installation of shallow and deep well pairs shall be required to monitor the surficial and Floridan aquifers, respectively.
- e. Ground water flow velocity values ranging from 2 to 4.54 feet/day for the upper Floridan aquifer at the site are presented in Technical Appendix E, Section 3.0 of the application entitled *Pasco County, Florida, Solid Waste Resource Recovery Facility, Application for Power Plant Certification, Volume IV – Landfill/Ashfill*, prepared by CDM, dated November 1987. Please summarize any supplemental ground water velocity calculations that have been conducted in the vicinity of the disposal cells. As indicated in Rule 62-701.510(6)(c), F.A.C., ground water sample collection shall be conducted at least semi-annually for lined landfills. The appropriateness of conducting routine ground water sampling events at a semi-annual frequency will be evaluated on the basis of the seasonal range of ground water velocities reported for the site.
- f. Please note the requirement of Rule 62-701.510(6)(a), F.A.C., that an initial sampling event shall be conducted at the proposed wells for the parameters listed Rules 62-701.510(8)(a) and 62-701.510(8)(d), F.A.C.
- g. Please note the requirements of Rule 62-701.510(3)(d)4, F.A.C., and Section 9.1.3.7 of the submittal entitled *Engineering Report and Application to Construct Disposal Unit A-2*, prepared by Law Environmental, revised January 5, 1995, regarding monitor well abandonment shall apply to wells 4MW-15D and 4MW-16D.
- h. Please note that Well 2MW-17D as described in Section 3.1 and shown on Plate No. 11 of the QORE, Inc., submittal (Appendix I) was proposed to be located 500 feet east of the northwest corner of Cell SW-1. This spacing between proposed wells 2MW-17D and 2MW-18D meets the requirements of Rule 62-701.510(3)(d)3, F.A.C. Please revise the location of this proposed well on Figure No. 1 and Sheet G-3 to be consistent with the QORE, Inc., submittal (Appendix I).
- i. It does not appear that proposed locations of wells 2MW-19D and 2MW-20D meet the spacing requirements of Rule 62-701.510(3)(d)3, F.A.C., relative to the existing detection wells. Please evaluate the spacing of the proposed downgradient wells on the west sides of Cells SW-1 and SW-2 and of Cells A-1, A-2, and A-3 and revise as appropriate.
- j. It is noted that the proposed wells are indicated on Plate No. 12 of the QORE, Inc., submittal (Appendix I) to be constructed with 2-inch diameter casing and screen. It is the Department's understanding that the alphanumeric well numbering system used at the site includes the well diameter as the first character, therefore the proposed wells should be numbered 2MW-15DA, 2MW-17D, 2MW-18D, 2MW-19D, and 2MW-20D. Please revise the text, figures, and plan sheets to reflect this numbering system, as appropriate. Please also include the location of well 4MW-13D on the figures and plan sheets.

k. The text describes the proposed well west of Cell A-3 as 4MW-21D. Please verify that the intended well designation west of Cell A-3 is 2MW-20D.

2. Section 7.0 – Leachate Monitoring Plan

a. Please indicate how the proposed collection of leachate samples from the new pump stations for Cells A-3 and SW-2 complies with the requirements of Rule 62-701.510(5), F.A.C. Please show the proposed leachate sampling locations on a figure or plan sheet.

b. The Department does not object to the analysis of leachate samples for the parameters listed in this section of the CDM Engineering Report, however it is noted that Rule 62-701.510(6)(b), F.A.C., does not require semi-annual analysis of the parameters listed in 40 CFR Part 258, Appendix II.

CONSTRUCTION DRAWINGS

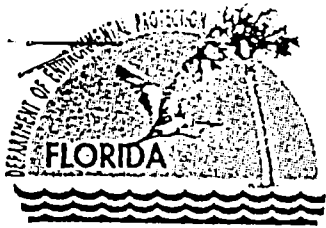
3. Plan Sheet G-3 -- The confining layer contours provided for Cells A-3 and SW-2 were compared with Attachment 2 (Geotechnical/Hydrogeologic Study conducted by Jammal & Associates, Inc., dated April 1987) of the application entitled *Pasco County, Florida, Solid Waste Resource Recovery Facility, Application for Power Plant Certification, Volume IV – Landfill/Ashfill*, prepared by CDM, dated November 1987. Please evaluate the following apparent inconsistencies and revise the confining layer contours as needed:

- a. The boring located north of Cell SW-2 shown as C + 13–35 should be C–13+35.
- b. The top of clay elevation at boring C–13+35 should be changed to +38 feet.
- c. The top of clay elevation at boring B-6 should be changed to +40 feet.
- d. The top of clay elevation at boring D-40 should be changed to +37 feet.

Please have the applicant contact me at (813) 744-6100, extension 336, to discuss these comments if there are any questions.

Attachments

jrm



Jeb Bush
Governor

Department of Environmental Protection

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

November 28, 2000

John Gallagher, County Administrator
Pasco County Board of County Commissioners
7530 Little Road
New Port Richey, FL 34654

Re: West Pasco Revised Conditions of Certification and Revised Landfill
Operations Plan #PA87-23, Pasco County – Letter dated 9/11/2000

Dear Mr. Gallagher:

The Department was in receipt of your letter dated September 11, 2000 regarding the revised Conditions of Certification for the Pasco County Resource Recovery Facility and your concerns relating to revisions to the Operations Plan as well as the administrative process relating to future modifications to the Operations Plan. The Department has revised several of the Conditions of Certification as you requested. Items 1, 6, and 7 on your attached list of remaining issues must be discussed directly with the Power Plant Siting staff in Tallahassee as they pertain to air issues. The Department has attached the revised Conditions for your information.

The Department has no intention of placing any undue burden and expense on the County relating to modifying the Conditions of Certification. The revised Conditions of Certification reference the "current Department-approved" Operations and Groundwater Monitoring Plans. The updated Operations Plan and revisions to the Groundwater Monitoring Plan must be resolved so that each plan complies with the current rules and reflects the current operations and monitoring locations prior to issuing the Conditions of Certification. The purpose of drafting the conditions in this manner was to allow the County to modify either the Operations Plan or Groundwater Monitoring Plan at the district level. You have clearly delineated in your letter and the Department agrees with the administrative process for reviewing such modifications in accordance with FAC 62-17.191(1)(c). Under this administrative process the Department will review all postcertification submittals within 30 days after filing of the submittal and failure of the Department to request additional information will constitute a finding of completeness.

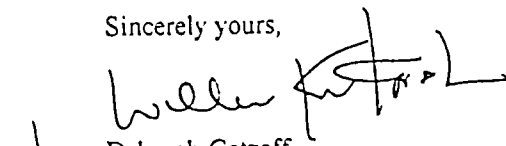
The Department appreciates your comments in Item #8, and would like to clarify its intent. In Item #8, the reference is not to the Law Operations Plan but to the Law Groundwater Monitoring Plan submitted by Law Environmental, with revision dated January 5, 1995 (3rd Edition). The reference to the specific submittal appears appropriate to designate the approved revision date, and due to past confusion as to monitoring well locations and construction details for Cells A1/A2. By referencing the submittal and revision date for that which is currently approved, a starting point is established to generate the monitoring plan's "approved successor." The Department agrees, as previously noted, that all future modifications can be submitted directly to the district for review in accordance with FAC 62-17.191(1)(c). Please note that modification of the Groundwater Monitoring Plan shall be required to incorporate area SW-2 and proposed area A-3. In addition to the new disposal areas, this modification shall also address revisions to the Chapter 62-701, FAC, that are planned to be effective during the first part of next year. Please refer to the items included in the Department's letter to Mr. Daniel Strobridge dated August 4, 2000 for the items to be included in the modification of the Groundwater Monitoring Plan.

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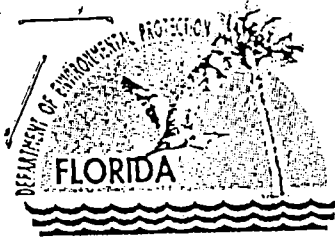
The Department appreciates the County's efforts to resolve these final issues and believes this response should alleviate the County's concerns. The Department recommends a meeting to finalize both the Certification and Consent Order In-Kind issues. Please contact Bill Kutash at 813-744-6100, Ext. 353 to arrange a mutually agreeable date and time for the meeting.

Sincerely yours,


Deborah Getzoff
Director of District Management
Southwest District

DAG/rjbab
Enclosure

cc: Mr. Doug Bramlett, Assistant County Administrator
Mr. Vincent Mammella, Pasco County Resource Recovery Facility Manager
Mr. Daniel Strobridge, CDM
Mr. Robert Butera, P.E., Solid Waste Director, Southwest District
Mr. Kim Ford, P.E., Solid Waste Permitting, Southwest District
Mr. Buck Owen, P.E., Power Plant Siting, Tallahassee



Jeb Bush
Governor

Department of Environmental Protection

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

Mr. Vincent Mannella, P.E.
Pasco County Solid Waste, Resource Recovery Facility
14230 Hays Road
New Port Richey, FL 34610

December 4, 2000

Re: West Pasco Class I Landfill, Pasco County
Ground Water Monitoring Corrective Action Plan, Cell SW-1
PA 87-23
OGC File No. 99-1346

Dear Mr. Mannella:

The Department has reviewed the document entitled *Ground Water Monitoring Corrective Action Plan, West Pasco Class I Landfill, Pasco County, Florida*, prepared by QORE, Inc., received July 25, 2000. This document was submitted to the Department in accordance with Paragraph 14 of draft Consent Order 99-1346 to implement ground water monitoring at Cell SW-1. It is intended that this letter and the above-referenced document will constitute Exhibit B as referenced in Paragraph 20 the executed Consent Order.

The Department has no objection to installation of the proposed monitor wells in proximity to Cell SW-1 subject to the following conditions:

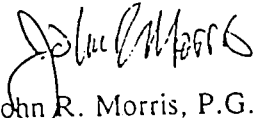
1. A standard penetration test boring shall be conducted at each of the two proposed detection well locations to verify lithology and determine the occurrence of the first water-bearing unit. A boring log shall be submitted to the Department along with the monitor well construction details.
2. As noted in Section 2.4 of the referenced submittal, the thickness of the surficial sands and the depth to limestone are highly variable in the vicinity of Cell SW-1. In the event that considerable thicknesses of sand and/or clayey sediments are encountered that appear to be saturated, the installation of shallow and deep well pairs shall be required to monitor the surficial and Floridan aquifers, respectively. As required by Rule 62-701.510(3)(d)4., F.A.C., well screens shall not act as conduits through confining layers between water-bearing strata. If a shallow well is required, the well screen shall be located to straddle the water table surface.
3. The well screen slot and sand pack shall be sized to the formation of the targeted monitoring zones to allow the collection of representative ground water samples from the proposed detection wells.
4. The well construction details to be provided to the Department as indicated in Section 3.2 of the referenced submittal be supplemented by the information presented on attached DEP Form No. 62-522.900(3).

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5. An initial sampling event of the proposed monitor wells shall be conducted for the parameters listed in Rule 62-701.510(8)(a) and (8)(d), F.A.C.
6. The semi-annual sampling events conducted at the proposed monitor wells for the field and laboratory parameters listed in Section 3.3 of the referenced submittal and shall also include the laboratory analyses of the parameters listed in 40 CFR Part 258, Appendix I.
7. Within 90 days of execution of Consent Order 99-1346 the following activities shall be completed: the proposed detection wells shall be installed and developed; the initial sampling event shall be conducted; and, the monitor well construction details and the results of analyses of the initial sampling event shall be submitted to the Department.
8. Routine sampling of the proposed detection wells at Cell SW-1 shall be performed during the semi-annual sampling events conducted at the other monitor wells at the West Pasco Class I landfill. Paragraph 20 of Consent Order 99-1346 shall be considered to be satisfactorily completed when a revised ground water monitoring plan which includes all existing and proposed wells is approved by the Department to replace the existing ground water monitoring plan.

The Department appreciates the County's efforts to implement ground water monitoring in the vicinity of Cell SW-1. Please contact me at (813) 744-6100 extension 336 if you have questions.

Sincerely,



John R. Morris, P.G.
Solid Waste Section

Attachment

cc: John J. Gallagher, County Administrator, 7530 Little Road, S-340, New Port Richey, FL 34654
Douglas Bramlett, Assistant County Administrator, Pasco County Utilities Services,
7530 Little Road, S-204, New Port Richey, FL 34654
Lawrence J. Maron, P.E., QORE, Inc., 1211 Tech Blvd., Suite 200, Tampa, FL 33619
Deborah A. Getzoff, FDEP Tampa, w/o attachment
William Kutash, FDEP Tampa, w/o attachment
fb Robert Butera, P.E., FDEP Tampa, w/o attachment
Kim Ford, P.E., FDEP Tampa, w/o attachment
Steve Morgan, FDEP Tampa, w/o attachment

Memorandum

Florida Department of Environmental Protection

TO: Kim Ford, P.E.
FROM: John R. Morris, P.G. JRM
DATE: January 8, 2001
SUBJECT: Pasco County Resource Recovery Facility and Class I Landfills
Proposed Expansion – Cells A-3 and SW-2
Hydrogeologic and Monitoring Review Comments
CC: Robert Butera, P.E.

I have reviewed the submittal entitled *Engineering Report for the Resource Recovery Landfill Cell Construction*, and the construction drawings entitled *West Pasco County Landfill Expansion, Cells A-3 and SW-2*, prepared by Camp, Dresser & McKee, Inc. (CDM), received December 6, 2000. My review focused on the hydrogeologic and monitoring aspects of the proposed expansion. Additional information is needed to evaluate the proposed monitoring plan modification. Please have the applicant address the following comments. The comment numbers are referenced to the CDM submittal.

ENGINEERING REPORT

1. Section 6.0 – Ground Water Monitoring Plan

a. The statement that the current ground water monitoring plan includes monitoring wells around the entire site (compliance wells) and specific detection wells located downgradient of Cells A-1, A-2, and SW-1 is incorrect. The currently approved monitoring plan is presented in Section 9.0 (Water Quality and Leachate Monitoring Requirements) of the submittal entitled *Engineering Report and Application to Construct Disposal Unit A-2*, prepared by Law Environmental, revised January 5, 1995, and addresses the compliance wells, detection wells adjacent to Cells A-1 and A-2, and leachate collection from Cells A-1 and A-2. The submittal entitled *Ground Water Monitoring Corrective Action Plan, Cell SW-1*, prepared by QORE, Inc., dated July 25, 2000, included the proposed locations for two detection wells adjacent to Cell SW-1, and was conditionally approved by the Department in correspondence dated December 4, 2000; the QORE, Inc., submittal does not address leachate collection from Cell SW-1. As indicated in the Department's correspondence dated November 28, 2000 it is intended that the currently approved monitoring plan be modified to include the proposed cells. Copies of the referenced Department correspondence are attached. Please provide a comprehensive monitoring plan to address the water quality and leachate monitoring requirements of Rule 62-701.510, F.A.C., for the filled, active and proposed cells (A-1, A-2, A-3, SW-1, and SW-2).

b. The Department agrees that the QORE, Inc., submittal (Appendix I) provides adequate information to characterize the site-specific hydrogeology of proposed Cell SW-2 and provides the basis for the proposed monitor well construction. However the footprint of Cell A-3 is not addressed by the QORE, Inc., submittal (Appendix I). Please provide an evaluation of the aquifers and confining layers within the footprint of proposed cell A-3 to justify the proposed monitor well construction (Rule 62-701.510(2), F.A.C.).

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- c. The construction details of the proposed detection wells for Cells A-3 and SW-2 are subject to the conditions provided in the Department's correspondence dated December 4, 2000. Specifically, a standard penetration test boring shall be conducted at each proposed well location to verify the location of aquifers and confining units, the well screen slot and sand pack shall be sized to the formation of the targeted monitoring zone, and the wells shall not act as conduits through confining layers (Rules 62-701.510(2), 62-701.510(3), 62-701.510(6), F.A.C.)
- d. Please note that Rule 62-701.510(2)(b), F.A.C., requires the monitoring system to include wells installed to yield ground water samples from the uppermost aquifer. In the event that a considerable thickness of saturated sand and/or clayey sediments are encountered during construction of the proposed wells, the installation of shallow and deep well pairs shall be required to monitor the surficial and Floridan aquifers, respectively.
- e. Ground water flow velocity values ranging from 2 to 4.54 feet/day for the upper Floridan aquifer at the site are presented in Technical Appendix E, Section 3.0 of the application entitled *Pasco County, Florida, Solid Waste Resource Recovery Facility, Application for Power Plant Certification, Volume IV – Landfill/Ashfill*, prepared by CDM, dated November 1987. Please summarize any supplemental ground water velocity calculations that have been conducted in the vicinity of the disposal cells. As indicated in Rule 62-701.510(6)(c), F.A.C., ground water sample collection shall be conducted at least semi-annually for lined landfills. The appropriateness of conducting routine ground water sampling events at a semi-annual frequency will be evaluated on the basis of the seasonal range of ground water velocities reported for the site.
- f. Please note the requirement of Rule 62-701.510(6)(a), F.A.C., that an initial sampling event shall be conducted at the proposed wells for the parameters listed Rules 62-701.510(8)(a) and 62-701.510(8)(d), F.A.C.
- g. Please note the requirements of Rule 62-701.510(3)(d)4, F.A.C., and Section 9.1.3.7 of the submittal entitled *Engineering Report and Application to Construct Disposal Unit A-2*, prepared by Law Environmental, revised January 5, 1995, regarding monitor well abandonment shall apply to wells 4MW-15D and 4MW-16D.
- h. Please note that Well 2MW-17D as described in Section 3.1 and shown on Plate No. 11 of the QORE, Inc., submittal (Appendix I) was proposed to be located 500 feet east of the northwest corner of Cell SW-1. This spacing between proposed wells 2MW-17D and 2MW-18D meets the requirements of Rule 62-701.510(3)(d)3, F.A.C. Please revise the location of this proposed well on Figure No. 1 and Sheet G-3 to be consistent with the QORE, Inc., submittal (Appendix I).
- i. It does not appear that proposed locations of wells 2MW-19D and 2MW-20D meet the spacing requirements of Rule 62-701.510(3)(d)3, F.A.C., relative to the existing detection wells. Please evaluate the spacing of the proposed downgradient wells on the west sides of Cells SW-1 and SW-2 and of Cells A-1, A-2, and A-3 and revise as appropriate.
- j. It is noted that the proposed wells are indicated on Plate No. 12 of the QORE, Inc., submittal (Appendix I) to be constructed with 2-inch diameter casing and screen. It is the Department's understanding that the alphanumeric well numbering system used at the site includes the well diameter as the first character, therefore the proposed wells should be numbered 2MW-15DA, 2MW-17D, 2MW-18D, 2MW-19D, and 2MW-20D. Please revise the text, figures, and plan sheets to reflect this numbering system, as appropriate. Please also include the location of well 4MW-13D on the figures and plan sheets.

k. The text describes the proposed well west of Cell A-3 as 4MW-21D. Please verify that the intended well designation west of Cell A-3 is 2MW-20D.

2. Section 7.0 – Leachate Monitoring Plan

a. Please indicate how the proposed collection of leachate samples from the new pump stations for Cells A-3 and SW-2 complies with the requirements of Rule 62-701.510(5), F.A.C. Please show the proposed leachate sampling locations on a figure or plan sheet.

b. The Department does not object to the analysis of leachate samples for the parameters listed in this section of the CDM Engineering Report, however it is noted that Rule 62-701.510(6)(b), F.A.C., does not require semi-annual analysis of the parameters listed in 40 CFR Part 258, Appendix II.

CONSTRUCTION DRAWINGS

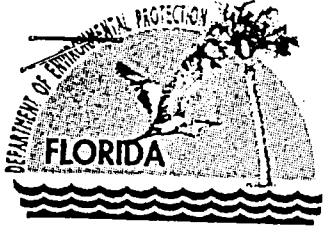
3. Plan Sheet G-3 -- The confining layer contours provided for Cells A-3 and SW-2 were compared with Attachment 2 (Geotechnical/Hydrogeologic Study conducted by Jammal & Associates, Inc., dated April 1987) of the application entitled *Pasco County, Florida, Solid Waste Resource Recovery Facility, Application for Power Plant Certification, Volume IV – Landfill/Ashfill*, prepared by CDM, dated November 1987. Please evaluate the following apparent inconsistencies and revise the confining layer contours as needed:

- a. The boring located north of Cell SW-2 shown as C+13-35 should be C-13+35.
- b. The top of clay elevation at boring C-13+35 should be changed to +38 feet.
- c. The top of clay elevation at boring B-6 should be changed to +40 feet.
- d. The top of clay elevation at boring D-40 should be changed to +37 feet.

Please have the applicant contact me at (813) 744-6100, extension 336, to discuss these comments if there are any questions.

Attachments

jrm



Jeb Bush
Governor

Department of Environmental Protection

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

November 28, 2000

John Gallagher, County Administrator
Pasco County Board of County Commissioners
7530 Little Road
New Port Richey, FL 34654

Re: West Pasco Revised Conditions of Certification and Revised Landfill
Operations Plan #PA87-23, Pasco County – Letter dated 9/11/2000

Dear Mr. Gallagher:

The Department was in receipt of your letter dated September 11, 2000 regarding the revised Conditions of Certification for the Pasco County Resource Recovery Facility and your concerns relating to revisions to the Operations Plan as well as the administrative process relating to future modifications to the Operations Plan. The Department has revised several of the Conditions of Certification as you requested. Items 1, 6, and 7 on your attached list of remaining issues must be discussed directly with the Power Plant Siting staff in Tallahassee as they pertain to air issues. The Department has attached the revised Conditions for your information.

The Department has no intention of placing any undue burden and expense on the County relating to modifying the Conditions of Certification. The revised Conditions of Certification reference the "current Department-approved" Operations and Groundwater Monitoring Plans. The updated Operations Plan and revisions to the Groundwater Monitoring Plan must be resolved so that each plan complies with the current rules and reflects the current operations and monitoring locations prior to issuing the Conditions of Certification. The purpose of drafting the conditions in this manner was to allow the County to modify either the Operations Plan or Groundwater Monitoring Plan at the district level. You have clearly delineated in your letter and the Department agrees with the administrative process for reviewing such modifications in accordance with FAC 62-17.191(1)(c). Under this administrative process the Department will review all postcertification submittals within 30 days after filing of the submittal and failure of the Department to request additional information will constitute a finding of completeness.

The Department appreciates your comments in Item #8, and would like to clarify its intent. In Item #8, the reference is not to the Law Operations Plan but to the Law Groundwater Monitoring Plan submitted by Law Environmental, with revision dated January 5, 1995 (3rd Edition). The reference to the specific submittal appears appropriate to designate the approved revision date, and due to past confusion as to monitoring well locations and construction details for Cells A1/A2. By referencing the submittal and revision date for that which is currently approved, a starting point is established to generate the monitoring plan's "approved successor." The Department agrees, as previously noted, that all future modifications can be submitted directly to the district for review in accordance with FAC 62-17.191(1)(c). Please note that modification of the Groundwater Monitoring Plan shall be required to incorporate area SW-2 and proposed area A-3. In addition to the new disposal areas, this modification shall also address revisions to the Chapter 62-701, FAC, that are planned to be effective during the first part of next year. Please refer to the items included in the Department's letter to Mr. Daniel Strobridge dated August 4, 2000 for the items to be included in the modification of the Groundwater Monitoring Plan.

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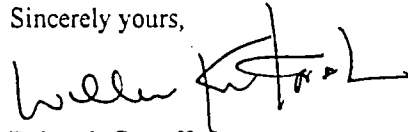
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John Gallagher, County Administrator
Pasco County Board of County Commissioners

November 28, 2000
Page Two

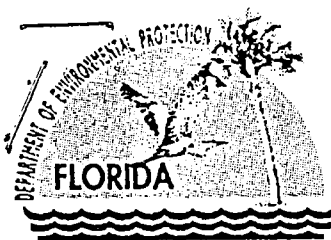
The Department appreciates the County's efforts to resolve these final issues and believes this response should alleviate the County's concerns. The Department recommends a meeting to finalize both the Certification and Consent Order In-Kind issues. Please contact Bill Kutash at 813-744-6100, Ext. 353 to arrange a mutually agreeable date and time for the meeting.

Sincerely yours,


Deborah Getzoff
Director of District Management
Southwest District

DAG/rjbab
Enclosure

cc: Mr. Doug Bramlett, Assistant County Administrator
Mr. Vincent Mannella, Pasco County Resource Recovery Facility Manager
Mr. Daniel Strobbridge, CDM
Mr. Robert Butera, P.E., Solid Waste Director, Southwest District
Mr. Kim Ford, P.E., Solid Waste Permitting, Southwest District
Mr. Buck Oven, P.E., Power Plant Siting, Tallahassee



Jeb Bush
Governor

Department of Environmental Protection

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

Mr. Vincent Mannella, P.E.
Pasco County Solid Waste, Resource Recovery Facility
14230 Hays Road
New Port Richey, FL 34610

December 4, 2000

Re: West Pasco Class I Landfill, Pasco County
Ground Water Monitoring Corrective Action Plan, Cell SW-1
PA 87-23
OGC File No. 99-1346

Dear Mr. Mannella:

The Department has reviewed the document entitled *Ground Water Monitoring Corrective Action Plan, West Pasco Class I Landfill, Pasco County, Florida*, prepared by QORE, Inc., received July 25, 2000. This document was submitted to the Department in accordance with Paragraph 14 of draft Consent Order 99-1346 to implement ground water monitoring at Cell SW-1. It is intended that this letter and the above-referenced document will constitute Exhibit B as referenced in Paragraph 20 the executed Consent Order.

The Department has no objection to installation of the proposed monitor wells in proximity to Cell SW-1 subject to the following conditions:

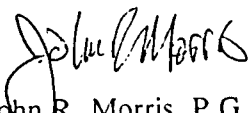
1. A standard penetration test boring shall be conducted at each of the two proposed detection well locations to verify lithology and determine the occurrence of the first water-bearing unit. A boring log shall be submitted to the Department along with the monitor well construction details.
2. As noted in Section 2.4 of the referenced submittal, the thickness of the surficial sands and the depth to limestone are highly variable in the vicinity of Cell SW-1. In the event that considerable thicknesses of sand and/or clayey sediments are encountered that appear to be saturated, the installation of shallow and deep well pairs shall be required to monitor the surficial and Floridan aquifers, respectively. As required by Rule 62-701.510(3)(d)4., F.A.C., well screens shall not act as conduits through confining layers between water-bearing strata. If a shallow well is required, the well screen shall be located to straddle the water table surface.
3. The well screen slot and sand pack shall be sized to the formation of the targeted monitoring zones to allow the collection of representative ground water samples from the proposed detection wells.
4. The well construction details to be provided to the Department as indicated in Section 3.2 of the referenced submittal be supplemented by the information presented on attached DEP Form No. 62-522.900(3).

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5. An initial sampling event of the proposed monitor wells shall be conducted for the parameters listed in Rule 62-701.510(8)(a) and (8)(d), F.A.C.
6. The semi-annual sampling events conducted at the proposed monitor wells for the field and laboratory parameters listed in Section 3.3 of the referenced submittal and shall also include the laboratory analyses of the parameters listed in 40 CFR Part 258, Appendix I.
7. Within 90 days of execution of Consent Order 99-1346 the following activities shall be completed: the proposed detection wells shall be installed and developed; the initial sampling event shall be conducted; and, the monitor well construction details and the results of analyses of the initial sampling event shall be submitted to the Department.
8. Routine sampling of the proposed detection wells at Cell SW-1 shall be performed during the semi-annual sampling events conducted at the other monitor wells at the West Pasco Class I landfill. Paragraph 20 of Consent Order 99-1346 shall be considered to be satisfactorily completed when a revised ground water monitoring plan which includes all existing and proposed wells is approved by the Department to replace the existing ground water monitoring plan.

The Department appreciates the County's efforts to implement ground water monitoring in the vicinity of Cell SW-1. Please contact me at (813) 744-6100 extension 336 if you have questions.

Sincerely,



John R. Morris, P.G.
Solid Waste Section

Attachment

cc: John J. Gallagher, County Administrator, 7530 Little Road, S-340, New Port Richey, FL 34654
Douglas Bramlett, Assistant County Administrator, Pasco County Utilities Services,
7530 Little Road, S-204, New Port Richey, FL 34654
Lawrence J. Maron, P.E., QORE, Inc., 1211 Tech Blvd., Suite 200, Tampa, FL 33619
Deborah A. Getzoff, FDEP Tampa, w/o attachment
William Kutash, FDEP Tampa, w/o attachment
fb Robert Butera, P.E., FDEP Tampa, w/o attachment
Kim Ford, P.E., FDEP Tampa, w/o attachment
Steve Morgan, FDEP Tampa, w/o attachment