



PASCO COUNTY, FLORIDA

D.E.P.

JUN - 6 1996

SOUTHWEST DISTRICT
TAMPA

DADE CITY (904) 521-4274
LAND O' LAKES (813) 996-7341
NEW PORT RICHEY (813) 847-8040
FAX (813) 847-8064

UTILITIES CONSTRUCTION AND
CONTRACT MANAGEMENT DEPT.
PUB. WKS./UTILITIES BLDG., S-205
7530 LITTLE ROAD
NEW PORT RICHEY, FL 34654

June 3, 1996

KK
D.J. - PM 6/10

Mr. Joe Assalti
Hatcher's Disposal, Inc.
7228 Hudson Avenue
Hudson, FL 34667

RE: Unconfirmed Leachate Spill

Dear Mr Assalti:


This morning at 6:55 AM, the driver of Truck No. 34 unlatched the end gate of the truck spilling leachate on the Resource Recovery Plant entry road. The truck after weigh-in proceeded up the ramp discharging a continuous stream of leachate.

Unauthorized spills of leachate must be reported to the DEP within 24 hours of the spill followed by a plan to prevent additional occurrences of this type.

By copy of this letter to the DEP, proceeded by my tele-conference this morning reporting the spill, my solution for preventing this from recurring is to bar the drivers from the Resource Recovery Plant who unlatch tail gates before they get on the tipping floor.

In the future all drivers who spill leachate will be barred from entering the facility on a permanent basis.

Sincerely,


Vincent Mannella, P.E.,
Acting Utilities Construction
and Contract Management Director

VM/mr

cc: Mr. Robert Butera, Waste Management, Florida Department of Environmental
Protection
John J. Gallagher, County Administrator
Douglas S. Bramlett, Assistant County Administrator (Utilities Services)



West Pasco
A-2

West Pasco
A-2 Cell
KBF, SGM, DN
6/7/96



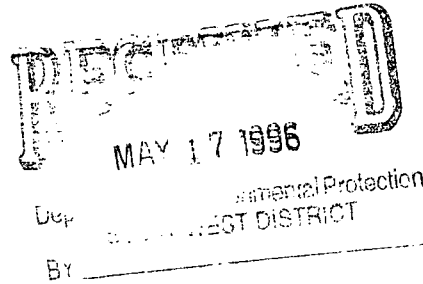
West Pasco
A-2 Cell
KBF 6/7/96



LAW

ENGINEERING AND ENVIRONMENTAL SERVICES

May 16, 1996



Mr. Kim Ford
Florida Department of Environmental Protection
Southwest District Office
3804 Coconut Palm Drive
Tampa, Florida 33619

Subject: **Construction Certification**
Resource Recovery, Class 1 Landfill Expansion - Permit Case PA 87-23
LAW Project 40141-5-0868

Dear Mr. Ford:

Enclosed is the certification for the above referenced project. If you have any questions, please contact the undersigned.

Sincerely,

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Richard E. Mayer, P.E.
Principal Engineer
Florida Registration 41759

George W. Ellsworth, P.G.
Senior Geologist
Florida Registration 848

REM/GWE/cjs/40140/REPORT/T4150868.PER

cc: Vince Manella
Pasco County

LAW ENGINEERING, INC.

4919 WEST LAUREL STREET • TAMPA, FL 33607
P.O. BOX 24183 • TAMPA, FL 33623
(813) 289-0750 • FAX (813) 289-5474

ONE OF THE LAW COMPANIES

**FLORIDA DEPARTMENT OF ENVIRONMENTAL
PROTECTION**

**ASH DISPOSAL UNIT A-2
OF THE CLASS I LANDFILL
AT
RESOURCE RECOVERY FACILITY
HAYS ROAD
PASCO COUNTY, FLORIDA**

PERMIT CASE PA 87-23

CONSTRUCTION CERTIFICATION

PREPARED BY:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

MAY 1996

TABLE OF CONTENTS

COMPUTER FORM

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Certification of Construction Completion of a Solid Waste Management Facility

DEP Construction Permit No.: Case PA 87-23 County: Pasco

Name of Project: Disposal Unit A-2 @ Resource Recovery Plant

Name of Owner: Pasco County Board of County Commissioners

Name of Engineer: Law Engineering and Environmental Services, Inc.

Type of Project: Landfill Expansion

Cost: Estimate \$1,895,00 Actual \$1,862,00

Site Design: Quantity: 225 ton/day Site Acreage: 10 Acres

Deviations from Plans and Application Approved by DEP: None, see attached report

Address and Telephone No. of Site: % Utility Service Branch/Pasco County/Utilities Services
Building, S-205, 7530 Little Road, New Port Richey, Florida 34654

Name(s) of Site Supervisor: Vince Mannella, Ron Walker

Date site inspection is requested: May 20-24, 1996

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.: Case PA 87-23 Dated: May 10, 1995

Date: 5/16/96

Richard E. Weffer
Signature of Professional Engineer



1.0 INTRODUCTION

This report presents a review of the actual construction quality assurance plan (QAP) as implemented during the construction of Cell A-2 Ash Disposal Unit at the Pasco County Resource Recovery Plant on Hays Road. The approved QAP in the permit consisted of an introduction and five areas.

- Project Team and Responsibilities
- Construction Quality Assurance Personnel Qualifications
- Construction Quality Control Measurements
- Documentation
- Project Meetings

Overall, the construction was completed in general accordance with the drawings and the QAP, as approved by the FDEP. The only exception is the pumps in the side slope riser pipes. Based on additional research, as suggested by the Contractor, the submersible pumps proposed in the permit application have a poor history of long-term performance. Apparently, these submersible pumps are relatively expensive and do not last more than six to ten months. Therefore, it was decided to use a surface-mounted, self-priming pump. These substitute units are less expensive and replacement is easier.

2.0 PROJECT TEAM AND RESPONSIBILITIES

The actual team and responsibilities was carried out substantially as stated in the QAP.

3.0 CONSTRUCTION QUALITY ASSURANCE PERSONNEL QUALIFICATIONS

The key people listed in the Plan were the persons involved in the project.

4.0 CONSTRUCTION QUALITY CONTROL MEASURES

In the following paragraphs, a brief review of the quality control measures is presented. A tabulation of the type and number of tests performed is provided with relevant comments. The observation and test reports are enclosed, as well as the Construction Record Drawings.

Summary of testing performed by LAW during the construction of Ash Disposal Cell A-2 of the Pasco County Resource Recovery Facility.

Field Density Testing:

<u>Material</u>	<u>No. of Tests Run</u>
Native Soil & Berm Fill	105
6-inch Clay Layer	36
Access Ramp Fill	17
Stabilizer & Base for Access Ramp	8
Drainage Layer	3
Total	169

Sieve Analysis and Determination of D_{85} :

<u>Material</u>	<u>No. of Tests Run</u>
Drainage Layer Sand	9
Filter Sand	5
Clay	2
Total	16

Moisture/Density Relationship of Soils (Modified Proctor):

<u>Material</u>	<u>No. of Tests Run</u>
Native Soil & Berm Fill	3
6-inch Clay Layer	3
Drainage Layer	2
Total	7

Limerock Bearing Ratio:

<u>Material</u>	<u>No. of Tests Run</u>
Stabilized Subbase for Access Ramp	1
Base for Access Ramp	1
Total	2

Hydraulic Conductivity:

<u>Material</u>	<u>No. of Tests Run</u>
6-inch Clay Layer	17
Off-Site Clay (Test Strip)	5
Drainage Layer Sand	7
Filter Sand	2
Total	31

Note: The Project Engineer chose to reduce the required number of Hydraulic Conductivity tests performed on the Drainage Layer and Filter Sands. This decision was made based on the fact that the hydraulic conductivity of a sand can be accurately predicted once a sieve analysis has been performed on the sand. The gradation of the sand was very consistent.

Technical Guidance Document EPA/600/R-93/182 (*Quality Assurance and Quality Control for Waste Containment Facilities*), Chapter 5 (*Soil Drainage Systems*), Section 5.2 (*Materials*) states that the following formula can be used to estimate the hydraulic conductivity of granular materials:

$$k = (D_{10})^2 \text{ (Hazen's Formula)}$$

where k is the hydraulic conductivity in cm/s, and D_{10} is the equivalent grain diameter (mm) at which 10% of the sand is finer by weight.

Two types of sand were used in the drainage layer. The first type is named as a coarse sand in the drawings. This sand met the FDEP permeability requirements for a drainage layer but does not meet the gradation requirement for a filter sand around the collection pipes. The second sand, named special sand in the drawings, met both permeability and gradation requirements.

Atterberg Limits:

<u>Material</u>	<u>No. of Tests Run</u>
Clay	17

Percent Passing The #200 Sieve:

<u>Material</u>	<u>No. of Tests Run</u>
Clay	19
Fill for Berms	2
Total	21

Depth Measurements:

<u>Material</u>	<u>No. of Tests Run</u>
6-inch Clay Layer	53
Drainage Layer	47
Total	100

Geomembrane Conformance (Acceptance) Testing:

Secondary Liner - Testing included Yield Strength, Elongation at Yield, Break Strength, Elongation at Break, Thickness, Specific Gravity, Density, Puncture Resistance, and Carbon Black Content.

No. of samples tested: 8

Primary Liner - Testing included Yield Strength, Elongation at Yield, Break Strength, Elongation at Break, and Thickness.

No. of samples tested: 4

Note: These tests were run in accordance with Technical Guidance Document EPA/600/R-93/182 (*Quality Assurance and Quality Control for Waste Containment Facilities*). Section 3.3.3 (*Acceptance and Conformance Testing*) states that for HDPE geomembrane, the minimum recommended acceptance/conformance testing should consist of thickness (ASTM D-5199), and tensile strength and elongation (ASTM D-638).

Geomembrane Seam Testing (Destructive Peel and Shear):

Testing included Yield Strength, Elongation at Yield, Break Strength, Elongation at Break, and Thickness.

<u>Material</u>	<u>No. of Tests Run</u>
Secondary Liner	46
Primary Liner	37
Total	83

Geonet Acceptance Testing:

Testing included Transmissivity, Compressive Strength, Mass per Unit Area, and Density.

No. of samples tested: 4

Geosynthetic Clay Liner:

One Sample was tested for Free Swell and Mass per Unit Area.

Original Estimate: 8

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DISTRICT ROUTING SLIP

To: Bob Butera

DATE: 5/14/96
CC To

	PENSACOLA	NORTHWEST DISTRICT	
	Panama City	Northwest District Branch Office	
	Tallahassee	Northwest District Branch Office	
	Sopchoppy	Northwest District Satellite Office	
X	TAMPA	SOUTHWEST DISTRICT	
	Punta Gorda	Southwest District Branch Office	
	Bartow	Southwest District Satellite Office	
	ORLANDO	CENTRAL DISTRICT	
	Melbourne	Central District Satellite Office	
	JACKSONVILLE	NORTHEAST DISTRICT	
	Gainesville	Northeast District Branch Office	
	FORT MYERS	SOUTH DISTRICT	
	Marathon	South District Branch Office	
	WEST PALM BEACH	SOUTHEAST DISTRICT	
	Port St. Lucie	Southeast District Branch Office	

☐ Reply Optional
Date Due _____

☐ Reply Required
Date Due: _____

☒ Info Only

Comments:

*Fasco Co. RR equipment
certification for your
files.*

From:

Janice Clark

Tel:

50 291-9967



Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

May 14, 1996

Mr. Melton McKown
Department of Revenue
Tax Policy and Dispute Resolution
Post Office Box 7443
Tallahassee, Florida 32314-7443

D.E.R.
MAY 15 1996
SOUTHWEST DISTRICT
TAMPA

Dear Mr. McKown:

Enclosed is a "Final Examination Report" certifying resource recovery equipment at the Pasco County Resource Recovery Facility. This report was prepared by the Department of Environmental Protection pursuant to Section 403.715, Florida Statutes, and Sections 62-704.400 and .410, Florida Administrative Code, for your use when implementing Section 12A-1.001(23), Florida Administrative Code.

If you have any questions concerning this report or Ogden Martin's application, please contact this office at 488-0300.

Sincerely,

Jan Rae Clark
Environmental Manager
Solid Waste Section

JRC/jrc

Enclosure

cc: Bob Butera
William R. Crellin, Jr., P.E.
File



Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

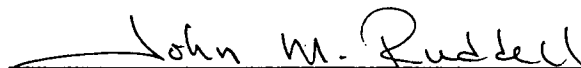
FINAL EXAMINATION REPORT FOR THE CERTIFICATION OF RESOURCE RECOVERY EQUIPMENT

APPLICANT: Ogden Martin Systems of Pasco, Inc.
FACILITY: Pasco County Resource Recovery Facility
ADDRESS: 14230 Hayes Road
Spring Hill, Florida 34610

On April 23, 1996, the Department of Environmental Protection staff performed an inspection of resource recovery equipment located at the above named facility owned by Pasco County. The inspection was based on the listing of eligible equipment (Attachment A) in Ogden Martin's application for Final Examination and Certification of Resource Recovery Equipment. Pursuant to Section 403.715, Florida Statutes, and Section 62-704.410, Florida Administrative Code, the Department hereby issues this report.

The Department of Environmental Regulation certifies that all of the equipment listed in Attachment A is resource recovery equipment as defined in Section 403.703(12), Florida Statutes, except for Item 14, Rock. If there are any questions concerning this report or the attachment, please contact Jan Rae Clark at (904) 488-0300.

This report is issued this 9th day of May, 1996.


John M. Ruddell, Director
Division of Waste Management

ATTACHMENT A

Listing of Major Equipment for Pasco County Resource Recovery Facility (Facility Name)

Item No.	Item Description	Number of Pieces	Process Description. page reference	Drawing No.	Drawing Item No.	Equipment Cost
1.	Carbon Injection Storage Silo, Metering Equipment and Blowers (by Smoot Co.)	1	Appendix B, Pg 1	14297-S2 (1&2)	NA	\$232,000
2.	Motor Control Centers (A. Bradley Co.)	3	Appendix B, Pg 1	K-1028-G-E15	NA	\$8,031
3.	Circuit Breakers	3	Appendix B, Pg 1	K-1028-G-E16	NA	\$5,296
4.	Concrete for Carbon Silo Foundation	34 cu yd	Appendix B, Pg 1	1028-S-01	NA	\$1,902
5.	Electrical Cable, Tray, Conduit, Ground Rods, Connectors (Metro Electric)	1 Lot	Appendix B, Pg 1	NA	NA	\$18,766
6.	Rebar & Anchor Belts (Metro Steel)	1 Lot	Appendix B, Pg 1	1028-S-01	NA	\$1,450
7.	Hydraulically Bent Pipe Elbows (Rubin Iron Works)	51	Appendix B, Pg 1	NA	NA	\$2,709
8.	Carbon Pipe & Fittings (Bert Lowe Supply)	1 Lot	Appendix B, Pg 1	NA	NA	\$2,274
9.	Drain & PVC Drain Pipe (Pasco Pipe Supply)	1 Lot	Appendix B, Pg 1	1028-S-01	NA	\$329
10.	Stainless Steel Injection Nozzle Pipe (Bayport Valve)	1	Appendix B, Pg 1	NA	NA	\$254
11.	Zinc Primer Paint (Bert Lowe Supply)	3 Gal	Appendix B, Pg 1	NA	NA	\$317
12.	Paint	33 Gal	Appendix B, Pg 1	NA	NA	\$861
13.	1" Galvanized Pipe & Fittings for Air Line	1 Lot	Appendix B, Pg 1	NA	NA	\$941
14.	Rock	1 Load	Appendix B, Pg 1	NA	NA	\$340



PASCO COUNTY, FLORIDA

RECEIVED
APR 11 1996

DADE CITY
LAND O' LAKES
NEW PORT RICHEY
FAX

(904) 521-4274
(813) 996-7341
(813) 847-8040
(813) 847-8064

UTILITIES CONSTRUCTION AND
CONTRACT MANAGEMENT DEPT.
PUB. WKS./UTILITIES BLDG., S-205
7530 LITTLE ROAD
NEW PORT RICHEY, FL 34654

April 10, 1996

Mr. Kim Ford
Florida Department of
Environmental Protection
3804 Coconut Palm Drive
Tampa, FL 33619-8318

RE: SW-1 Cell - By-passing MSW

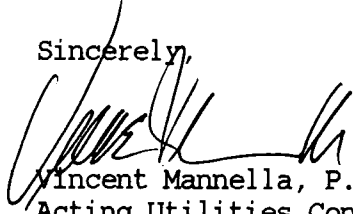
Dear Mr. Ford:

Pursuant to our tele-conference of March 12, 1996, regarding by-passing of MSW from the plant to SW-1 for temporary storage, be advised by-passing started today at 07:00 hours. I anticipate storage of approximately 14 days of 60% of daily deliveries.

I anticipate moving the MSW from SW-1 during the months of June, July and August.

Please call me direct at 813-847-8040 should you have any questions.

Sincerely,


Vincent Mannella, P.E.
Acting Utilities Construction
and Contract Management Director

VM/mr

cc: Douglas S. Bramlett, Assistant County Administrator (Utilities Services)

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
SOUTHWEST DISTRICT

CONVERSATION RECORD

Date 1/30/96 Subject Info Request
Time 7:55 Permit No. W. Pasco C/I
County Pasco
M. Sasha Telephone No. 813/842-7762

Representing self

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

Other Individuals Involved in Conversation/Meeting _____

Summary of Conversation/Meeting _____

Wants info on heavy metals in gw @ West
Pasco, salts

As, Cd, Cr, Pb, Hg - test leachate, leachate metals
content ~~are~~ are less than conc. allowed in gw.

Salts - in well upgradient of WTE + LFS

GLW will be tested next quarter for heavy
metals, & then every 6 month thereafter

(continue on another
sheet, if necessary)

Signature Allison Ammann
Title PGI



Lawton Chiles
Governor

Florida Department of
Environmental Protection

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619
813-744-6100

Virginia B. Wetherell
Secretary

ction

Virginia B. Wetherell
Secretary

INFORMATION REQUEST

TO:

Candia Mulhearn
Pasco Co Utilities Lab - Environmental
8864 Government Dr.
New Port Richey, FL 34654

We are pleased to send the enclosed information you requested.

expansion of the West
of Clarification

If we can be of further service, please contact:

Allison Amram *Allison*

(813) 744-6100,

Solid Waste Section
3804 Coconut Palm Drive
Tampa, Florida 33619
(813) 744-6100, ext. 336

P.E.
r
Management

COMMENTS:

W. Pasco Cl 3 conditions (full
set, just in case!)

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
SOUTHWEST DISTRICT

CONVERSATION RECORD

Date 1/31/96 Subject W. Pasco Cl I gw & leachate
Time 10:45 Permit No. _____
County Pasco
M Candia Mulhearn Telephone No. 813/847-8902
Representing Pasco Co. Utilities Lab
[] Phoned Me [☒] Was Called [] Scheduled Meeting [] Unscheduled Meeting
Other Individuals Involved in Conversation/Meeting _____

Summary of Conversation/Meeting _____

Called to see if Appendix I parameters were
analyzed for in the latest W. Pasco -
Mo. She is planning to do it next quarter
→ Send permit conditions to Candia for W Pasco
Cl I

(continue on another
sheet, if necessary)

Signature AFMram
Title PGI



*Resource Recovery
permit file.*

Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

January 24, 1996

Mr. Vincent Manella, P.E.
Solid Waste Facility Manager
Pasco County
7536 State Street
New Port Richey, Florida 34654

Subject: Water Quality Monitoring at the West Pasco Resource Recovery,
PA87-23, Pasco County

Dear Mr. Manella:

The Florida Department of Environmental Protection (FDEP) has received the leachate testing results from the October 1995 sampling at the Resource Recovery ash and solid waste landfills. These analyses were incomplete. In accordance with the Conditions of Clarification dated June 5, 1995, Specific Condition No. 35, leachate is to be sampled every 6 months for a different set of parameters than the facility was previously conducting. The following parameters were not included with the results submitted: barium, cobalt, vanadium, and the organic parameters listed in Appendix I (attached). Please submit these results as soon as possible to my attention.

In addition, please note that new analytical parameters for the site's groundwater testing are listed in Specific Condition No. 39. The first test results implementing these changes are due to the FDEP on **July 15, 1996**. The FDEP will also be expecting the initial sampling results, well construction details and surveyed locations/elevations from new wells 4MW11D - 4MW16D and 2MW13D by **April 1, 1996**. These new wells were required to be installed by January 1, 1996, in accordance with Specific Condition No. 38.

If you have any questions, please contact me at 813/744-6100, ext. 336.

Sincerely,

Allison Amram, P.G.
Solid Waste Section

Attachments (Conditions referenced in letter, Appendix I parameters)

cc: Douglas Bramlett, Assistant County Administrator, Pasco County (w/o attachments)
Candia Mulhearn, Laboratory Manager, Pasco County Environmental Laboratory,
Pasco Co. Gov't Complex, 7350 Little Road, New Port Richey, FL 34654
(w/ attachments)

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
SOUTHWEST DISTRICT

CONVERSATION RECORD

Date 1/12/96
Time 3:10

Subject 4MW2 - Resource Recovery
Permit No. _____
County Pasco

M Mac Telephone No. 988-1132
Representing Diversified Drilling
[] Phoned Me [] Was Called [] Scheduled Meeting [] Unscheduled Meeting
Other Individuals Involved in Conversation/Meeting _____

Summary of Conversation/Meeting

2" PVC screen inside ~~the well~~ ^{open hole} -
clay in area tends to push well in -
they installed 2" inside ~~the~~ open hole
(soft limestone). LOOSE 2" casing
where screen screws onto casing - broke.
Removed casing - screen still in well
Pump is at 31'. They can still use the
well for samples & water levels. If the
well becomes a problem they will either
fish out the screen, or abandon & redrill. May
include w/ LF expansion

(continue on another
sheet, if necessary)

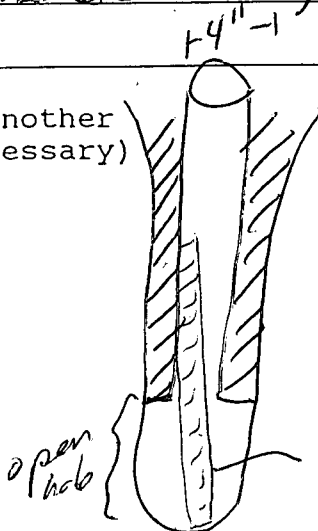
Signature

Title

A. Amram
PGI

well to
be installed

PA-01
1/93
hjs



2" x 20' screen loose in hole

permit f.6

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
SOUTHWEST DISTRICT

CONVERSATION RECORD

Date 1/12/98 Subject Resource Recovery Well 4MW2
Time 3:00 Permit No. _____
County Pasco
M Candice Mulhearn Telephone No. 813/847-8902
Representing Pasco Utilities - Lab
[] Phoned Me [☒] Was Called [] Scheduled Meeting [] Unscheduled Meeting
Other Individuals Involved in Conversation/Meeting _____

Summary of Conversation/Meeting _____

I called Candy to let her know that I
received her letter on damaged well 4MW2
at the Pasco Co Resource Recovery landfill. Off
new construction is necessary

Diversified Well Drilling

→ They were able to fix the well - broken
interior casing at 27'. She was not
clear what was done to fix the well -
obstruction was cleared -- casing split. I
told her that I would call Mac w/
Diversified to find out the details

(continue on another
sheet, if necessary)

Signature A. Arnam
Title PGI

permit file



PASCO COUNTY, FLORIDA

DADE CITY (904) 521-4274
NEW PORT RICHEY (813) 847-8902

UTILITIES SERVICES BRANCH
PASCO COUNTY GOVT. COMPLEX
8864 GOVERNMENT DRIVE
NEW PORT RICHEY, FL 34654

January 8, 1996

Ms. Allison Amram
Solid Waste Section
Florida Department of
Environmental Protection
3804 Coconut Palm Drive
Tampa, Fl 33619

D.E.P.

JAN 10 1996

SOUTHWEST DISTRICT
TAMPA

RE: Resource Recovery Groundwater Monitoring
Damaged Well

Dear Ms. Amram:

As we discussed on January 5, 1996, Pasco County was unable to sample groundwater monitoring well 4MW2 at the Resource Recovery Class I Landfill site Quarter IV, 1995. The well was found to be obstructed at the time of our sampling event. The well driller has been notified and will assess the damage by January 12, 1996. The well will be repaired at that time if possible. As we discussed, if the existing well has been destroyed a new well will be constructed adjacent to the old well and the old well will be abandoned according to FDEP protocols. I have included a map indicating the approximate proposed location and a construction diagram for your approval in the event this is required.

If you require any additional information please contact me. Your assistance is greatly appreciated.

Sincerely,

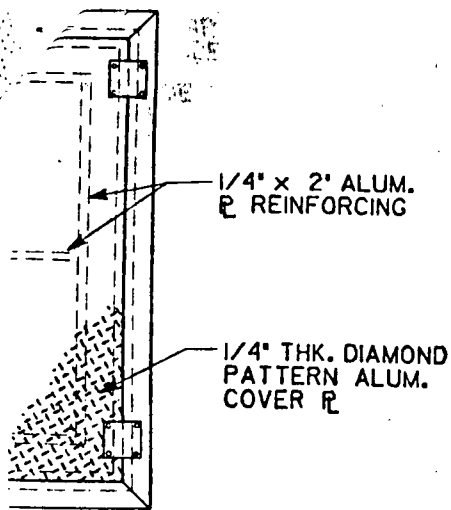
A handwritten signature in cursive script, reading "Candia E. Mulhern".

Candia E. Mulhern
Laboratory Manager

CEM/as

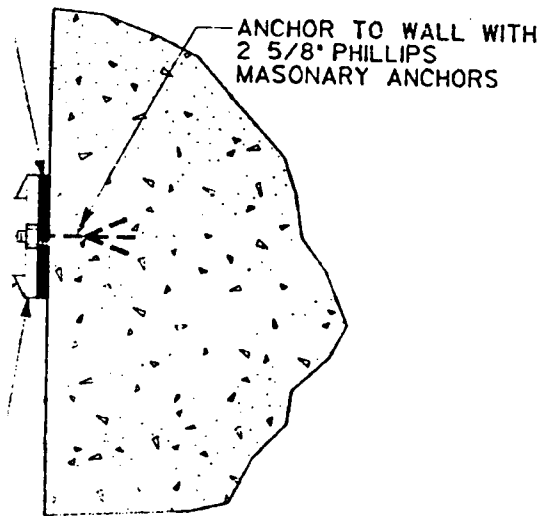
Enclosure

CC: Douglas S. Bramlett, Assistant County Administrator (Utilities Services)
Robert J. Sigmond, Utilities Fiscal Services/Special Projects Director
Vincent Mannella, P.E., Solid Waste Facility Manager



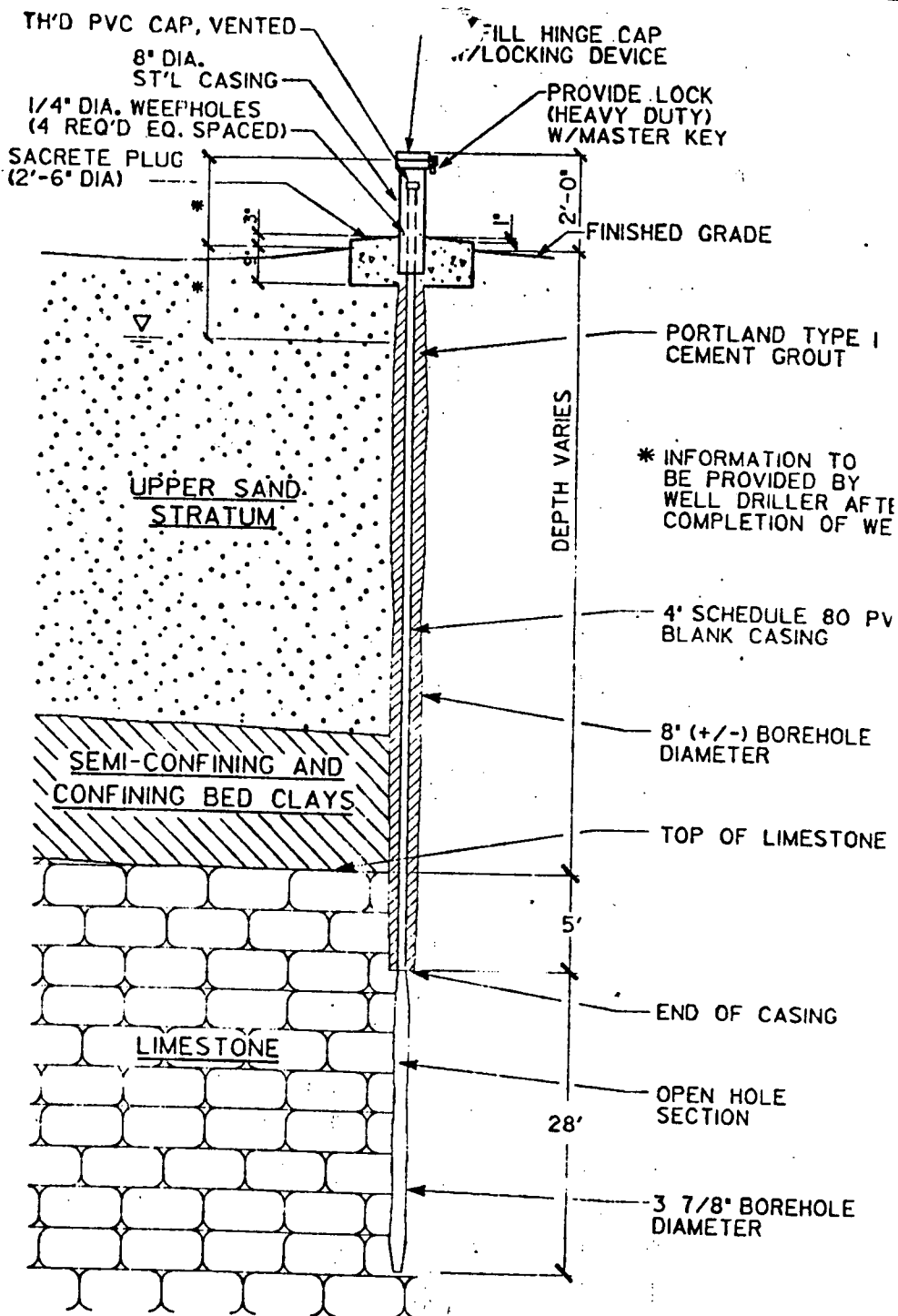
DETAIL

B
1/1



RT DETAIL

C
1/1

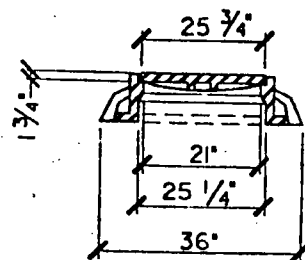
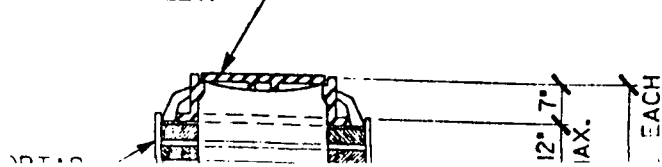


DEEP GROUNDWATER MONITORING WELL DETAIL

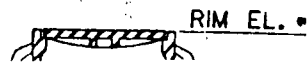
N.T.S.

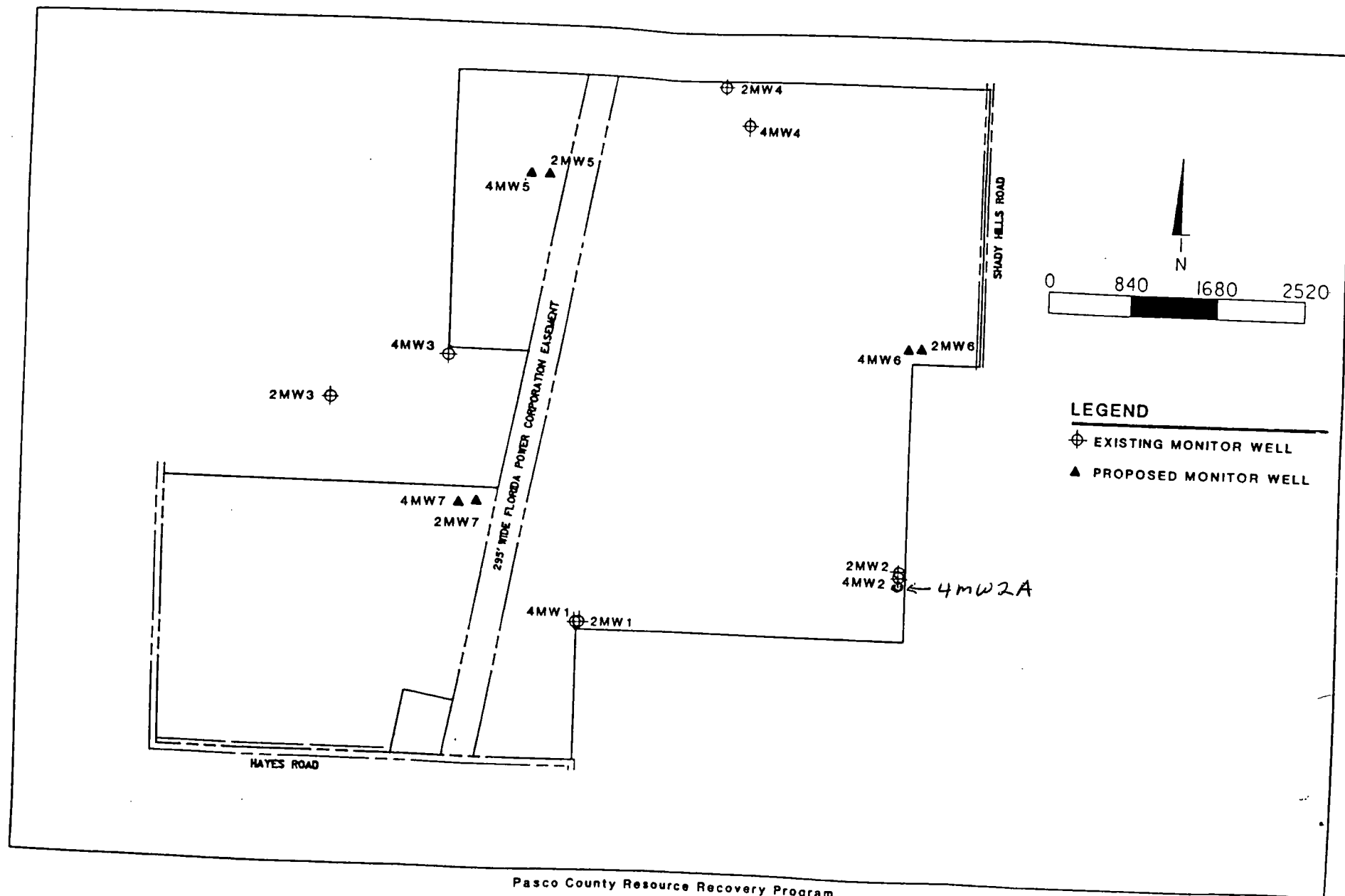
D
C-3

STANDARD C.I. MANHOLE
W/ME & COVER (SEE
DETAILS ON THIS SHEET)



SECTION 3





Pasco County Resource Recovery Program
Monitor Wells

permit file

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
SOUTHWEST DISTRICT

CONVERSATION RECORD

Date 1/5/96 Subject W Pasco - Resource Recovery
Time 12 Permit No. _____
County Pasco
M Candy Mulhearn Telephone No. 813/847-8902
Representing Pasco Co Environmental Lab
☒ Phoned Me ☒ Was Called ☐ Scheduled Meeting ☐ Unscheduled Meeting
Other Individuals Involved in Conversation/Meeting _____

Summary of Conversation/Meeting _____

During the last sampling event (Q4-1995) no sample was collected from well 4MW2A because the casing was blocked at depth (she doesn't know how deep). She is trying to schedule a well driller to evaluate a well remedy. She will send me a damage notification letter + include a schedule for well evaluation. After the driller sees it, she will send another letter w/ proposed remediation work required. She is aware that construction of a new well may require a modification of the PSA.

(continue on another sheet, if necessary)

Signature A Amram
Title PGI



LAW

ENGINEERING AND ENVIRONMENTAL SERVICES



September 6, 1995

D.E.P.

SEP - 8 1995

SOUTHWEST DISTRICT
TAMPA

Mr. Robert J. Butera, P.E.
Solid Waste Manager
Division of Solid Waste Management
Florida Department of Environmental Protection
Southwest District Office
3804 Coconut Palm Drive
Tampa, Florida 33619

Subject: Ash Disposal Unit A-2 of the Class I Landfill
at Resource Recovery Facility, Hays Road
Pasco County, Florida
Permit Conditions
Law Project 464-83565.01

Dear Mr. Butera:

In accordance with Condition 11 of Attachment 1, Page 11, as referenced on the permit conditions for the above project, please find attached a copy of the revised construction schedule for this project.

If you have any questions, please contact the undersigned.

Sincerely,

LAW ENGINEERING, INC.

DJ Lewis

David J. Lewis
Staff Engineer

Richard E. Mayer

Richard E. Mayer, P.E.
Principal Engineer
Florida Registration 41759

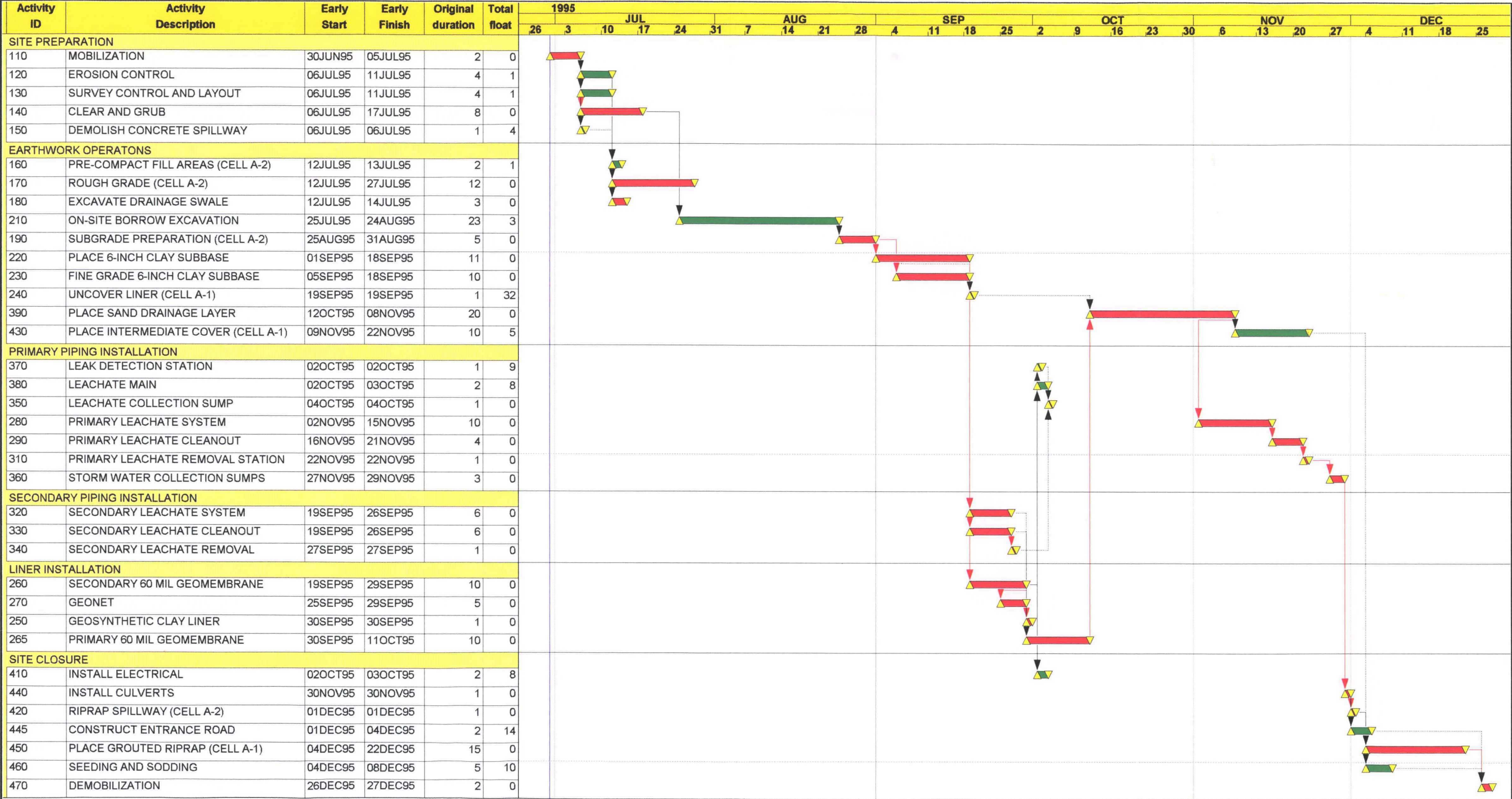
DJL/REM/cjs/464/LETTER/46483565.L4

cc: Mr. Vince Manella, Pasco County Government

LAW ENGINEERING, INC.

4919 WEST LAUREL STREET • TAMPA, FL 33607
P.O. BOX 24183 • TAMPA, FL 33623
(813) 289-0750 • FAX (813) 289-5474

ONE OF THE LAW COMPANIES






PASCO COUNTY, FLORIDA

RECEIVED
AUG 25 1995
Department of Environmental Protection
BY SOUTHWEST DISTRICT

DADE CITY (904) 521-4274
LAND O' LAKES (813) 996-7341
NEW PORT RICHEY (813) 847-8145

UTILITIES SERVICES BRANCH
PUB. WKS./UTILITIES BLDG., S-205
7530 LITTLE ROAD
NEW PORT RICHEY, FL 34654

August 18, 1995


Mr. Kim Ford, P.E. I
Florida Department of
Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, FL 33619-8318

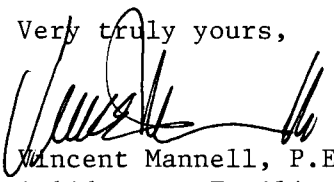
RE: West Pasco Solid Waste Disposal, Units SW-1 and A-1, No. 87-23 Pasco

Dear Mr. Ford:

Pursuant to your letter of June 27, 1995 regarding closing the storm water valve and installation of a meter for Cell A-1, be advised that Der Form #17-701 900(2) "Certification of Construction Completion of a Solid Waste Management Facility" that you sent me is attached herewith. The storm water pipe plug and meter is in place and the certification is completed as directed.

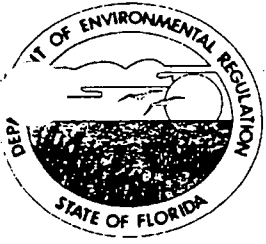
Thank you for your continued advice and support.

Very truly yours,


Vincent Mannell, P.E.
Solid Waste Facility Manager

Enclosure

cc: Douglas S. Bramlett, Assistant County Administrator (Utilities Services)



Florida Department of Environmental Regulation

Twin Towers Office Bldg. 2600 Blair Stone Road Tallahassee, Florida 32399-2400

DER Form # 17-701.900(2)
Certification of Construction Completion of a
Form Title <u>Solid Waste Management Facility</u>
Effective Date <u>January 8, 1995</u>
DER Application No. _____
(Filled in by DER)

Certification of Construction Completion of a Solid Waste Management Facility

DER Construction Permit No: None County: Pasco
Name of Project: West Pasco Class I Landfill
Name of Owner: Pasco County
Name of Engineer: Vince Mannella, P.E.
Type of Project: Install 6" Ø direct reading meter and plug a storm water construction drain.

Cost: Estimate \$ 5,000.00 Actual \$ 4,280.00
Site Design: Quantity: SW-1 0 T/D
A-1 215 T/D ton/day Site Acreage: _____ Acres
Deviations from Plans and Application Approved by DER: No plans were available. Meter installed
on site at location recommended by DEP staff for separate leachate measurement of A-1 and
SW-1 capping storm water drain from SW-1.

Address and Telephone No. of Site: 14230 Hays Road, Spring Hill, Florida 34610

Name(s) of Site Supervisor: Vince Mannella, P.E.

Date Site inspection is requested: August, 1995

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.: PSD-FL-127 Dated: September, 1988

Power Plant Siting Act

(813) 847-8145

Date: August 11, 1995

Signature of Professional Engineer
Registered Professional Engineer
No. 31461 Florida
8-17-95



PASCO COUNTY, FLORIDA

RECEIVED
AUG - 9 1995

Department of Environmental Protection
SOUTHWEST DISTRICT

DADE CITY (904) 521-4274
LAND O' LAKES (813) 996-7341
NEW PORT RICHEY (813) 847-8145

UTILITIES SERVICES BRANCH
PUB. WKS./UTILITIES BLDG., S-205
7530 LITTLE ROAD
NEW PORT RICHEY, FL 34654

August 4, 1995

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

RE: West Pasco County Class I Landfill, SW-1

Dear Mr. Ford:

Please be advised that all municipal solid waste has been removed from SW-1 as of July 31, 1995. In compliance with your instructions, all Resource Recovery Facility ash has remained in place. The area will be cleaned within the next several days.

I trust this information is the extent of my responsibility to the reporting of information to the Florida Department of Environmental Protection on this matter; if I am in error of my assumption, please advise.

Sincerely,

A handwritten signature in black ink, appearing to read "Vincent Mannella", is written over the typed name.

Vincent Mannella, P.E.
Solid Waste Facility Manager

VM/mvv

cc: Douglas S. Bramlett, Assistant County Administrator (Utilities Services)
Ronald Walker, Solid Waste Superintendent



LAW

ENGINEERING AND ENVIRONMENTAL SERVICES

August 2, 1995

Mr. Robert J. Butera, P.E.
Solid Waste Manager
Division of Solid Waste Management
Florida Department of Environmental Protection
Southwest District Office
3804 Coconut Palm Drive
Tampa, Florida 33619

RECEIVED
AUG 04 1995

Department of Environmental Protection
SOUTHWEST DISTRICT
BY _____

Subject: **Ash Disposal Unit A-2 of the Class I Landfill
at Resource Recovery Facility, Hays Road
Pasco County, Florida
Permit Conditions
Law Project 464-83565.01**

Dear Mr. Butera:

In accordance with Condition 11 of Attachment 1, Page 11, as referenced on the permit conditions for the above project, please find attached a copy of the construction schedule for this project.

If you have any questions, please contact the undersigned.

Sincerely,

LAW ENGINEERING, INC.

David J. Lewis
David J. Lewis
Staff Engineer

Richard E. Mayer
Richard E. Mayer, P.E.
Principal Engineer
Florida Registration 41759

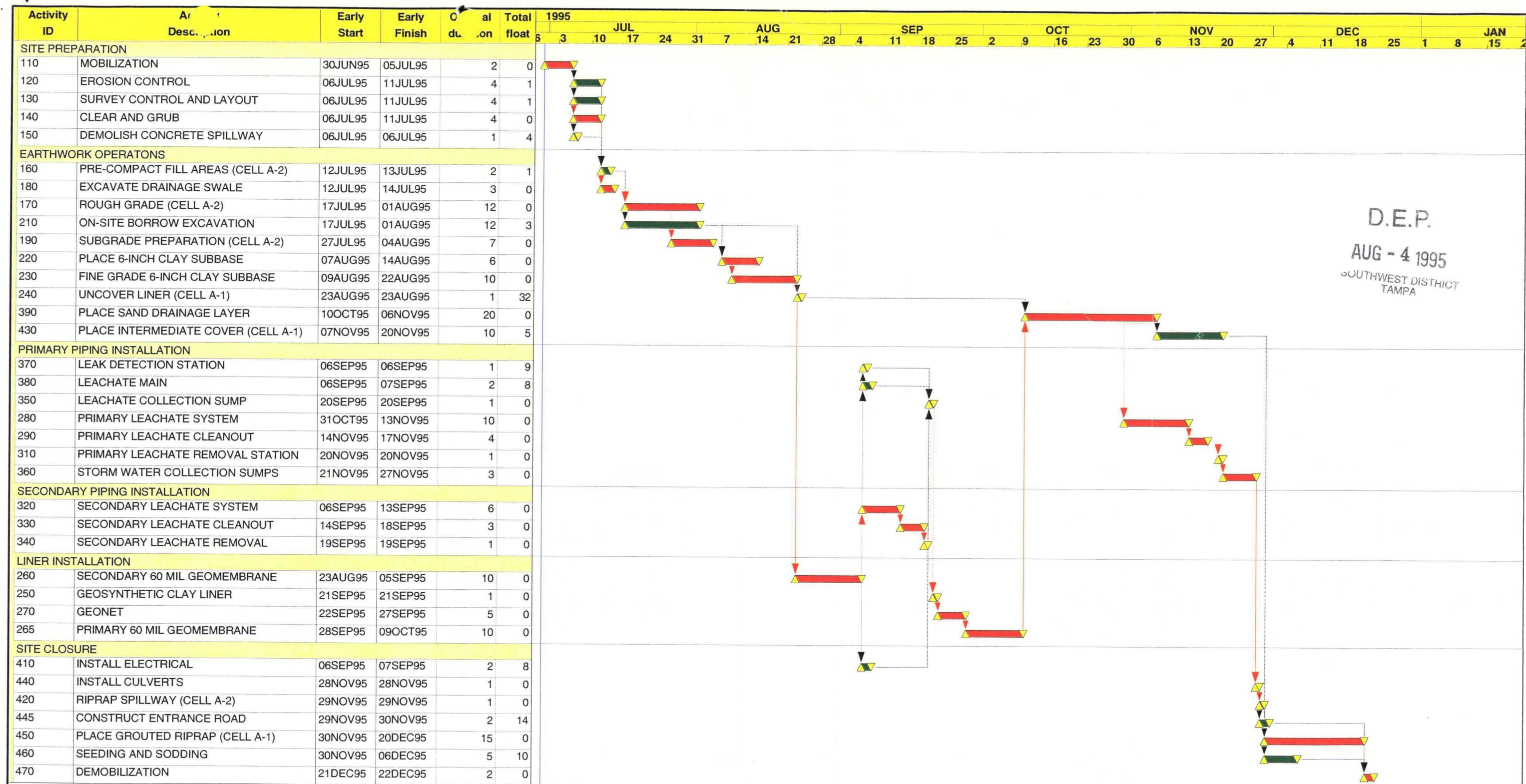
DJL/REM/cjs/464/LETTER/46483565.L4

cc: Mr. Vince Manella, Pasco County Government

LAW ENGINEERING, INC.

4919 WEST LAUREL STREET • TAMPA, FL 33607
P.O. BOX 24183 • TAMPA, FL 33623
(813) 289-0750 • FAX (813) 289-5474

ONE OF THE LAW COMPANIES 





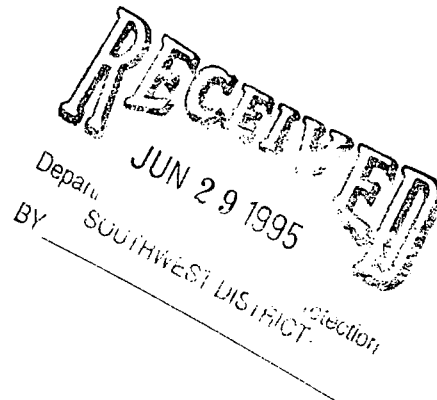
LAW

ENGINEERING AND ENVIRONMENTAL SERVICES



June 27, 1995

Mr. Robert J. Butera, Solid Waste Manager
Division of Waste Management
Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619



Subject: **West Pasco Class I Landfill Expansion**
Case No: PA 87-23
Law Engineering Project 464-83565.01

Dear Mr. Butera:

We refer to your letter dated June 5, 1995, regarding the above project in which you state that you have no objections to the proposed expansion of the West Pasco Class I Landfill, subject to the Conditions of Clarification provided as an attachment to the above-referenced letter.

Condition 10 requires updated plans to be issued 30 days prior to construction. We hereby confirm that the plans have not been amended since they were last issued to you. Enclosed is a new set of the plans for your reference.

However, a requirement of Condition 10 is that construction details should include the liner panel layout. The contractor has yet to submit his proposal for this section of the work. As soon as the liner panel layout has been agreed upon with the contractor, we will forward this information to you.

If you have any questions, please contact either of the undersigned at (813)289-0750.

Sincerely,

LAW ENGINEERING, INC.

D J Lewis

David J. Lewis
Staff Engineer

Richard E. Mayer
Richard E. Mayer, P.E.
Principal Engineer

DJL/REM/cjs/464/LETTER/46483565.2L

cc: Vince Manella

LAW ENGINEERING, INC.

4919 WEST LAUREL STREET • TAMPA, FL 33607
P.O. BOX 24183 • TAMPA, FL 33623
(813) 289-0750 • FAX (813) 289-5474

ONE OF THE LAW COMPANIES

INTEROFFICE MEMORANDUM

Date: 28-Jun-1995 11:00am EST
From: Hamilton Buck Oven TAL
OVEN_H@A1@DER
Dept: Office of Secretary
Tel No: 904/487-0472
SUNCOM:

TO: See Below

Subject: RE: Pasco County Resource Recovery - New Construction

The addition of the crystallizer is an amendment to the application. If you feel that its operation should be covered by specific conditions/permit provisos, the Conditions of Certification will have to be modified.

If it does not discharge and no conditions are needed, the Consent Order may be sufficient.

Distribution:

TO: Allison Amram TPA (AMRAM_A@A1@TPA1)
CC: Kim Ford TPA (FORD_K@A1@TPA1)
CC: Pete Burghardt TPA (BURGHARDT_P@A1@TPA1)
CC: David Rhodes TPA (RHODES_D@A1@TPA1)
CC: William Kutash TPA (KUTASH_W@A1@TPA1)
CC: Robert Butera TPA (BUTERA_R@A1@TPA1)

Spoke w/ Vince Manella 7/5/95 - 11:00

Pasco Co will send us a permit application on the crystallizer - solids will go to SW-1 cell.

Dan Strawbridge - COM will call Kim next week working on this. He has been in touch w/ Buck.

My interpretation is that the crystallizer was in the PPSA plans, but we will need to see construction/ops plans prior to implementation.



Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

June 27, 1995

Mr. Vincent Mannella, P.E.
Utilities Department
Pasco County Government Complex
7536 State Street
New Port Richey, FL 34654

Re: West Pasco Solid Waste Disposal Unit SW-1 and A-1
#PA87-23, Pasco

Dear Mr. Mannella:

Thank you for your timely response to the Department's June 15, 1995 letter. The Department has no objection to the actions identified in your June 20, 1995 letter. Please provide a schedule for closing the valve, plugging the pipe and installing the meter. Upon completion, please submit the attached form for certification. 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
Robert Butera, P.E., FDEP Tampa
Steve Morgan, FDEP Tampa

I N T E R O F F I C E M E M O R A N D U M

Date: 26-Jun-1995 03:04pm EST
From: Allison Amram TPA
AMRAM A
Dept: Southwest District Offi
Tel No: 813/744-6100, ext. 336
SUNCOM: 542-6100, ext. 336

TO: See Below

Subject: Pasco County Resource Recovery - New Construction

Buck-

Pasco County has contracted the construction of an evaporator/crystallizer unit to treat leachate coming from the ash monofill associated with the Pasco County Resource Recovery Plant (PA87-23). This has been prompted by groundwater violations of salts at the Shady Hills Wastewater Treatment Plant.

I do not believe that this evaporator/crystallizer was part of the original PPSA certification. Because the unit will be built at the Resource Recovery, and it's for the landfill that is included in the site certification for the Resource Recovery, wouldn't this construction be a modification of their certification conditions? Our Domestic Wastewater group received the contract documents May 19th, and is currently asking for input from the other sections. They are including this construction in a consent order for the Shady Hills WWTP.

I'd appreciate your suggestions as soon as you can reasonably get to this! If they need to modify their conditions, a paragraph in the consent order will require them to square this all up with the PPSA program.

Thanks once more, Buck!

Allison Amram, P.G.
Solid Waste, Tampa

Distribution:

TO: Hamilton Buck Oven TAL	(OVEN_H @ A1 @ DER)
CC: Kim Ford TPA	(FORD_K)
CC: Pete Burghardt TPA	(BURGHARDT_P)
CC: David Rhodes TPA	(RHODES_D)
CC: William Kutash TPA	(KUTASH_W)
CC: Robert Butera TPA	(BUTERA_R)



PASCO COUNTY, FLORIDA

RECEIVED
JUN 23 1995
Department of Environmental Protection
SOUTHWEST DISTRICT

BY

UTILITIES SERVICES BRANCH
PUB. WKS./UTILITIES BLDG., S-205
7530 LITTLE ROAD
NEW PORT RICHEY, FL 34654

DADE CITY (904) 521-4274
LAND O' LAKES (813) 996-7341
NEW PORT RICHEY (813) 847-8145

CERTIFIED MAIL NO. P 143 954 827
RETURN RECEIPT REQUESTED

June 20, 1995

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

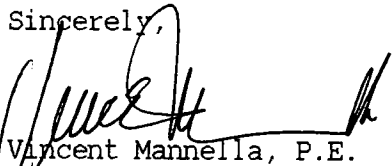
RE: West Pasco Solid Waste
Disposal Units SW-1 and A-1

Dear Mr. Ford:

I acknowledge receipt of your letter dated June 15, 1995. Pasco County's response to the items in your letter addressed, are:

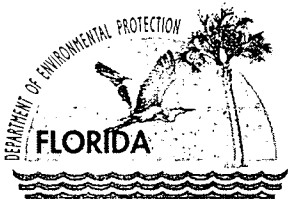
- Item 1: The ash base in SW-1 will remain.
- Item 2: The storm water valve will be closed and the existing storm water pipe will be field dressed and sealed with Embco expanding grout.
- Item 3: A meter has been ordered and will be installed within ten (1) days after receipt of delivery to Pasco County.

Sincerely,


Vincent Mannella, P.E.
Solid Waste Facility Manager

VM/mvv

cc: Robert Butera, P.E., III, Solid Waste Section, FDEP, Tampa, FL
Steve Morgan, Environmental Specialist III, Solid Waste Section, FDEP, Tampa, FL
Douglas S. Bramlett, Assistant County Administrator (Utilities Services)



Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

June 15, 1995

Mr. Vincent Mannella, P.E.
Solid Waste Facility Manager
Pasco County Utilities
7530 Little Road
New Port Richey, FL 34654

Re: West Pasco Solid Waste Disposal Unit SW-1 and A-1
#PA87-23, Pasco County

Dear Mr. Mannella:

In response to your letter of June 12, 1995, please address the following items:

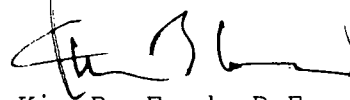
1. On May 1, 1995, the Department advised that the ash base on which solid waste is currently stored should not be removed to maintain liner integrity. If the County intends to remove the ash base, the method of monitoring the removal must be submitted and approved prior to implementation. Please describe the County intentions regarding this ash base.
2. On May 1, 1995, the Department requested the design details for installing a temporary piezometer in the Disposal Unit SW-1 for monitoring the depth of leachate to insure it does not discharge through the existing stormwater pipe. Further discussions regarding this subject indicate there is no dividing berm or liner and valve to prevent leachate from backing up into the unused portion of this disposal unit and out the stormwater pipe. Please provide details for the piezometer and the record drawings to verify the presence of a dividing berm or liner and valve to prevent the discharge of leachate.
3. On May 17, 1995, the Department advised that leachate measuring devices must be installed to comply with FAC 62-701.500(8)(f) and (g). Your June 12, 1995 suggested delaying installation of these devices until November 1996. Further delays are not acceptable. The devices should be installed as soon as possible. Please provide a schedule for immediate installation.

Mr. Vincent Mannella, P.E.
Solid Waste Facility Manager
Pasco County Utilities

June 15, 1995
Page Two

Please provide the requested information by June 30, 1995. Failure to do so may result in enforcement action. If you have any questions, you may call me at (813) 744-6100, extension 382.

Sincerely,



Kim B. Ford, P.E.
Solid Waste Program
Division of Waste Management

KBF/ab

cc: Douglas Bramlett, Pasco County
Robert Butera, P.E., FDEP Tampa
Steve Morgan, FDEP Tampa

Z 349 851 314



**Receipt for
Certified Mail**

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

PS Form 3800, March 1993

Sent to	Vincent Mannella, P.E.
Street and No.	Sw. For Mym
P.O. State and ZIP Code	Pasco County, Fla.
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	6-15-95



PASCO COUNTY, FLORIDA

DADE CITY (904) 521-4274
LAND O' LAKES (813) 996-7341
NEW PORT RICHEY (813) 847-8145


UTILITIES OPERATIONS AND
MAINTENANCE DEPARTMENT
PUB. WKS./UTILITIES BLDG., S-205
7530 LITTLE ROAD
NEW PORT RICHEY, FL 34654

June 12, 1995

D.E.P.

JUN 14 1995

SOUTHWEST DISTRICT
TAMPA


Mr. Kim B. Ford, P.E.
Florida Department of
Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, FL 33619-8318

RE: Leachate Quantity Report - SW-1, A-1, and A-2

Dear Mr. Ford:

In response to your letter of May 17, 1995, please accept the following:

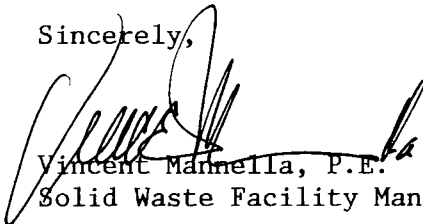
1. Rainfall is measured by a standard rain gauge mounted in the area of the leachate holding tanks.
2. To date, there are no separate measuring devices to measure leachate from SW-1. All leachate from A-1 is pumped into SW-1, then pumped to the Shady Hills WWTP for treatment.
3. Pasco County is currently constructing an evaporator/pressure vapor system to treat all leachate generated by A-1 and future A-2, converting leachate into distilled water and a dry, nonhazardous solid material.
4. Each cell will be metered for accurate leachate measurement for the future evaporator/condenser treatment.

I would hope that total individual leachate measurement might be postponed until such time as the new construction will be operational in November 1996.

If, however, we cannot put off measurement until November 1996, I will have a meter installed on the A-1 leachate line prior to pumping into SW-1. The A-1 meter will measure leachate from the A-1 primary and secondary liner. Pasco County has a way of measuring leachate from the secondary liner. A simple arithmetic subtraction from the SW-1 meter of the reading of the A-1 meter (to be installed) will give true leachate readings of SW-1 and A-1.

I would be pleased to discuss these matters with you in more detail at your convenience. Please call me at (813) 856-0119 should you want or need further discussion.

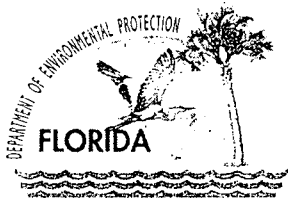
Sincerely,



Vincent Mammella, P.E.
Solid Waste Facility Manager

VM/r060801:ltr

cc: Robert Butera, P.E., Florida Department of Environmental Protection, Southwest
District, 3804 Coconut Palm Drive, Tampa, FL 33619-8318
Douglas S. Bramlett, Assistant County Administrator (Utilities Services)



Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

June 7, 1995

Vincent Mannella
Solid Waste Facility Manager
Pasco County Public Works/Utilities Dept.
14320 Hays Road
Spring Hill, FL 34610

Subject: Water Quality Monitoring Reporting
West Pasco Class I Sanitary Landfill (Pasco County Resource Recovery)
Permit No. PA87-23, Pasco County

Vincent
Dear ~~Mr.~~ Mannella:

All Class I landfill facilities that are currently operating are required under F.A.C. Rule 62-701.510(9) to report their water quality monitoring results in specific format. A copy of this rule section is attached for your reference. Most facilities have been including all of the semi-annual requirements, except for the updated groundwater table contour map, and the summary of water quality standards or criteria that have been exceeded. Please carefully review these requirements prior to submitting your water quality monitoring reports for the next reporting period.

In addition, every landfill permit has a specific condition that requires the results to be submitted on the DER Form 17-1.216(2), Quarterly Report on Groundwater Monitoring. This reporting form has been replaced by DEP Form 62-522.600(11), attached. This form is for the reporting of groundwater, surface water and leachate monitoring. Please make sure that this form is correctly filled out, and the certification statement is signed and dated. This form is important for two reasons: it demonstrates that the facility owner or representative is aware of the results of the monitoring, and it provides a standardized format for entry into the State's Groundwater Monitoring System (GMS) database. This database is used statewide to evaluate historical trends, and to provide data upon request. Standardized input forms greatly increase the accuracy of this database.

Several items on the forms appear to be confusing. On the page with the certification statement, the "GMS #" is the facility identification number used in the GMS database. For your facility, this number is 4051C00030.

For "Method of Discharge", please put "unknown" for lined landfills. You may elect to state that the facility is a lined landfill.

On the Parameter Monitoring Report side, "Facility GMS #" appears again. It's the same number as the "GMS #" from the first side of the form. "Test Site ID #" refers to the GMS well number, and "Well Name" refers to the common name used for the well. Your facility well names and GMS Test Site ID numbers are provided below:

Mr. Vincent Mannella
June 7, 1995
Page 2

Facility GMS # 4051C00030 (The GMS Identification Number)

<u>Well Name</u>	<u>Test Site ID #</u>
4MW6	4051A16515
4MW5	4051A16514
4MW4	4051A16513
4MW2	4051A16512
4MW1	4051A16511
2MW6	4051A16510
2MW5	4051A16509
2MW4	4051A16508
2MW2	4051A16507
2MW1	4051A16506

STORET codes are input codes for the method of analysis for a specific water quality monitoring parameter. STORET is the US EPA's water quality monitoring database. All State water quality monitoring programs that receive any Federal moneys are required to include this information to provide EPA with an accurate water quality database. Your laboratory should have the list of these codes. If you are in need of these numbers, please fax to me a list of the parameters and method analyzed for each parameter, and I can fax you the appropriate STORET codes. My fax number is 813/744-6125.

I appreciate the extra effort that this letter requires. Once the reporting forms are correctly set up, they will be easy to use for future reports. The groundwater contour maps must be drawn for each sampling event. If you should have any questions, please contact me at 813/744-6100, ext. 336.

Sincerely,



Allison Amram, P.G.
Solid Waste Section

Attachments

cc: Bob Butera, P.E., FDEP
Candia E. Mulhern, Pasco County Solid Waste

(9) Water quality monitoring reporting.

(a) The landfill owner or operator shall report all water quality and leachate monitoring results to the Department semi-annually, unless a different monitoring frequency is specified in the permit. The operator of the landfill shall notify the Department at least 14 days before the sampling is scheduled to occur so that the Department may collect split samples. The report shall include at least the following:

1. The facility name and identification number, sample collection dates, and analysis dates;
2. All analytical results, including all peaks even if below maximum contaminant levels;
3. Identification number and designation of all surface water and ground water monitoring points;
4. Applicable water quality standards;
5. Quality assurance, quality control notations;
6. Method detection limits;
7. STORET code numbers for all parameters;
8. Water levels recorded prior to evaluating wells or sample collection. Elevation reference shall include the top of the well casing and land surface at each well site at a precision of plus or minus 0.01 foot (NGVD); and
9. An updated ground water table contour map, with contours at no greater than one-foot intervals, which indicates ground water elevations and flow direction; and
10. A summary of any water quality standards or criteria that are exceeded;

(b) 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, and shall be updated at the time of permit renewal. The report shall summarize and interpret the water quality data and water level measurements collected during the past two years. The report shall contain, at a minimum, the following:

1. Tabular and graphical displays of any data which shows that a monitoring parameter has been detected, including hydrographs for all monitor wells;
2. Trend analyses of any monitoring parameters detected;
3. Comparisons among shallow, middle, and deep zone wells;
4. Comparisons between upgradient and downgradient wells;
5. Correlations between related parameters such as total dissolved solids and specific conductance;
6. Discussion of erratic and/or poorly correlated data;
7. An interpretation of the ground water contour maps, including an evaluation of ground water flow rates; and
8. An evaluation of the adequacy of the water quality monitoring frequency and sampling locations based upon site conditions.

(c) All field and laboratory records specified in Rules 62-160.600 - .630, F.A.C., shall be made available to the Department and be retained for the design period of the landfill.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.707, F.S.

History: New 1-6-93; Amended 1-2-94, 5-19-94, Formerly 62-701.510.



Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wethereli
Secretary

June 5, 1995

Mr. Douglas Bramlett
Pasco County Utilities
7536 State Street
New Port Richey, FL 34654

Re: West Pasco Class I Landfill Expansion
Case No.: PA87-23

Dear Mr. Bramlett:

The Department has no objections to the proposed expansion of the West Pasco Class I Landfill, subject to the Conditions of Clarification provided as an attachment of this letter.

If you have any questions, please call Kim Ford at (813) 744-6100, extension 382.

Sincerely,

Robert J. Butera, P.E.
Solid Waste Manager
Division of Waste Management

KBF/ab
Attachment

cc: Richard Mayer, P.E., Law Engineering
Hamilton Oven, P.E., FDEP Tallahassee
Kathy Anderson, FDEP Tallahassee
William Kutash, Prog. Adm., FDEP Tampa
Kim Ford, P.E., FDEP Tampa
Allison Amram, P.G., FDEP Tampa
Steve Morgan, FDEP Tampa

CONDITIONS OF CLARIFICATION

These Conditions of Clarification contain compliance items summarized in Attachment 1 that shall be complied with and submitted to the Department by the dates noted. If the compliance dates are not met and submittals are not received by the Department on the dates noted, enforcement action will be initiated.

1. The prohibitions of FAC Rule 62-701.300 shall not be violated.
2. Landfills shall be designed, constructed, operated, maintained, closed and monitored throughout its design period to control the movement of waste and waste constituents in to 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. To prevent unauthorized waste disposal, access to and use of the facility shall be controlled by fencing, gates, or other barriers, as well as signs and facility personnel.
4. In addition to records and reporting required, records shall be kept of all information used to develop or support the landfill design and any supplemental information 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.
5. Financial assurance for this landfill site shall be provided in accordance with F.A.C. 62-701.630. 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.
6. 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.
7. Odors and fugitive particulates arising from all site activities shall be controlled. Such control shall minimize the creation of nuisance conditions on adjoining property. Complaints received from the general public, and confirmed by Department personnel upon site inspection, shall constitute a nuisance condition, and the operator must take immediate corrective action to abate the nuisance. Mosquitoes and rodents shall be controlled as so to protect the public health and welfare.

8. The site shall be properly maintained including erosion control, maintenance of grass cover, prevention of ponding, surface water monitoring locations, groundwater monitoring system repairs, and repair and maintenance of leachate collection and removal systems. In the event of damage to any portion of the landfill site facilities or failure of any part of the landfill systems, the operator shall immediately (**within 24 hours**) notify the Department of Environmental Protection explaining such occurrence and remedial measures to be taken and time needed for repairs. Written detailed notification shall be submitted to the Department **within seven (7) days** following the occurrence.

Construction:

9. The Class I landfill disposal units associated with this site shall be constructed in accordance with all applicable requirements of Chapters 62-25 and 62-701, Florida Administrative Code. These conditions are valid for construction of Disposal Unit A2 and related facilities in accordance with the October 1994 Application and Engineering Report, and:

Construction plans received March 16, 1995;
November 28, 1994 CQA Manual received December 2, 1994;

and in accordance with all applicable requirements of Department rules. Construction and related activities approved as part of this conditions of clarification shall be completed no later than **May 1, 1996**.

10. At least **thirty (30) days prior** to initiation of construction activities, a complete set of plans to be used for construction, including construction details to include liner panel layout, 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. The FDEP Solid Waste Permitting staff shall be notified 72 hours before the pre-construction meeting. Prior to construction activities, the County shall make arrangements for the Engineer of Record to meet on site and discuss all plan changes with a member of the Solid Waste Permitting Staff of the Southwest District Office.

11. 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 and progress chart shall be submitted to the FDEP on a **monthly** basis after the pre-construction meeting.

12. 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.

13. Prior to full-scale liner installation, a field test section or test strip shall be constructed at the site above a prepared subgrade. The test strip as required by 62-701.400(3)(f)5 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.

14. Within **sixty (60) days** after all specified construction has been completed and before acceptance of any solid waste into Disposal Unit A2, 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.

15. Within **sixty (60) days** after all specified construction has been completed, the engineer of record shall provide a report to verify conformance with the standards and specifications required by FAC Rule 62-701.400. The report including all test results for the entire liner system shall be submitted to the Department along with the completion of construction documents.

OPERATION:

16. **Special Wastes.** The design, operation, and monitoring of disposal or control 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.

17. **Landfill Operation Requirements.** This facility shall be operated in accordance with F.A.C. 62-701.500, Landfill Operation Requirements.

18. **Operating Personnel.** As required by F.A.C. 62-701.500(1), at least one operator, trained in accordance with F.A.C. 62-703, shall be at the landfill at all times when the landfill receives waste. Notification shall be provided to the Department in writing of a change of the primary on-site supervisor within 7 days of the effective start date of this new responsible individual. Copies of the training certificates for the newly assigned individual shall also be submitted.

19. **Operation Plan and Operating Record.** The landfill owner and operator shall have an operational plan which meets the requirements of F.A.C. 62-701.500(2). A copy of these conditions, operational plan, construction reports and record drawings, and supporting information shall be kept at the facility at all times for reference and inspections. An 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.

20. **Method and Sequence of Filling.** The method and sequence of filling shall be in accordance with the Section 8.0 (Revised January 4, 1995) of the Engineering Report by Law Engineering submitted in January 17, 1995.

21. **Waste Records.** Waste quantity records shall be maintained as required by F.A.C. 62-701.500(4) and submitted **quarterly; by Jan. 15th, April 15th, July 15th, and Oct. 15th.**

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

23. **Monitoring of Waste.** Wastes shall be monitored as required by F.A.C. 62-701.500(6). No hazardous waste or any hazardous substance shall be accepted for disposal at this site. Hazardous waste is a waste identified in Chapter 62-730, F.A.C. Hazardous substances are those defined in Section 403.703, Florida Statute or in any other applicable state or federal law or administrative rule. Sludges or other wastes which may be hazardous should be disposed of in accordance with F.A.C. 62-701.300(4) and 62-701.500(6)(b). A program shall be maintained which prohibits the disposal of bulk industrial wastes which operating personnel reasonably believe to either be or contain hazardous waste, without first obtaining a chemical analysis of the material showing the waste to be non-hazardous. The chemical analysis of any such material so placed in the landfill, along with the customer's name and date of disposal, shall be kept on file at the site.

24. **Waste Handling Requirements.** All solid waste disposed of in the Class I disposal areas shall be handled in accordance with the attached Figures 8.2 and 8.3 (Attachment 2 and 3) for fill placement and sequencing and as required by F.A.C. 62-701.500(7). Initial cover shall be applied and maintained in accordance with F.A.C. 62-701.500(7)(e) so as to protect the public health and welfare. Intermediate cover shall be applied and maintained in accordance with F.A.C. 62-701.500(7)(f).

All solid waste disposed of in the Class I disposal areas must be covered with at least 6 inches of compacted earth or other suitable material as approved by the Department, at the end of each working day. Municipal solid waste ash applied in a six (6) inch compacted layer may be used as initial cover within the bermed working area to prevent leachate runoff.

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.

25. **Working Face.** As required by F.A.C. 62-701.500(7)(d), the operator shall minimize the size of the working face to minimize leachate, and unnecessary use of cover material. The operator shall maintain the working face of a cell only wide enough to efficiently accommodate vehicles discharging waste and to minimize the exposed area and the use of unnecessary cover material. Interceptor berms shall be maintained around the active working area to prevent leachate runoff from the working face from entering the stormwater management system. Runoff from outside the bermed working face area will be considered stormwater only if the flow passes over areas which have no exposed waste.

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

27. **Leachate Management.** Leachate shall be managed in accordance with Section 8.0 (Revised January 4, 1995) of the Engineering Report by Law Engineering and the requirements of F.A.C. 62-701.500(8). Each pump station shall be inspected on a semi-annual basis. Pump performance shall be verified and current draw recorded. Pumps showing reduced performance shall be removed for maintenance and a replacement pump installed immediately. Leachate generation reports shall be compiled monthly and submitted to the Department quarterly, by **January 15th, April 15th, July 15th and October 15th** each year. Leachate generation reports shall include the number of open, intermediate and closed acres, and the quantities of leachate collected, stored or impounded, recirculated, and hauled/piped off-site to a wastewater treatment facility, and daily precipitation amounts greater than one tenth of an inch. Leachate discharge to areas outside of the geomembrane liner is a violation of Department rules.

28. **Gas Monitoring.** Gas monitoring is not required for ash disposal units.

29. **Stormwater System Management.** Stormwater shall be managed as required by F.A.C. 62-701.500(10) to meet applicable standards of F.A.C. 62-3, 62-25, and 62-302.

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

31. **Waste Burning.** Open burning of solid waste is prohibited except in accordance with F.A.C. 62-701.520(2). Any accidental fires which require longer than one (1) hour to extinguish must be promptly reported to the Department of Environmental Protection.

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

33. **Water Quality Monitoring Quality Assurance.**

a. 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 approved by the Department to meet the requirements of F.A.C. 62-160. The Quality Assurance Plan must specifically address the types of sampling and analytical work that is required by these conditions. The Quality Assurance Plan shall be required of all persons performing sampling or analysis, and shall be followed by all persons collecting or analyzing samples related to these conditions. Documentation of an approved QAP shall be submitted **annually** to the Department with the groundwater sampling report due **January 15th**. Documentation shall include the completed signature page and the Table of Contents of the approved plan.

b. 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.

34. **Zone of Discharge.**

a. 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 bottom of the first occurring aquifer.

b. 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.

35. **Leachate Sampling.** Leachate shall be sampled from Cell A-1 from the influent to the primary and secondary leachate collection system holding tanks. Primary and secondary leachate from Cell A-2 shall be sampled at sample ports located at the side slope riser pump station of the leachate collection system. The leachate samples shall be individually analyzed **every 6 months** for the following monitoring parameters:

Field parameters

Specific Conductivity
pH
Dissolved oxygen
Colors, sheens
(by observation)

Laboratory parameters

Total Ammonia - N
Bicarbonate
Chlorides
Iron
Mercury
Nitrate
Sodium
Total Dissolved Solids (TDS)
Those parameters listed in
40 CFR Part 258, Appendix I

In addition, leachate shall be sampled and analyzed **annually** for the parameters listed in 40 CFR Part 258, Appendix II. If this annual analysis indicates that a contaminant listed in 40 CFR 261.24 exceeds the regulatory level listed therein, a monthly sampling and analysis program shall be initiated. If in any three consecutive months the same listed contaminant exceeds the regulatory level, a program shall be initiated within 90 days that is designed to identify the source and reduce the presence of the contaminant in the leachate so that it no longer exceeds the regulatory level. This program may include additional monitoring of waste received and additional up-front separation of waste materials. Any leachate which is not recirculated or taken to a permitted industrial or domestic wastewater treatment facility shall be treated or managed so that no contaminant exceeds the regulatory level. If in any three consecutive months no listed contaminant is found to exceed the regulatory level, the operator may discontinue the monthly sampling and analysis and return to a routine sampling schedule.

36. **Surface Water Sampling.** There is no planned outlet for surface water discharges at the site. However, if a surface water discharge should occur, the notification shall be provided to the Solid Waste Section of the Tampa FDEP Office on the day of discharge, and the discharged water shall be sampled for the following parameters:

<u>Field parameters</u>	<u>Laboratory parameters</u>
Specific Conductivity	Unionized Ammonia
pH	Total Hardness
Dissolved Oxygen	Biochemical Oxygen Demand (BOD ₅)
Turbidity	Copper
Temperature	Iron
Colors and sheens	Mercury
(by observation)	Nitrate
	Zinc
	Total Dissolved Solids (TDS)
	Total Organic Carbon (TOC)
	Total Phosphorous
	Chlorophyll A
	Total Nitrogen
	Chemical Oxygen Demand (COD)
	Total Suspended Solids (TSS)
	Those parameters listed in
	40 CFR Part 258, Appendix I

Water quality results shall be submitted to the FDEP within **60 days** of discharge.

37. **Groundwater Monitoring Well Locations.** The groundwater monitoring wells shall be located as per the Water Quality Monitoring Plan, Appendix 9, Figure 1, of the Engineering Report for Construction of Disposal Unit A2 prepared by Law Environmental, dated October 1994, attached, as follows:

<u>Well No.</u>	<u>Aquifer</u>	<u>Designation</u>
4MW16D*	Floridan	Background
4MW11D*	Floridan	Detection
4MW12D*	Floridan	Detection
4MW13D*	Floridan	Detection
4MW14D*	Floridan	Detection
4MW15D*	Floridan	Detection
2MW13D*	Surficial	Detection
2MW3	Surficial	Compliance
2MW4	Surficial	Compliance
2MW5	Surficial	Compliance
2MW6	Surficial	Compliance
4MW3	Floridan	Compliance
4MW4	Floridan	Compliance
4MW5	Floridan	Compliance
4MW6	Floridan	Compliance
2MW1	Surficial	Background
2MW2	Surficial	Background
4MW1	Floridan	Background
4MW2	Floridan	Background

*Well to be constructed.

All wells are to be clearly labeled and easily visible at all times. A surveyed drawing shall be submitted showing the location of all monitoring wells (active and abandoned) which will be horizontally located by latitude and longitude (degrees, minutes, seconds), 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, and submitted within **90 days** of new well completion.

38. **Groundwater Monitoring Well Construction.** All new wells are to be constructed as proposed and approved in the application for construction of Disposal Unit A2 and subsequent correspondence. Wells are to be constructed and sampled prior to disposal in Disposal Unit A2 **by January 1, 1996**. The following information shall be submitted to the Department **by April 1, 1996**:

a. 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	

b. Within one week of 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.

c. 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) and surface water monitoring stations horizontally 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.

39. **Groundwater Sampling.** All detection and background wells shall be sampled in accordance with F.A.C. 62-701.510(6)(c) and analyzed **every 6 months** for the groundwater monitoring parameters listed as follows:

<u>Field parameters</u>	<u>Laboratory parameters</u>
Static Water Level	Total Ammonia - N
before purging	Chlorides
Specific Conductivity	Iron
pH	Mercury
Dissolved Oxygen	Nitrate
Turbidity	Sodium
Temperature	Total Dissolved Solids (TDS)
Colors and sheens	Those parameters listed in
(by observation)	40 CFR Part 258, Appendix I

Unfiltered samples will be used for compliance with groundwater standards, unless field filtering of samples is approved by the FDEP in accordance with the January 1994 FDEP Technical Document, Determining Representative Ground Water Samples, Filtered or Unfiltered.

Additional samples, wells, and parameters may be required based upon subsequent analysis.

40. **Well Abandonment.** All wells not a part of the approved Water Quality Monitoring Plan are to be plugged and abandoned in accordance with F.A.C. 62-532.440, and the Southwest Florida Water Management District. A written report shall be submitted to the Department providing verification of the well abandonment **within 60 days of abandonment.** A written request for exemption to the abandonment of a well must be submitted to the Department's Solid Waste Section for approval.

41. **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 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, and assessment monitoring/corrective action as described in F.A.C. 62-701.510(7) shall be initiated.

42. **Water Quality and Leachate Reporting Requirements.** All ground water quality monitoring and leachate analyses shall be reported on the Department Form 62-522.600(11) Groundwater Monitoring Report (attached) and shall include the items listed in F.A.C. 62-701.510(9)(a). The results of the water quality analysis shall be submitted by **July 15th** and **January 15th** 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.

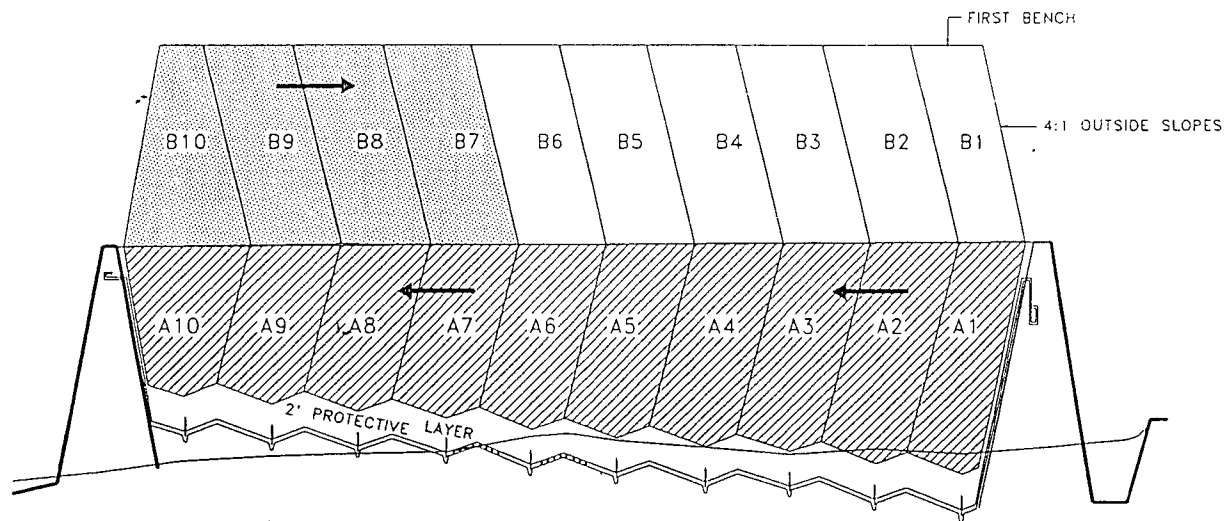
43. **Groundwater Monitoring Plan Evaluation.**

a. All site groundwater wells shall be sampled for the parameters listed in F.A.C. 62-701.510(8)(a) and (d) **every five years**. Results of this analytical report shall be provided Solid Waste Section, Department of Environmental Protection, Southwest District Office, 3804 Coconut Palm Drive, Tampa, Florida 33619-8318.

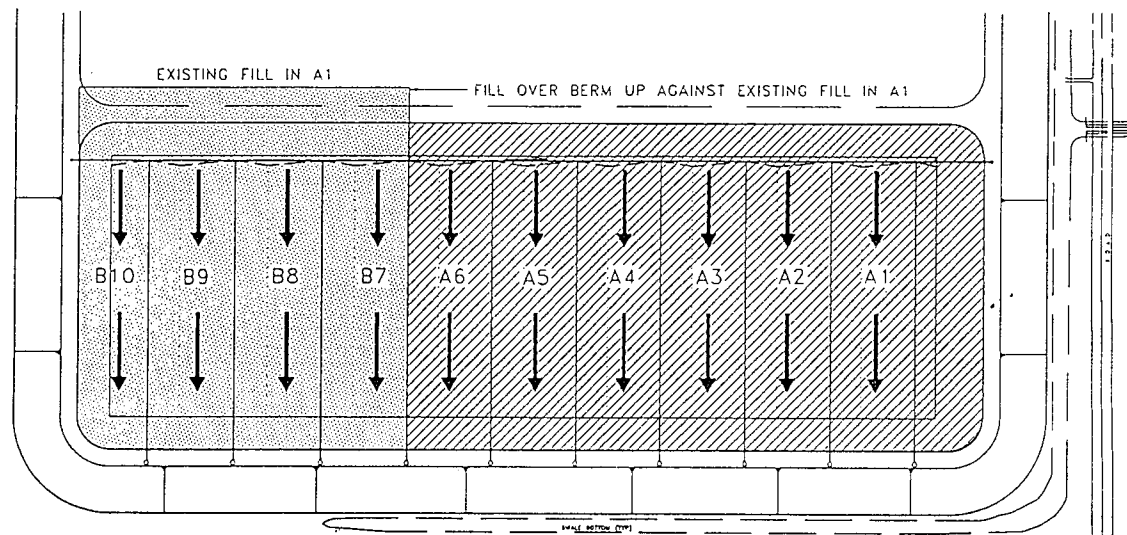
b. **Every two years** the **permittee** shall submit an evaluation of the Groundwater Monitoring Plan as per F.A.C. 62-701.510(9)(b). The evaluation shall include the applicable information as required by F.A.C. 62-701.510(9), and shall include assessment of the effectiveness of the existing landfill design and operation as related to the prevention of groundwater contamination. Any groundwater contamination that may exist, shall be addressed as part of a groundwater investigation for the landfill assessment. The Groundwater Monitoring Plan shall be adequate to monitor any modifications to the existing landfill site including but not limited to closure. The first evaluation shall be submitted to the Solid Waste Section of the Department by **July 15, 1997**.

Attachment 1

<u>CONDITION</u>	<u>SUBMITTAL DUE DATE</u>	<u>REQUIRED ITEM</u>
5.	Annually, by Sept. 1st	Financial assurance cost estimates
10.	30 days prior to construction	Updated plans
11.	Monthly	Construction schedule and progress chart.
14.	60 days following construction	Certification and record drawings
15.	60 days following construction	Construction report
21. and 27.	Quarterly, by January 15th, April 15th, July 15th, and October 15th	Waste quantity reports and Leachate generation reports
33.	Annually, by January 15th	Water Quality QAP documentation
35.	Every 6 months	Leachate sampled/analyzed
35.	Annually	Leachate sampled/analyzed for 40 CFR Part 258, Appendix II parameters
36.	60 days after discharge	Surface water sampling
38.a.	April 1, 1996	Well construction data and Initial sampling
39.	Every 6 months	Groundwater wells sampled/ analyzed
42.	Semi-annually, by January 15th, and July 15th	Water quality and leachate monitoring results
43.	Every two years by July 15th	Evaluation of groundwater monitoring plan

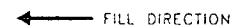
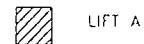


CROSS-SECTION CELL A-2



CROSS-SECTION CELL A-2

LEGEND



Not To Scale

Prepared/Date:
Checked/Date:

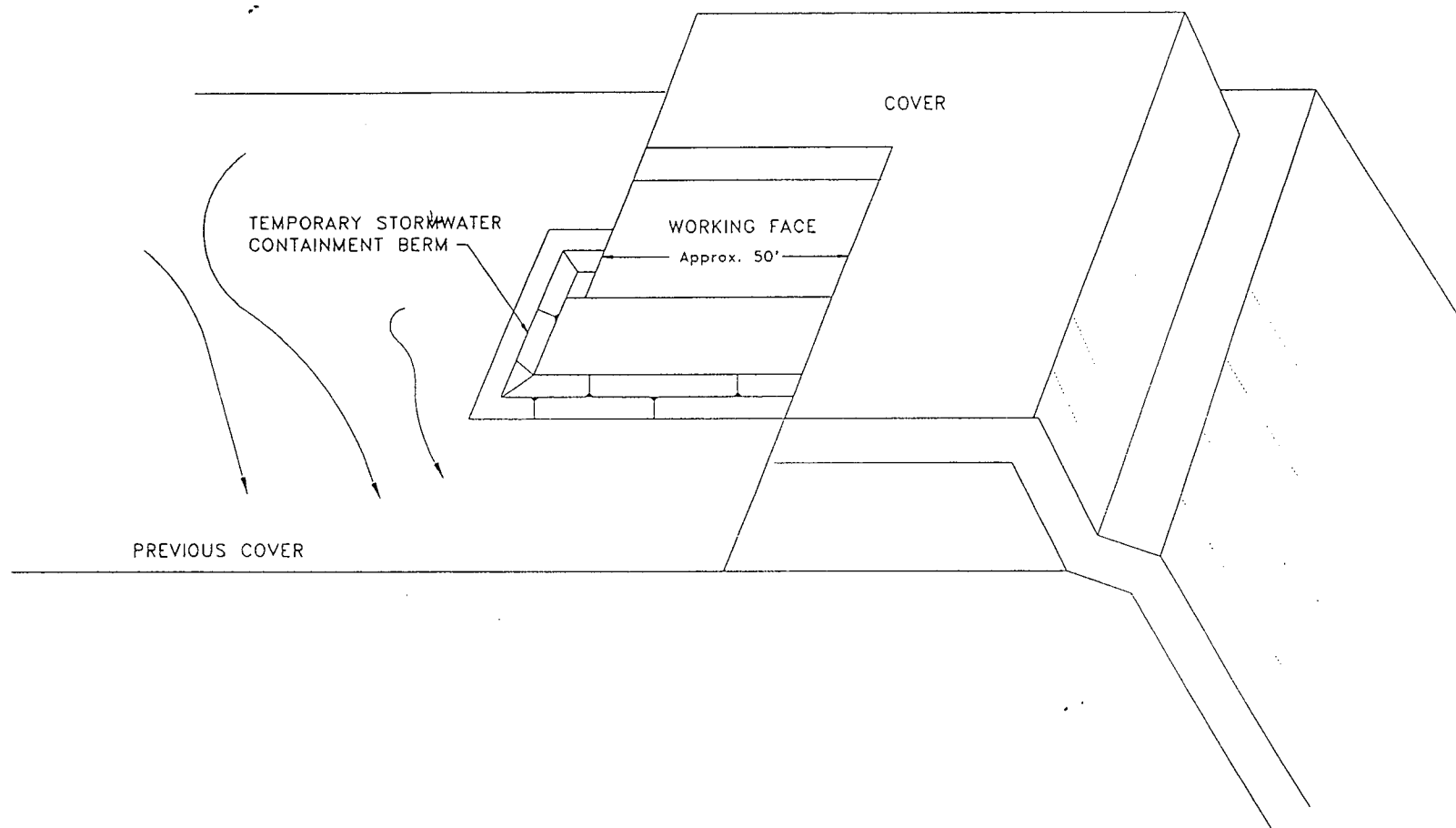
Pasco County
Board of County Commissioners
Utility Services Branch
Pasco County, Florida



LAW
ENGINEERING AND ENVIRONMENTAL SERVICES

Resource Recovery Facility
Pasco County, Florida
Lift Sequence Schematic

ACAD=483565F3



Not to Scale

Prepared/Date:

Checked/Date:

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



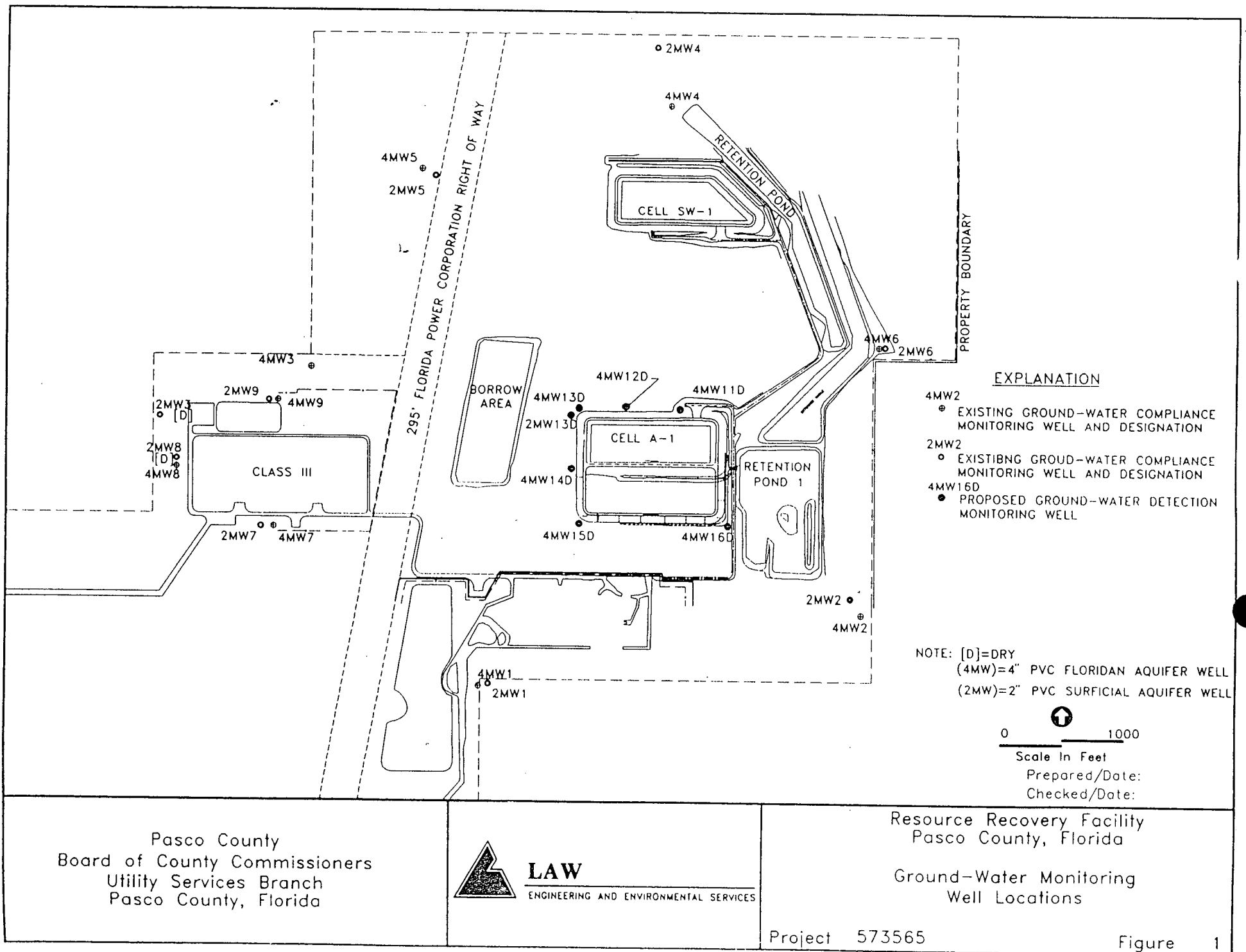
LAW
ENGINEERING AND ENVIRONMENTAL
SERVICES

Resource Recovery Facility
Pasco County, Florida

Working Face Schematic

Project 464-83565.01

Figure 8.3





LAW

ENGINEERING AND ENVIRONMENTAL SERVICES

June 2, 1995

RECEIVED
JUN 05 1995

Department of Environmental Protection
SOUTHWEST DISTRICT
BY _____

Mr. Robert J. Butera, P.E.
Solid Waste Manager
Division of Solid Waste Management
Florida Department of Environmental Protection
Southwest District Office
3804 Coconut Palm Drive
Tampa, Florida 33619

Subject: **Conditions of Clarification
Resource Recovery, Class 1 Landfill Expansion
LAW Project 464-83565.01**

Dear Mr. Butera:

Law Engineering, Inc. (LAW), and Pasco County have reviewed the draft edition of "CONDITIONS OF CLARIFICATION" contained in the letter from Florida Department of Environmental Protection (FDEP), dated May 10, 1995, and signed by you, and this letter is to request modifications or clarifications to some of the items in the list of conditions. The specific items in the list that we believe need to be addressed are listed below:

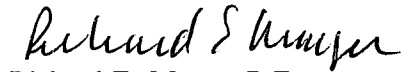
- Item 12. Insert the word "liner" after . . . during construction on line 12.
- Item 13. Clarify - Are we testing the "subbase" discussed in 62-701.400(3)(c) Double liners or are we testing the geomembrane, for which the test strip is run daily before proceeding?
- Item 24. Clarify "daily cover requirement" in paragraph 1. Paragraph 2 states "MSW ash . . . may be used as initial cover . . . Pasco County does not intend to place daily cover.
- Item 31. Clarify - This is standard language for a site without a waste-to-energy or resource recovery facility. The term "site" needs to be exclusive if the Resource Recovery Facility, which is located on the site permitted under the Power Plant Siting Act.
- Item 38. The date for installation of the monitoring wells should be after the completion of construction activities. These new detection wells are to be located 50 feet from the edge of the liner, which is in "harm's way" during construction. Suggest dates of 1/1/96 and 4/1/96.

Mr. Robert J. Butera, P.E.
June 2, 1995
Page 2

If you have any questions, please contact the undersigned.

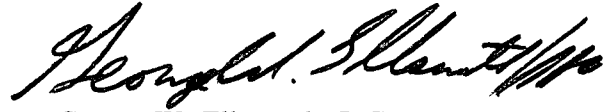
Sincerely,

LAW ENVIRONMENTAL, INC.



Richard E. Mayer, P.E.
Principal Engineer

REM/GWE/dmayer/wp/res_rcvy/4643565.07



George W. Ellsworth, P.G.
Senior Geologist

**LAW****Engineering & Environmental Services****TO:** *Kim Ford***COMPANY:****FAX NUMBER:** *744-6084***FROM:** *Dick Mueller***Number of Pages Including This Cover:***3***MESSAGE:***Hard Copy to Follow*

If you experience difficulty receiving this transmittal, please contact:

Law Engineering and Environmental Services, Inc.

4919 W. Laurel Street

Tampa, Florida 33607

(813) 289-0750 • Fax (813) 289-5474

**LAW**

ENGINEERING AND ENVIRONMENTAL SERVICES

June 2, 1995

Mr. Robert J. Butera, P.E.
Solid Waste Manager
Division of Solid Waste Management
Florida Department of Environmental Protection
Southwest District Office
3804 Coconut Palm Drive
Tampa, Florida 33619

Subject: **Conditions of Clarification**
Resource Recovery, Class 1 Landfill Expansion
LAW Project 464-83565.01

Dear Mr. Butera:

Law Engineering, Inc. (LAW), and Pasco County have reviewed the draft edition of "CONDITIONS OF CLARIFICATION" contained in the letter from Florida Department of Environmental Protection (FDEP), dated May 10, 1995, and signed by you, and this letter is to request modifications or clarifications to some of the items in the list of conditions. The specific items in the list that we believe need to be addressed are listed below:

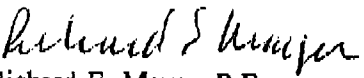
- Item 12. Insert the word "liner" after . . . during construction on line 12.
- Item 13. Clarify - Are we testing the "subbase" discussed in 62-701.400(3)(c) Double liners or are we testing the geomembrane, for which the test strip is run daily before proceeding?
- Item 24. Clarify "daily cover requirement" in paragraph 1. Paragraph 2 states "MSW ash . . . may be used as initial cover . . . Pasco County does not intend to place daily cover.
- Item 31. Clarify - This is standard language for a site without a waste-to-energy or resource recovery facility. The term "site" needs to be exclusive if the Resource Recovery Facility, which is located on the site permitted under the Power Plant Siting Act.
- Item 38. The date for installation of the monitoring wells should be after the completion of construction activities. These new detection wells are to be located 50 feet from the edge of the liner, which is in "harm's way" during construction. Suggest dates of 1/1/96 and 4/1/96.

Mr. Robert J. Butera, P.E.
June 2, 1995
Page 2

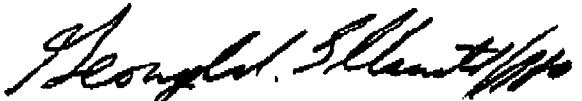
If you have any questions, please contact the undersigned.

Sincerely,

LAW ENVIRONMENTAL, INC.


Richard E. Mayer, P.E.
Principal Engineer

REM/GWE/dmayer/wp/res_rcvy/4643565.07


George W. Ellsworth, P.G.
Senior Geologist



PASCO COUNTY, FLORIDA

DADE CITY (904) 521-4274
LAND O' LAKES (813) 996-7341
NEW PORT RICHEY (813) 847-8145

UTILITIES SERVICES BRANCH
PUB. WKS./UTILITIES BLDG., S-205
7530 LITTLE ROAD
NEW PORT RICHEY, FL 34654

May 19, 1995

28-5-95

Mr. Tom Gucciardo
Environmental Manager
Florida Department of
Environmental Protection
3804 Coconut Palm Drive
Tampa, FL 33619-8318

RECEIVED
MAY 23 1995
Department of Environmental Protection
SOUTHWEST DISTRICT
BY _____

*Done 6/7
Pete, for next
draft C.O.
June 6/5*

RE: Shady Hills Wastewater Treatment Plan (WWTP) - D051-260675

Dear Mr. Gucciardo:

As follow-up to our recent discussions relative to the solid waste ash monofil leachate which has caused exceedences of chloride and TDS maximum contamination levels in the Shady Hills WWTP effluent discharge, we have contracted with the Resource Conservation Company (RCC) to construct an evaporator/crystallizer unit to eliminate all ash leachate from the influent to the Shady Hills plant.

I have attached a copy of our contract which has a 17-month schedule for final design construction and start-up. I request that you proceed with development of a draft consent agreement to allow for continued connections to the Shady Hills collection system since sewer flow during the construction period will provide more dilution of the effluent. Since Pasco County has been proactive in this matter, we do not feel that any penalties or in-kind services are needed to provide correction of the problem.

Sincerely,

[Signature]
Douglas S. Bramlett
Assistant County Administrator
(Utilities Services)

DSB/b051901:ltr

Attachment

BCC
5-16-95
3 E.1.

Deery
Bramlett

PASCO COUNTY, FLORIDA
INTEROFFICE MEMORANDUM

TO: Honorable Chairman and
Members of the Board of
County Commissioners

DATE: 5/5/95

FILE: UT95-766

SUBJECT: Leachate Management System - Agreement
Between Resources Conservation Company
and Pasco County

FROM: Douglas S. Bramlett
Assistant County Administrator
(Utilities Services)

REFERENCES: File UT94-1220 and UT95-194;
All Comm. Dists.

It is recommended that the data herein presented be given formal consideration by the County Commission.

DESCRIPTION AND CONDITIONS:

The Board previously, on December 6, 1994, authorized staff to negotiate a contract agreement with Resources Conservation Company (RCC) to design, construct, and provide start-up services for a leachate management system to pretreat ash leachate. This system is needed to remove ash leachate from the Shady Hills Subregional wastewater collection system due to extremely high concentrations of calcium chloride and sodium chloride. These salts are causing groundwater maximum contamination level (MCL) exceedences at the Shady Hills Wastewater Treatment Plant disposal site on Hays Road.

With the assistance of Camp Dresser & McKee (CDM), engineering consultants, the attached agreement has been negotiated to provide a vapor compression evaporator process and associated equipment to basically produce a high quality distilled water and dry calcium salt. The distilled water will be pumped back to the Waste-to-Energy Resource Recovery Facility for cooling water purposes and the solid salts will be containerized and landfilled in the adjacent Class I landfill. The facility will have an average day treatment capacity of 35,000 gallons per day.

The fixed price for equipment provided directly by RCC will be \$1,274,000.00. In addition to the RCC equipment, other cost-reimbursable equipment listed in the attached Agreement - Document No. 5 will be required. This equipment, which includes such items as heat exchangers, feed pumps, and motors; distillate pumps, motors, and tank; spray dryer pumps, motors, and tank; chemical additive tanks, pumps, and motors; and control system will cost approximately \$1,748,700.00. All of these items will be competitively bid by RCC, and Pasco County will have final approval of each competitively bid item listed in Document No. 5.

Pasco County is responsible for construction of all leachate pump stations, pumps, storage tank, containment berms, foundation, buildings, and operations building for the project. This cost is estimated to be \$900,000.00. This portion of the project will be competitively bid by Pasco County based upon the design specifications prepared by CDM. Deliveries of equipment by RCC or other suppliers of the cost-reimbursable items will be coordinated with the general contractor selected by Pasco County to construct the foundation, buildings, and storage tank.

The cost summary is provided as follows:

RCC Fixed Cost	\$1,274,000.00
Cost-Reimbursables (estimated)	1,748,700.00
Foundation, Building, and Storage Tank (estimated)	<u>900,000.00</u>
TOTAL	\$3,922,700.00

ALTERNATIVES AND ANALYSIS:

Approval of the attached agreement will provide the most cost-effective and reliable equipment to completely eliminate ash leachate from discharges to the Shady Hills Wastewater Treatment Plant and to provide total treatment and disposal of the ash leachate.

Disapproval of the attached agreement will cause the continued discharge of calcium and sodium salts into the Shady Hills Wastewater Treatment Plant disposal system, which will continue to cause groundwater MCL exceedences.

RECOMMENDATION AND FUNDING:

The Utilities Services Branch recommends that the Board of County Commissioners approve the attached proposed agreement, authorize the Chairman, to execute the four original agreements provided, and direct Secretarial Services to distribute the agreements as follows: one original to be retained by Secretarial Services; one original to OMB, New Port Richey; one original to the Utilities Services Branch, New Port Richey; and one original to be mailed to:

Joe Bostjancic
Resources Conservation Company
3006 Northup Way
Bellevue, WA 98004-1407
Telephone (206) 828-2400
Federal ID No. 04-2068530

Upon approval of Budget Amendment No. 95-158, the amount required this fiscal year by contract terms (\$250,000.00) will be available in Account No. B450-752200-66300/000818. The remainder of the contract payments of \$2,772,700.00 will become available with the adoption of the Fiscal Year 1995-96 Budget in the same account number. In addition to the contract amount, Pasco County will be responsible for additional construction in conjunction with this project estimated at \$900,000.00 to come from the same account in Fiscal Year 1995-96.

ATTACHMENTS:

1. Agreement (Four Originals)

DSB/r050101/32:ai

RCC
Agre. Chemical
Brydels Technology
Auto Grant

APPROVED AGENDA ITEM FOR

DATE _____

BY _____

Proposal to Supply a

LEACHATE MANAGEMENT SYSTEM

for

**PASCO COUNTY
NEW PORT RICHEY, FLORIDA
RFQ NO. 94-091**

and

**CDM INC., TAMPA, FLORIDA
PASCO COUNTY ENGINEER**

by

**RESOURCES CONSERVATION COMPANY
BELLEVUE, WASHINGTON**

MARCH 1995

RCC PROPOSAL NO. 94-2168B

Proposal to Supply a

LEACHATE MANAGEMENT SYSTEM

for

PASCO COUNTY
NEW PORT RICHEY, FLORIDA
RFQ No. 94-091

and

CDM INC., TAMPA, FLORIDA
PASCO COUNTY ENGINEER

by

RESOURCES CONSERVATION COMPANY
BELLEVUE, WASHINGTON

MARCH 1995

RCC PROPOSAL NO. 94-2168B

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1.0 INTRODUCTION

Resources Conservation Company (RCC) is pleased to provide this proposal to supply engineering design, procurement, equipment, delivery and installation of a Leachate Management System to Pasco County, Florida and CDM Inc., Pasco County Engineer as described herein. This proposal is submitted in response to Pasco County's RFQ No. 94-091, per the December 22, 1994 meeting with Pasco County and CDM at Pasco County facilities, and per subsequent telephone conversations and meetings.

RCC is an engineering company specializing in the design, construction, and startup of evaporation/drying systems and other unit process operations. Since 1974, when the first Brine Concentrator was commissioned, RCC has installed over 70 successful commercial systems using the seed-slurry process allowing clients to achieve zero discharge while recovering high quality water for recycle and reuse.

The system for Pasco County includes a Brine Concentrator (BC) which is modular or skid mounted to minimize construction time and expense. The BC is offered with a natural gas-fired spray dryer for dry solids salt production. The system will process 35,000 gallons per day of leachate being produced at Pasco County's Solid Waste Facility in Pasco County, Florida. The wastewater directed to the BC will be reduced in volume while producing high quality distillate and a highly concentrated waste stream. The waste stream will be directed to a spray dryer for production of a dry free-flowing solid material. Distillate will be recycled to the plant for high quality water use in boiler and cooling tower makeup.

2.0 SYSTEM DESIGN

2.1 System Description

RCC proposes to supply a Brine Concentrator (BC) and Spray Dryer System operating on leachate being produced at Pasco County's Solid Waste Facility in Pasco County, Florida. The wastewater directed to the BC will be reduced in volume while producing high quality distillate and a highly concentrated waste stream. The waste stream will be directed to a spray dryer for production of a dry free-flowing solid material. Distillate will be recycled to the plant for high quality water use.

2.2 Process Description

The design of the proposed system is based on the wastewater chemistry as identified by CDM correspondence dated March 22, 1994 and is shown in Figure 2-1. Leachate is transferred from a storage tank to the BC feed tank where sulfuric acid, sodium sulfate and scale inhibitor are added prior to being fed to the evaporator. The brine slurry from the evaporator flows to a spray dryer feed tank and on to a spray dryer where the brine is dried and collected for disposal. A *Preliminary Process Flow Diagram* is shown in Figure 2-2.

2.2.1 Brine Concentrator

The wastewater feed is pumped (by others) to the agitated feed tank where the pH is adjusted to 5-6 using sulfuric acid and sodium sulfate is added to facilitate seed slurry operation. Scale inhibitor is also added in the feed tank to prevent scaling in the front end heat exchanger and deaerator. The feed tank provides sufficient residence time for complete mixing. The feed is then pumped through the heat exchanger where it is heated to near boiling by recovering the distillate's sensible heat. The hot feed then passes through the deaerator where carbon dioxide (CO₂) and other non-condensibles are stripped before it enters the evaporator sump.

FIGURE 2-1
FEEDWATER CHEMISTRY ^{Note 1}
CDM/PASCO COUNTY, FLORIDA
RCC PROPOSAL NO. 94-2168B

<u>CONSTITUENT</u>	<u>FEED CONCENTRATION</u>
Calcium, mg/l	7,000
Sodium, mg/l	5,165
Bicarbonate, mg/l	161
Sulfate, mg/l	177
Chloride, mg/l	20,163
Silica as SiO ₂ , mg/l	20
Total Dissolved Solids, mg/l	32,468
Temperature, °F	60
Design Flow, gpm	24.3
pH	7

¹ Any deviation from the supplied chemistries above, including trace elements, may require system design modification.

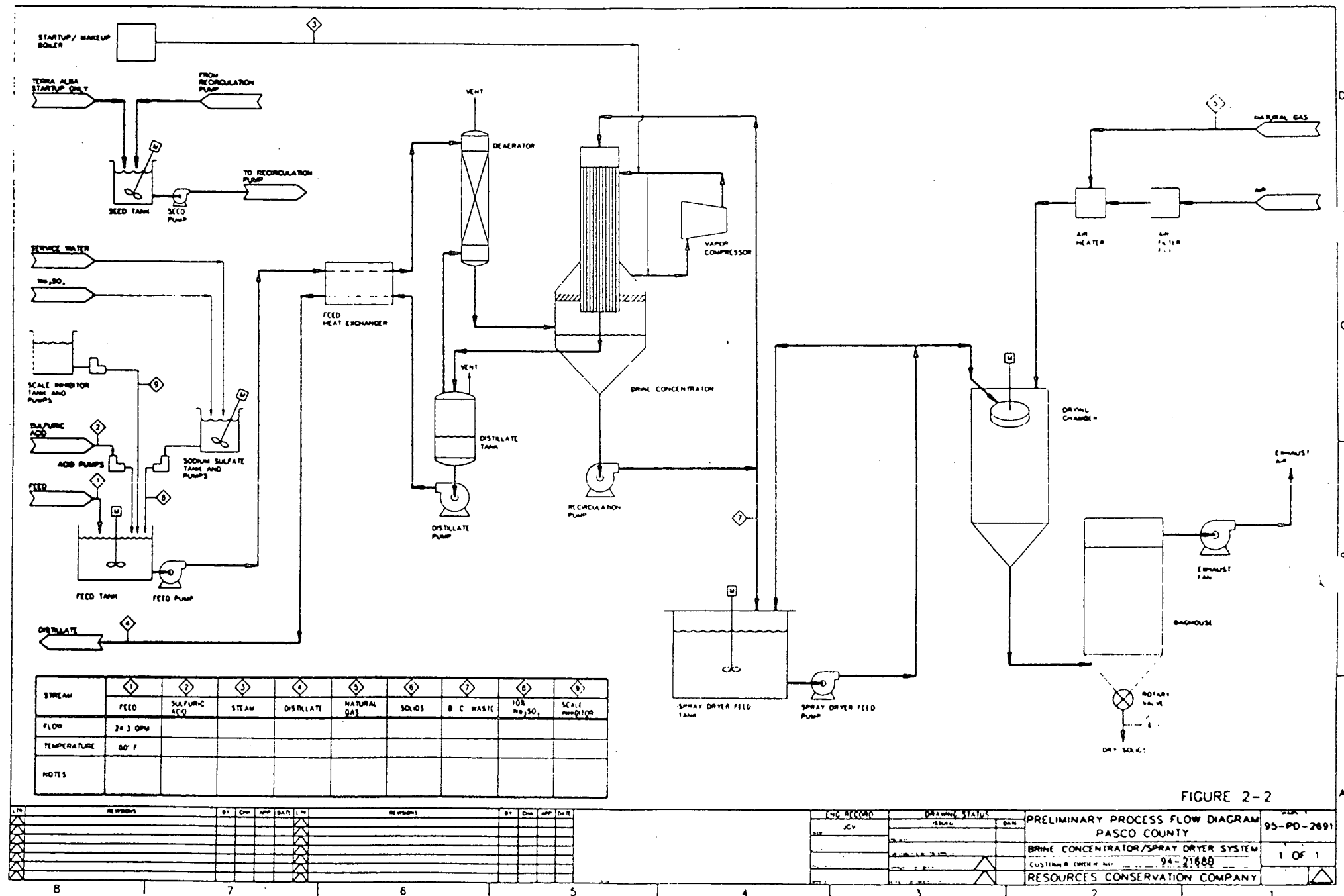


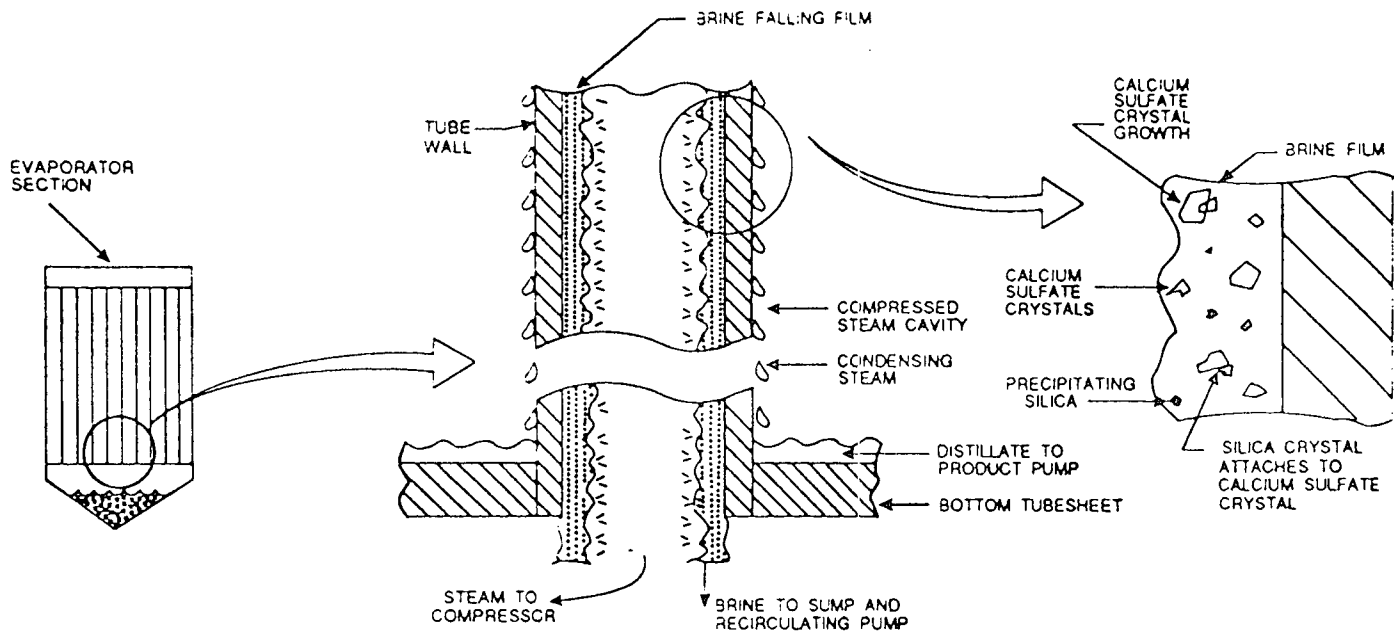
FIGURE 2-2

The hot feed enters the floodbox at the top of the evaporator through a patented brine strainer for chip removal and prevention of plugging in the distributors. From there it is distributed evenly to the inside of the evaporator's vertical tubes using patented flow distributors to establish a thin uniform film on the tube's inside diameter. The steam exiting the tubes is collected above the sump level, passes through a mist eliminator, and into a vapor compressor where it is compressed to raise its temperature of condensation slightly above the boiling point of the brine on the inside of the tubes. The compressor discharge steam condenses on the outside of the tubes and is collected in a distillate tank. Distillate is then pumped to a storage tank (by others) for recycle or reuse within the plant.

Prior to the initial startup the fluid contents of the unit are "seeded" by the addition of calcium sulfate (gypsum). These circulating solids within the brine slurry serve as nucleation sites for subsequent calcium sulfate precipitation and crystal growth which occurs as the feed water is concentrated. This continued concentrating process and production of precipitated species creates a continuing source of new "seed" material as these particles are broken up by the mechanical agitation of the recirculation pump. As such, this seeding process is self-perpetrating and further addition is not required.

To avoid scale buildup in the evaporator, calcium sulfate seed crystals are continuously circulated over the wetted surfaces in the evaporator. Through control of design parameters such as slurry concentration, seed characteristics and system geometry, the evaporator can operate in this otherwise scale-forming environment. The thermochemical operation within the evaporator with regard to the scale prevention mechanism is depicted in Figure 2-3. As the water is evaporated from the brine film inside the tubes, the remaining brine film becomes super-saturated and calcium sulfate and silica start to precipitate. The precipitating material promotes crystal growth in the slurry rather than new nucleation that would deposit on the heat-transfer surfaces; the silica crystals attach themselves to the calcium sulfate crystals. This scale prevention mechanism, called preferential precipitation, has a proven capability to promote clean heat-transfer surfaces.

FIGURE 2-3



2.2.2 Spray Dryer System

Brine is delivered to the spray dryer feed tank from the BC. This tank is agitated by a mixer to keep solids suspended. Mixed solids are pumped to the atomizer in the drying chamber of the spray dryer. A natural gas-fueled air heater supplies heated air to the drying chamber. Brine is atomized and droplets are dehydrated as they fall to the bottom of the chamber. The resulting dried product solids are transferred to a bag house by means of air flow induced by an exhaust fan. The solids exit the bag house through a rotary valve and discharge directly for disposal.

The following major automatic control loops are used:

- Evaporator Capacity

The evaporative capacity of the Brine Concentrator is controlled by manually setting the compressor bypass control valve. The automatic control loops for the evaporator system are designed to follow the compressor capacity adjustments and maintain stable system operation.

- Sump Liquid Level

The feed rate into the system is controlled by a control loop that senses the liquid level in the sump and sets the control valve on the feed to the sump.

- Feed Tank Level

The feed tank level is controlled by sensing the tank level and adjusting the position of the feed control valve.

- Distillate Tank Level

The distillate tank level is controlled by sensing the tank level and controlling the flow of distillate via a control valve.

- Deaerator Pressure

Deaerator pressure is maintained at a preset value by controlling the vapor flow from the distillate tank to the deaerator to assure proper temperature of the incoming feed and proper steam flow for efficient deaeration.

- **Evaporator Pressure**

The pressure is maintained at a preset point by controlling the vapor vent rate from the distillate tank, which is connected to the shell side of the evaporator. This pressure is controlled at 6 inches of water column.

- **Waste Brine Discharge from Brine Concentrator**

The waste discharge from the Brine Concentrator is controlled by periodically opening the waste valve. The open duration and the interval between openings is controlled by PLC programmed timers. The timers are set to maintain constant density in the sump, based on density measured within the brine sump. Wet lab samples are used to verify operation.

- **pH Control**

pH is controlled by feeding sulfuric acid with a metering pump whose output is determined by a pH sensor in the feed tank.

- **Spray Dryer Feed Control**

The feed rate is controlled to maintain a constant drying chamber discharge temperature. The feed rate is adjusted by increasing or decreasing the temperature of the inlet air.

2.3.2 Startup

Brine Concentrator startup from a cold condition is a straightforward sequence of manual operations. The sump is filled and recirculation initiated. Seed is manually added to the sump. Auxiliary steam is injected until operating temperature is reached and the system is maintained in this hot condition for approximately 24 hours to ensure meeting RCC seed-slurry requirements. The system is now ready for operation. The compressor is started, followed by the distillate

pump and the feed pump. Once the waste concentration reaches the desired level, waste discharge is started and, as the system stabilizes, all controls are switched to automatic mode.

Startup from a "hot standby" condition involves turning the compressor on and activating the feed and distillate pumps. Once the feed and product flows are approximately balanced, the system is switched to the automatic mode and waste discharge is resumed. The time to restart from a hot standby is less than 10 minutes.

The spray dryer is put on line by activating the exhaust fan and igniting the gas burner to commence warm-up. The atomizer is turned on and service water is initially fed to the unit. The system is brought to operating temperature while increasing the feed rate and outlet air temperature. Once operating temperature is reached, the feed is switched over to brine and the outlet air temperature switched to automatic control.

2.3.3 Shutdown

Brine Concentrator shutdown is accomplished manually, or in the case of a malfunction, automatically. Shutdown actions include stopping the compressor and the feed and distillate pumps. This leaves the system in a "hot standby" condition in which the recirculation pump continues to run, keeping the system hot and ready to restart at any time. Deactivating the recirculation pump completes system shutdown and routine flushing and cleaning are accomplished.

To shut down the spray dryer the air temperature is simply switched to manual and the feed rate reduced to bring the outlet temperature to about 350°F. The feed is switched from brine to water. The dryer remains operating on water for about one minute following which the feed and burner are turned off. As the temperature reaches about 160°F the atomizer and exhaust fan are stopped.

2.4 General Arrangement

A Preliminary General Arrangement is shown in Figure 2-5. The system includes several equipment skids which consist of a structural steel base, equipment set in place, piping, wiring and insulation installed. The condenser/sump assembly is provided in one unit and requires erection on site. The vapor compressor requires installation on a pad and erection of interconnecting duct work.

2.4.1 Evaporator Feed System

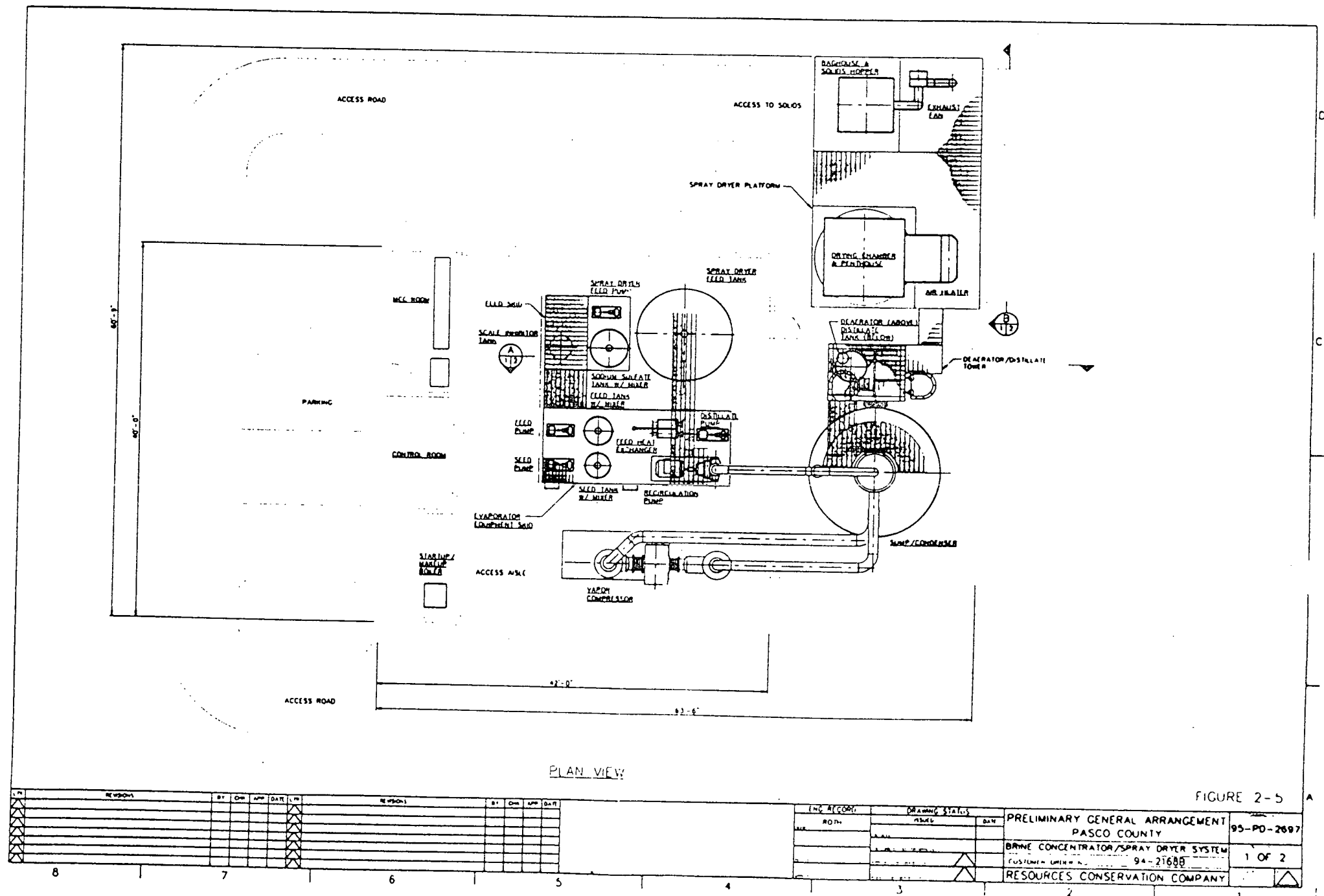
The evaporator feed system consists of the feed pump, feed tank and mixer, acid pump, sodium sulfate pumps and tank, scale inhibitor pumps and tank, and controls. Sulfuric acid, sodium sulfate and scale inhibitor are added to the feed tank and mixed prior to entering the feed pump for transfer to the evaporator sump.

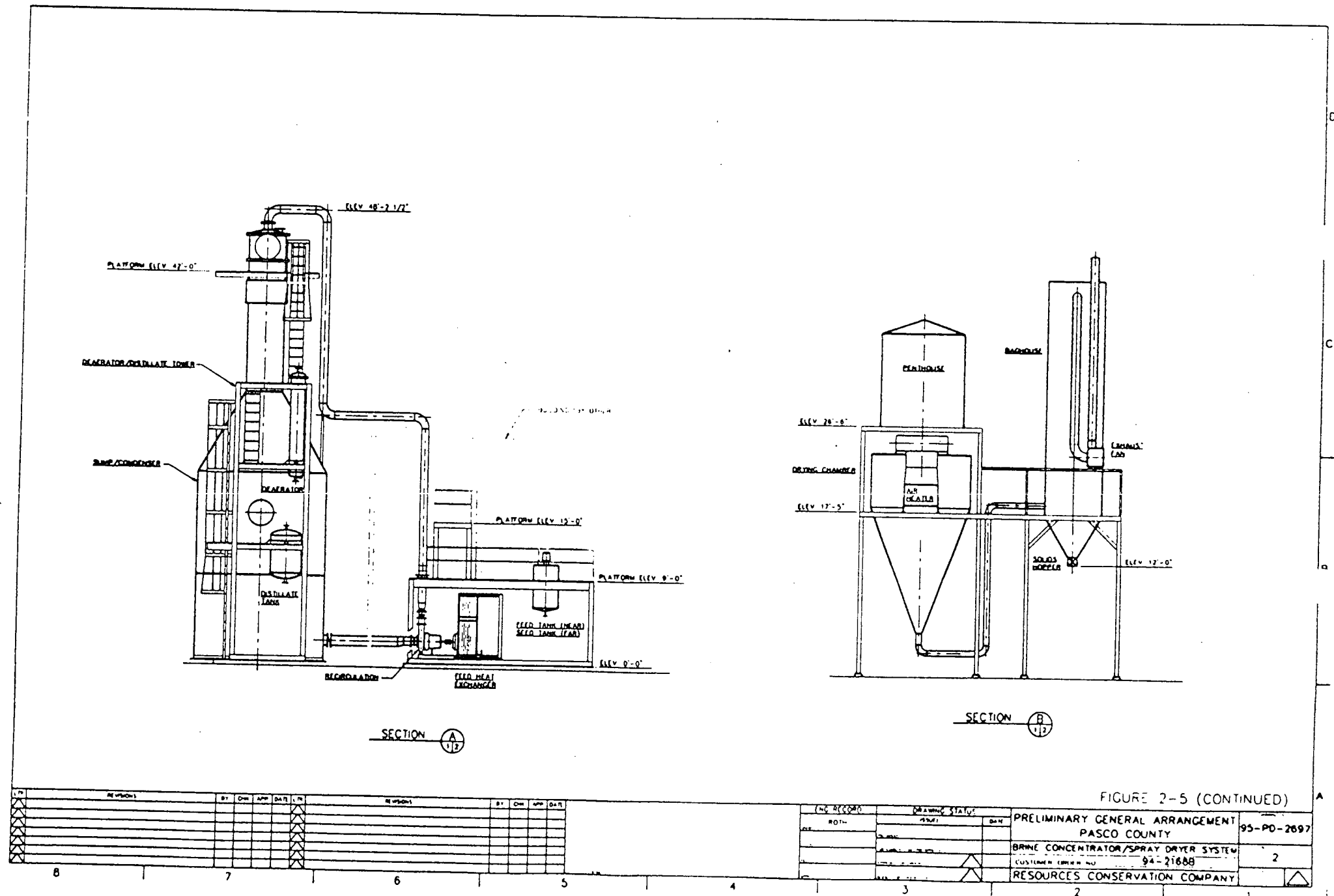
2.4.3 Spray Dryer Feed Tank

The spray dryer feed pump, tank and mixer are located adjacent to the evaporator vessel to allow transfer of slurry from the recirculation system to the tank and to provide surge capacity for the spray dryer. All piping and equipment locations require critical review for this slurry handling system.

2.4.4 Spray Dryer

The spray dryer consists of a drying chamber, air heater, baghouse, and exhaust fan. The dryer is equipped with a penthouse for access to the atomizer. The dryer will be furnished in two main modules to be connected together on site. The dryer solids will exit from the bag house through a rotary valve for disposal.





2.5 Equipment List

A *Preliminary Equipment List* is presented in Figure 2-6 and lists RCC proprietary and non-proprietary equipment items for the proposed Leachate Management System. The list may require change depending upon final design definition.

2.6 Design Specifications

The equipment and materials for the proposed Leachate Management System will be supplied in accordance with RCC standard and normal design practice. The design philosophy and equipment selection will be consistent with that employed in some 70 operating RCC systems around the world including several units in power generation facilities in Florida.

The following specifications are typical of those included in RCC's design approach:

AFBMA	Anti-Friction Manufacturers' Association
AGMA	American Gear Manufacturers' Association
AISC	American Institute of Steel Construction, Inc., 8th Ed.
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWS	American Welding Society
AWWA	American Water Works Association
CSA	Canadian Standards Association
HIS	Hydraulic Institute Standards
IEEE	Institute of Electrical and Electronics Engineers
ISA	Instrument Society of America
NBC	National Building Code of Canada and Supplement to NBC, 1985 Ed.
NEMA	National Electrical Manufacturers' Association
NFPA	National Fire Protection Association
OSHA	Occupational Safety and Health Administration
SAE	Society of Automotive Engineers

FIGURE 2-6
PRELIMINARY EQUIPMENT LIST
RCC PROPRIETARY EQUIPMENT SUPPLY
RCC PROPOSAL NO. 94-2168B

<u>EQUIPMENT ITEM</u>	<u>QTY</u>	<u>DESCRIPTION OF EQUIPMENT</u>	<u>SUPPLIER (OR SIMILAR)</u>
BRINE CONCENTRATOR			
Evaporator	1	Model 30T	RCC Design & Supply
Floodbox			
Upper Tubesheet			
Lower Tubesheet			
Sump			
Brine Screen			
Tubes			
Distributors			
Mist Eliminator			
Deaerator w/Packing	1	Atmospheric	RCC Design & Supply

FIGURE 2-6
PRELIMINARY EQUIPMENT LIST
RCC NON-PROPRIETARY EQUIPMENT SUPPLY
RCC PROPOSAL NO. 94-2168B

<u>EQUIPMENT ITEM</u>	<u>QTY</u>	<u>DESCRIPTION OF EQUIPMENT</u>	<u>SUPPLIER (OR SIMILAR)</u>
BRINE CONCENTRATOR			
Vapor Ducts w/Expansion Joints	1 set	Suction/Discharge	RCC Design & Supply
Recirculation Ducts w/Expansion Joints	1 set	Suction/Discharge	RCC Design & Supply
Heat Exchanger	1	Plate and frame	APV
Vapor Compressor	1	Positive displacement blower	Roots
Recirculation Pump & Motor	1	Centrifugal, 1,320 gpm, 30 HP	Goulds
Feed Pump & Motor	1	Centrifugal, 24.3 gpm, 5 HP	Goulds
Feed Tank	1	250 gallon	RCC Design & Supply
Feed Tank Mixer & Motor	1	0.5 HP	Burhans-Sharpe
Distillate Pump & Motor	1	Centrifugal, 22 gpm, 5 HP	Goulds
Distillate Tank	1	150 gallon	RCC Design & Supply
Seed Pump & Motor	1	Centrifugal, 50 gpm, 1 HP	Goulds
Seed Tank	1	250 gallon	RCC Design & Supply
Seed Tank Mixer & Motor	1	0.5 HP	Burhans-Sharpe

FIGURE 2-6
PRELIMINARY EQUIPMENT LIST
RCC NON-PROPRIETARY EQUIPMENT SUPPLY
RCC PROPOSAL NO. 94-2168B

<u>EQUIPMENT ITEM</u>	<u>QTY</u>	<u>DESCRIPTION OF EQUIPMENT</u>	<u>SUPPLIER (OR SIMILAR)</u>
Spray Dryer Feed Tank	1	8,000 gallon	RCC Design & Supply
Spray Dryer Feed Tank Mixer & Motor	1	1 HP	Burhans-Sharpe
Acid Pump & Motor	2	Metering, 2.64 gpd nominal, 0.5 HP	Milton-Roy
Scale Inhibitor Pump & Motor	2	Metering, 0.5 gpd nominal, 0.5 HP	Milton-Roy
Scale Inhibitor Tank	1	50 gallon	RCC Design & Supply
Sodium Sulfate Pump & Motor	2	Metering, 14 gph nominal, 0.5 HP	Milton-Roy
Sodium Sulfate Tank	1	400 gallon	RCC Design & Supply
Sodium Sulfate Mixer & Motor	1	0.5 HP	Burhans-Sharpe
Startup/Makeup Boiler	1	Natural gas-fired, 690 lb/hr @ 15 psig	Cleaver-Brooks
Motor Control Center	1	480V, 600 amp, main lugs only, NEMA 1 gasketed with FVNR starters (circuit breaker type), feeder circuit breakers, 480V/120V-208V transformer and panel board (control panel)	Allen Bradley
SPRAY DRYER EQUIPMENT			
Spray Dryer Feed Pump & Motor	1	Centrifugal, 25 gpm, 5 HP	Goulds

FIGURE 2-6
PRELIMINARY EQUIPMENT LIST
RCC NON-PROPRIETARY EQUIPMENT SUPPLY
RCC PROPOSAL NO. 94-2168B

<u>EQUIPMENT ITEM</u>	<u>QTY</u>	<u>DESCRIPTION OF EQUIPMENT</u>	<u>SUPPLIER (OR SIMILAR)</u>
Drying Chamber	1	Conical bottom	APV
Centrifugal Atomizer w/Hoist	1	20 HP, Hoist - 1 HP	APV
Air Heater & Filter	1	1,100 deg F. exit temperature	Maxon
Exhaust Fan	1	Centrifugal, 20 HP	APV
Baghouse	1	Pulse jet-type	Mikropul
Air Ducts	1 lot	As required	APV
Rotary Air Lock	1	1 HP	APV
MISCELLANEOUS EQUIPMENT			
Equipment Skids	1 lot	Includes: 1 tower skid, 2 equipment skids, ladders and access platforms	Chemithon
Field Instrumentation & Controls	1 lot	Various	Various
PLC Control System	1 lot	Includes control cabinet, CRT operator interface computer and ControlView	Allen-Bradley/IBM

Welding of fabricated equipment is performed per AWS procedures by AWS or ASME Section IX certified welders. Weld quality assurance and inspection will be the fabricator's normal practice in compliance with RCC standard specifications.

RCC supplies "off the shelf" TEFC electric motors as manufactured by Siemens, Reliance, General Electric or Toshiba. Brake horsepower, temperature rise, service factor, efficiency, power factor, insulation class and the like are taken into account in motor size selection. Materials of construction, coatings, bearings and winding insulation are all manufacturer's standard supply. Testing of motors is conducted in accordance with manufacturer's standards.

All process pumps are ANSI horizontal, end-suction, top-discharge, centrifugal types. Bearings are oil lubricated and mechanical seals are utilized where practical. The pumps are furnished complete with base, coupling with guard, and electric motor. Testing is conducted in accordance with supplier's standards. Typical manufacturers include Goulds, Worthington, ITT A-C and Durco.

All manufactured equipment including compressors, pumps, mixers, heat exchangers, instruments, controllers and motors supplied by RCC for the system will be manufacturer's standard product in compliance with RCC specifications. Purchased equipment such as the compressor, pumps, mixers, etc., will be supplied with manufacturer's standard paint. Fabricated vessels such as the evaporator condenser will be supplied with prime paint on carbon steel surfaces; stainless steel and FRP surfaces will be unpainted. Structural steel for supports and skids will be supplied with a finish coat application set by RCC standards.

Non-witnessed testing of manufacturers' equipment, when applicable, will be per RCC standard requirements. Reports of testing results will be available upon request.

2.7 Interfaces

The major flows, chemicals, power and other utilities required for the Brine Concentrator and Spray Dryer System described in this proposal are listed in the *Preliminary Interface List* in Figure 2-7.

**FIGURE 2-7
PRELIMINARY INTERFACE LIST
CDM/PASCO COUNTY DISPOSAL
RCC PROPOSAL NO. 94-2168B**

<u>ITEM</u>	<u>QUANTITY/ CONDITIONS</u>	<u>PROVIDED BY</u>
Feed Flowrate, gpm	24.3	Pasco County
Distillate Flowrate, gpm	Later	RCC
Service Water, gpm	Later	Pasco County
Instrument Air, scfm	Later	Pasco County
Sulfuric Acid (93 wt %), gpd	2.6	Pasco County
Sodium Sulfate (10%), gph	Later	Pasco County
Scale Inhibitor, gal/day	0.35	Pasco County
Startup Steam (@ 10 psig), lbs/hr ^{Note 1}	690	RCC
Natural Gas, MM BTU/Hr	Later	Pasco County
Solids, lb/hr	432	RCC
Electrical Power		
Installed, kW	294	Pasco County
Operating, kW	260	Pasco County

¹ Startup steam is required during cold startup only. Startup steam is not required during normal operation. Boiler requires 835 CFH or 0.83 MMBTU/hr.

2.8 Operation and Maintenance Manual

A preliminary Operation and Maintenance Manual outline is provided below for your information on the Brine Concentrator and Spray Dryer System. The manual includes a table and schematics of interlocks, trip points and set points. The manual is accompanied by a bound volume of vendor data catalogs, drawings and step-by-step maintenance procedures for all equipment used in the installation. This data is divided into sections of mechanical, electrical and instrumentation categories.

O & M Manual Outline:

- Section 1.0 Introduction
- Section 2.0 Description
- Section 3.0 Service Systems Check
- Section 4.0 Seeding the Brine Concentrator
- Section 5.0 Brine Concentrator Startup
- Section 6.0 Spray Dryer Startup and Operation (Optional)
- Section 7.0 Concentrate Sump Brine
- Section 8.0 Normal Operation
- Section 9.0 Hot Standby
- Section 10.0 Startup From Standby (Simplified)
- Section 11.0 Total Shutdown and Cleanup
- Section 12.0 Maintenance

3.0 SCOPE OF WORK

This section defines the work, equipment and services which will be provided by RCC and others in the implementation of the Brine Concentrator and Spray Dryer System for Pasco County as defined in this document.

3.1 RCC Scope of Supply

Provide equipment design and supply as follows:

- Perform process design and provide a Process Flow Diagram (PFD),
- Perform equipment design and provide a P&ID,
- Provide an electrical one line and wiring schematic diagrams,
- Provide general arrangement drawing,
- Provide foundation design criteria,
- Provide as-builts of the P&ID, Electrical One-Line and General Arrangement,
- Provide electrical/instrumentation interface data,
- Provide electrical installation including MCC, wiring and conduits/cable trays,
- Perform I&C design and supply and install PLC system cabinet,
- Specify, procure, deliver, erect and install the Brine Concentrator and spray dryer equipment listed in the *Preliminary Equipment List*, Figure 2-6,
- Design and supply access ladders and platforms,
- Design and provide interconnecting piping,
- Design and provide insulation,
- Provide painting of exposed carbon steel items including ladders and platforms,
- Provide proper pipe labeling,
- Provide system checkout, initial startup and training (including 160 manhours with any additional manhours supplied on a time and materials basis),

- Any additional requirements for engineering labor, equipment or installation which is required by the Owner's Site and Facility design drawings and specifications (Document No. 4) and which is additional to the above scope of supply shall be provided on a time and materials basis or a cost reimbursable basis as applicable,
- Provide and supply 5 copies of Operation and Maintenance Manuals.

3.2 Scope of Supply by Others

All work, equipment and services not provided by RCC as identified in Section 3.1 will be provided by others. This will include but not be limited to:

- Provide access to site including equipment laydown areas,
- Prepare site for system installation,
- Design and provide foundations, anchor bolts and all concrete work and grouting,
- Design and provide building with HVAC in control room and a ventilated electrical area,
- Provide and install electrical substation adjacent to building with underground wiring to MCC location within building,
- Provide area lighting, fire protection, building lighting and building HVAC as required,
- Provide underground electrical grounding system,
- Provide all electrical power, utility water, chemicals, instrument and utility air and other plant process required utilities,
- Provide operations personnel for checkout and initial startup,
- Apply for, obtain and pay for all permits,
- Pay all state and local taxes, fees and any penalties and interest thereon, including reimbursement to RCC if RCC is payer,
- All other items specifically not described as part of RCC's scope of work.

3.3 Clarifications

The following assumptions and clarifications are made regarding the above scope of work for the construction/installation portion of RCC's work on site:

- No paving, fences, roads, sidewalks, area drainage or landscaping is required,
- All overhead interference are relocated from the boundary limits and from the crane pathway to the laydown area,
- Crane service is available within 100 miles of the site,
- The laydown area is approximately 200' x 200' (min.) and located 500' from the boundary limits,
- Connections for supply water, feed, distillate, steam (70-150 psig), drainage and chemical supply interfaces are to be provided by others at the boundary limits,
- Owner to provide temporary water line sized for minimum 20 gpm,
- 480V and 4160V incoming power feeders are available and of sufficient capacity to feed equipment without using transformers (or Owner will provide transformers). Incoming power feeds are to be terminated at the MCC by Owner,
- Owner to provide 400 amp, 120/208V temporary power service at boundary limits for operating electric welding machines,
- The MCC is located within 200' of the vapor compressor.

4.0 SCHEDULE

Design engineering and equipment procurement work shall be completed to meet the following milestone dates:

<u>MILESTONE EVENT</u>	<u>WEEKS FOLLOWING CONTRACT AWARD</u>
1. P&ID, General Arrangement, Electrical One-Line. Package will include preliminary (N-T-E) footprints and loads	16
2. Deliver Brine Concentrator/spray dryer skid design and foundation design criteria	20
3. Deliver all equipment to the site	48
4. Deliver equipment parts lists, recommended spares and O&M manuals	48
5. Equipment installation/erection complete	66

5.0 COMMERCIAL

5.1 Price

This section provides pricing information for the supply of design, procurement, equipment and installation of the Leachate Management System as identified in this proposal. Pricing is offered in two parts; 1) a firm fixed price supply which includes RCC labor, proprietary design, proprietary equipment supply, installation design, overhead and technology fee, and 2) a cost estimate for the cost-reimbursable supply which includes the balance of equipment and installation for the system. Pricing excludes all sales and use taxes, permits, cost of obtaining permits, bonds and penalties and interest. All prices are based on RCC and selected sub-supplier standard designs and practices. Costs of changes to these standards resulting from Buyer review and approval are not included. ~~[This offer remains valid for acceptance until April 26, 1995.]~~

5.1.1 Firm Fixed Price Supply

Included in RCC's firm fixed price supply is the following labor and equipment:

- LABOR
 - Engineering Design
 - Installation Design
 - Project Management
 - Construction Management
 - Purchasing
 - Checkout, Startup and Training (160 hours)
 - Travel and Expenses
- PROPRIETARY EQUIPMENT
 - Condenser
 - Tubes
 - Tubesheets
 - Sump (Vapor Body)
 - Brine Strainer
 - Mist Eliminator
 - Distributors

- Deaerator
- Packing
- Freight on proprietary equipment

- TECHNOLOGY FEE

RCC offers the above scope of work at a firm fixed price of \$1,274,000.00, F.O.B. Hudson, Florida.

5.1.2 Cost-Reimbursable Supply

All equipment (excluding the proprietary equipment listed in Section 5.1.1) freight, installation, and the performance and payment bond will be supplied on a cost reimbursable basis. The cost estimates for these items are included below:

Vapor Ducts w/Expansion Joints (1 set)	\$ 23,000.00
Recirculation Ducts w/Expansion Joints (1 set)	47,000.00
Heat Exchanger	15,000.00
Vapor Compressor	81,100.00
Recirculation Pump & Motor	12,000.00
Feed Pump & Motor	2,500.00
Feed Tank	6,900.00
Feed Tank Mixer & Motor	1,000.00
Distillate Pump & Motor	2,500.00
Distillate Tank	5,100.00
Seed Pump & Motor	2,600.00
Seed Tank	6,000.00
Seed Tank Mixer & Motor	1,200.00
Spray Dryer Feed Tank	45,000.00
Spray Dryer Feed Tank Mixer & Motor	7,700.00
Acid Pump & Motor (2)	5,200.00
Scale Inhibitor Pump & Motor (2)	1,000.00
Scale Inhibitor Tank	1,000.00
Sodium Sulfate Pump & Motor (2)	5,600.00
Sodium Sulfate Tank	6,900.00
Sodium Sulfate Tank Mixer & Motor	2,000.00
Startup/Makeup Boiler	8,100.00
Spray Dryer Feed Pump & Motor	3,300.00
Spray Dryer Equipment	487,000.00
Equipment Skids	150,000.00

Field Instrumentation & Controls	60,000.00
PLC Control System	43,000.00
- Control Cabinet	
- CRT Operator Interface CPU	
- ControlView	
Motor Control Center	20,000.00
Freight on Cost-Reimbursable Equipment	42,000.00
Total Equipment & Freight Estimate	<u>\$ 1,093,700.00</u>
Installation/Construction Estimate	625,000.00
Performance & Payment Bond Estimate	30,000.00
TOTAL ESTIMATED COST	<u>\$ 1,748,700.00</u>

RCC offers to supply the above equipment, F.O.B. Hudson, Florida, freight, installation/construction, and a performance bond at cost. RCC will solicit bids and participate with CDM/Pasco County in equipment and construction contractor selection and award. Actual costs of equipment, including freight, installation/construction, and the performance bond will be passed on to Pasco County.

~~5.2 Technical Services~~

Beyond the 160 hours of technical assistance included in the firm fixed price supply for checkout, startup, training and performance testing, RCC will provide additional on-site services of a technical representative on a time and materials basis as requested at the following rates:

Standard Rate
(8 hours per day, 5 days/week) \$ 79.50/hour

Overtime/Holiday Rate
(over 8 hours/day or over
40 hours per week or weekend) \$ 94.00/hour

Subsistence, per diem, and travel will be billed at actual cost plus G&A of 10 percent.

~~5.3 Invoicing and Payment~~



~~5.3.1 Firm Fixed Price Supply~~

RCC proposes the following method of payment for the firm fixed price supply of this proposal which is based upon completion of the following milestone events:

MILESTONES

% OF FIXED PRICE

1. Delivery of PFD, P&ID and electrical one line drawings	15%
2. Purchase of titanium tubes as evidenced by signed purchase order	20%
3. Delivery of certified drawings required for foundation design	15%
4. Delivery of the following equipment to jobsite:	
a. Evaporator Skid	10%
b. Brine Concentrator Vessel	10%
c. Spray dryer vessel	10%
(The above equipment deliveries will be verified by signed delivery receipts.)	
5. Installation of all equipment verified by visual observation	15%
6. Deliver O&M Manuals	5%

~~5.3.2 Cost-Reimbursable Supply~~

Invoices will be submitted monthly to Pasco County to cover the cost-reimbursable scope of supply.

5.4 Spares

The following list of recommended spares are offered on a cost reimbursable basis:

<u>EQUIPMENT ITEM</u>	<u>SPARES</u>
Feed Heat Exchanger	Gaskets & Plates
PLC Spares	Power Supply, I/O Module
Tank Mixers	Seals & Bearings
Control Valves	Packing, Gaskets & Seals
	Repair Kits & Seats
Recirculation Pump	Bearings, Shaft Sleeve & Repair Kit
Distillate, Feed & Waste Pumps	Bearings, Shaft Sleeves & Maintenance Kits
Acid Pumps	Spare Parts Kit
pH Sensor & Transmitter	Sensor & Electronics
Expansion Joints	Replacements
Recirculation Isolation Valve	Seat, Disc & Shaft
Field Instruments	Transmitter & DP Cell Kits
	Rotameter Repair Kit
	Pressure Regulator Kit
Vortex Flowmeters	Gaskets, Sensor Assembly & Module Assembly
Vapor Compressor	Shims, Gaskets, Bearings & Repair Kit
Spray Dryer Atomizer	Spindle, Gaskets & Bearings
Spray Dryer Lubricator	Gaskets
Air Filters	Replacements
Burner	End Plates & X Section
Baghouse Collector	Bags (1 set), Gaskets, Valve, etc. Kit
Exhaust Fan	Bearings & Belt
Rotary Valve	Bearings & Packing
Atomizer & Vent Blower	Bearings, Gaskets, Impeller & Housing

The estimated cost for the above spares is \$58,000.

6.0 PERFORMANCE GUARANTEES

6.1 Performance Guarantees Offered

The following performance guarantees are offered based on the feed chemistry as defined in Section 2.0:

- Capacity and Distillate Quality

The treatment process furnished by the SELLER is warranted to treat 35,000 gallons of leachate per 24-hour day, producing a distillate quality not to exceed 10 parts per million (ppm) total dissolved solids, excluding volatiles and a dry by-product solid which shall be free flowing.

- Energy Utilization

The vapor compressor shall not consume more than 162 kilowatt hours of electricity per 1,000 gallons of leachate treated.

The spray dryer shall not consume more than 2.5×10^6 BTU per hour of natural gas when operating at the name plate rating of the facility (35,000 gpd).

- Moisture Content of Dry Solids

The dry solid produced as a result of the treatment process shall have a moisture content not exceeding five (5) per cent by weight when sampled at the residue outlet of the spray dryer.

6.2 Acceptance Test

After system installation and checkout, the system shall be operated for 5 days following a 14 day initial operation period to test its conformance to specifications. The plant will be deemed to have passed the acceptance test when the following has been demonstrated:

- Feed processed to the evaporator at the rate stated in 6.1 above and will be measured over the entire 5 day period.
- The distillate quality, compressor energy and moisture content of solids stated in 6.1 above will be measured during a 48 hour period of continuous and trouble-free operation within the 5 day test.

6.3 Basis of Performance Guarantees

The above guarantees are based on the following:

- ~~• Any variation from the normal (design) feed chemistry shown in Figure 2-1 will require modification to these guarantees.~~
- A mutually agreed upon test plan between vendor and buyer prior to the acceptance test will be developed.
- Test shall be conducted with equipment in a commercially clean condition.





PASCO COUNTY, FLORIDA

DADE CITY (904) 521-4274
LAND O' LAKES (813) 996-7341
NEW PORT RICHEY (813) 847-8145

UTILITIES SERVICES BRANCH
PUB. WKS./UTILITIES BLDG., S-205
7530 LITTLE ROAD
NEW PORT RICHEY, FL 34654

Mr. Kim Ford, P.E. I
Solid Waste Section
Florida Department of
Environmental Protection
3801 Coconut Palm Drive
Tampa, FL 33619-8318

RECEIVED
MAY 18 1995

Department of Environmental Protection
SOUTHWEST DISTRICT
BY _____

RE: West Pasco Solid Waste Cell SW-1
#PA87-23 - Pasco County

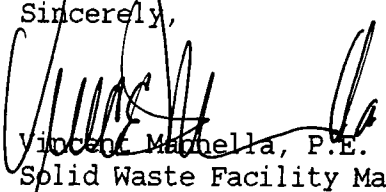
Dear Mr. Ford:

In response to your letter dated May 1, 1995 regarding the removal of ash and installation of a pizometer in SW-1, the following data is hereby submitted:

To date, Pasco County has determined that the ash base placed in SW-1 shall be removed. The special fill on the liner will be restored and regraded to its original state.

The pizometer has been installed on the top of the 12' header pipe. Grades at Valley and Ridge has been established, a difference of approximately 1' daily checks of pizometer have proven dry. This is not good for data base. Rainfall from April 1st to May 11th has been zero. On the night of May 11/12, 1/2" of rain was recorded, not much; pizometer read dry.

Sincerely,

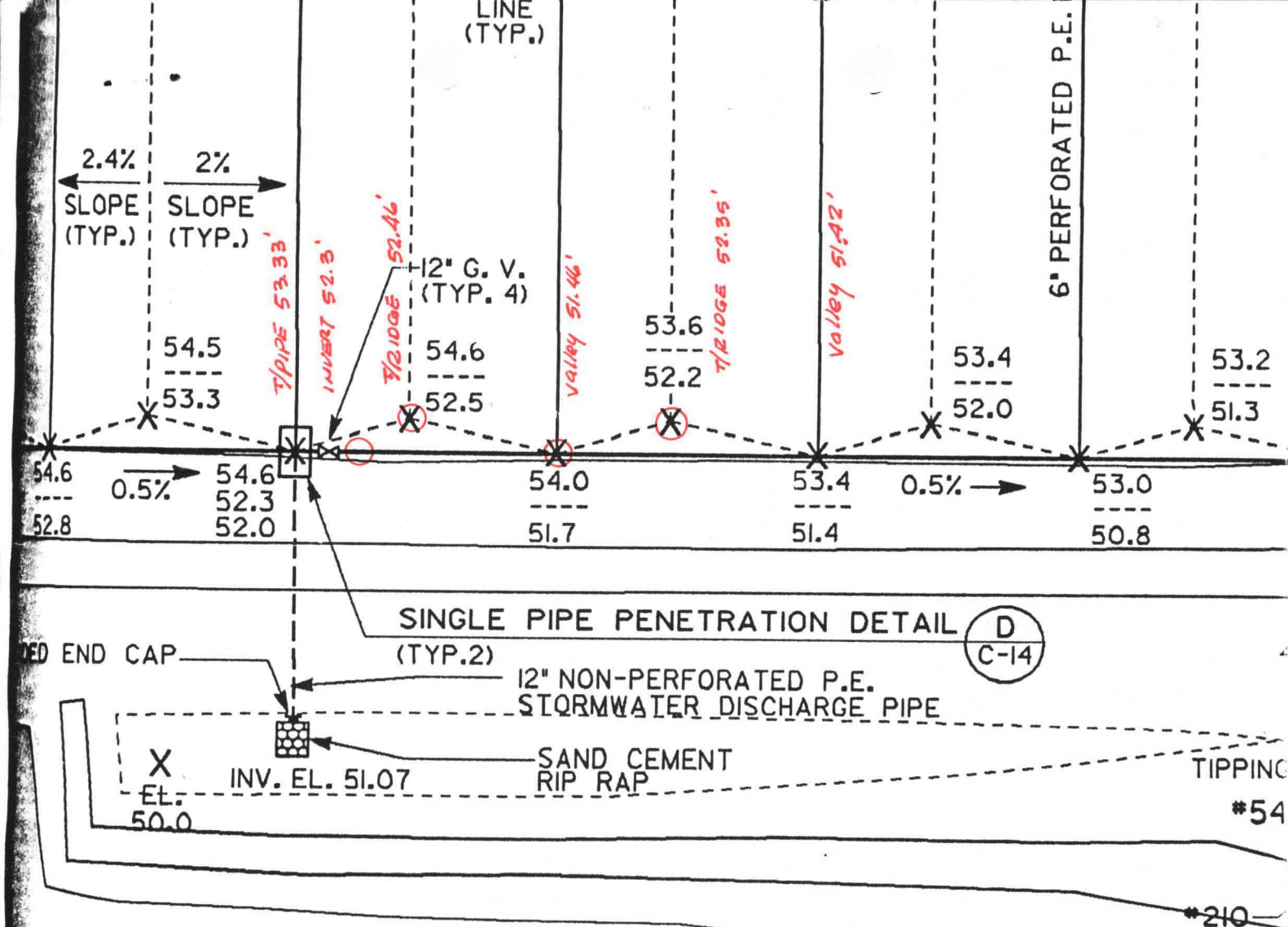

Vincent Marchella, P.E.
Solid Waste Facility Manager

8613006

VM/mvv

Enclosure

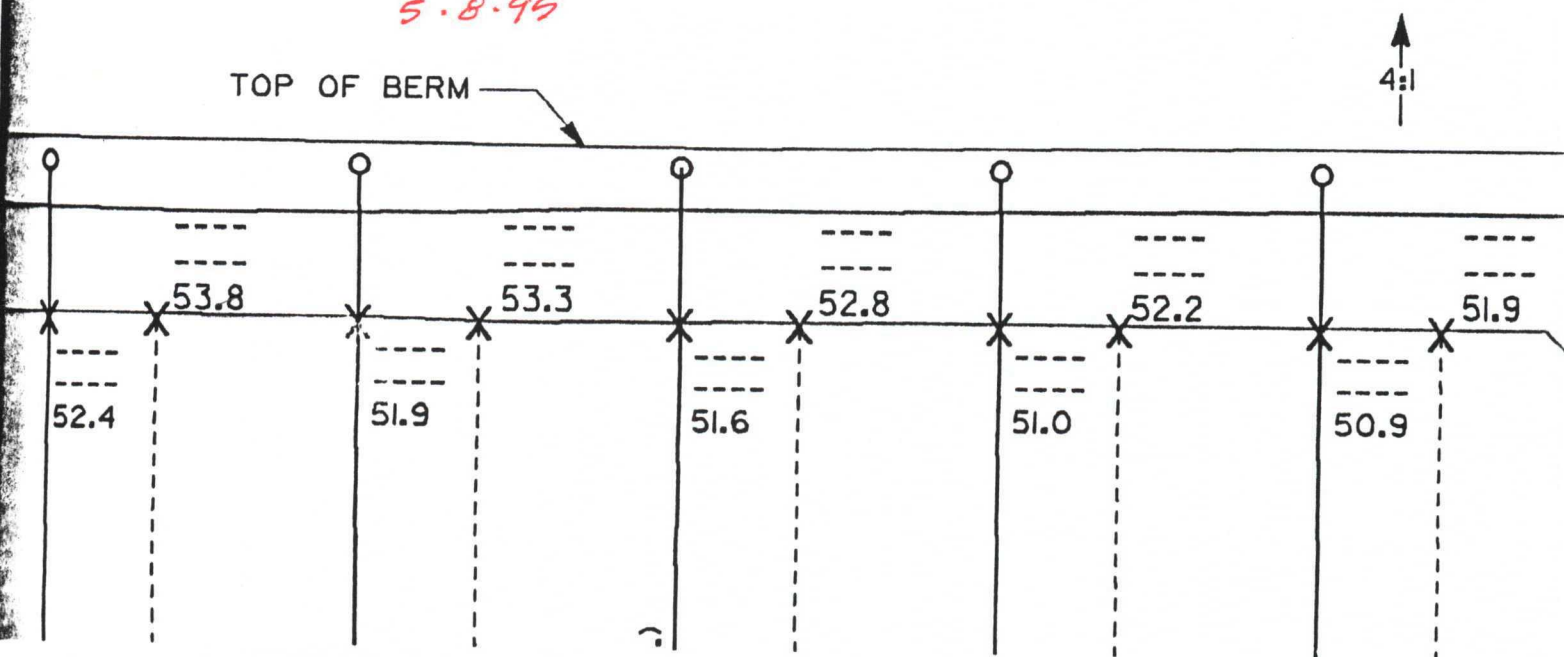
cc: Robert Butera, FDEP, Tampa, FL
Douglas S. Bramlett, Assistant County Administrator (Utilities Services)

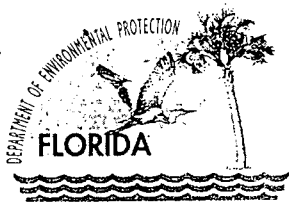


RY LEACHATE COLLECTION SW-1

ELEVATIONS TAKEN BY

VINCE MANNELLA & RON WALKER
5.8.99





Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

May 17, 1995

Mr. Vincent Mannella, P.E.
Solid Waste Facility Manager
Pasco County Utilities
7530 Little Road
New Port Richey, FL 34654

Re: Leachate Quantity Report
West Pasco Solid Waste Cell SW-1
#PA87-23, Pasco County

Dear Mr. Mannella:

A review of the most recent leachate quantity report submitted on May 15, 1995 indicates 0 gallons of leachate removed from SW-1. The County is requested to provide an accurate measurement of the quantity of leachate removed from the disposal unit SW-1 as soon as possible. This information is according to FAC Rule 62-701.500(8)(f) and (g) required since SW-1 has been put into service. Please provide a description of the methods of measuring the quantities of leachate collected and rainfall. If these measurements are not currently conducted, please provide a schedule for implementation.

The Department has not received a response to its May 1, 1995 letter (attached) regarding the removal of solid waste and leachate management for SW-1.

A response to this letter and the May 1st letter is requested by June 1, 1995. If you have any questions, you may call me at (813) 744-6100, extension 382.

Sincerely,

Kim B. Ford, P.E.
Solid Waste Program
Division of Waste Management

KBF/ab
Attachment

cc: Douglas Bramlett, Pasco County
Michael Landi, Pasco County
Robert Butera, P.E., FDEP Tampa



Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

May 1, 1995

Mr. Vincent Mannella, P.E.
Solid Waste Facility Manager
Pasco County Utilities
7530 Little Road
New Port Richey, FL 34654

Re: West Pasco Solid Waste Cell SW-1
#PA87-23, Pasco County

Dear Mr. Mannella:

Thank you for your April 26 1995 letter. The Department does not object to the removal of the stored solid waste from Cell SW-1, however, requests the ash base underneath the solid waste remain in place rather than being excavated. Work in removing the ash base could cause liner damage and should be avoided. Additionally, the Department previously requested a piezometer be installed over the leachate header on the waste side of the divider that separates leachate from stormwater. Please provide the details for this piezometer and the elevations for both the top of the divider and piezometer.

Special care should be exercised while installing the piezometer which should be closely monitored and installed manually. This piezometer will be used for monitoring the depth of leachate to insure that it does not over-top the divider. Please provide a plan for its use.

If you have any questions, you may call me at (813) 744-6100, extension 382.

Sincerely,

Kim B. Ford, P.E.
Solid Waste Program
Division of Waste Management

KBF/ab

cc: Douglas Bramlett, Pasco County
Robert Butera, P.E., FDEP Tampa
Steve Morgan, FDEP Tampa

"Protect, Conserve and Manage Florida's Environment and Natural Resources"

Printed on recycled paper.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

ROUTING AND TRANSMITTAL SLIP

TO: (NAME, OFFICE, LOCATION)

1. DOUGLAS BRAMLETT
2. PASCO County UTILITIES
3. 1536 STATE STREET
4. NEW PORT RICHEY, FL 34654

W pasco CLASS I Expansion
PLS REVIEW AND
COMMENT ON THE
CONSIDERAS

THX

FROM:

Jim Ford

(813)

DATE

5/11/95

PHONE

7446100 x38

Virginia B. Wetherell
Secretary
DRA

Bob

Any
Comments?

fa

Bob

Any
Comments?

fa

RB



STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

ROUTING AND TRANSMITTAL SLIP

Lav
C

Virginia B. Wetherell
Secretary

TO: (NAME, OFFICE, LOCATION)

1. RICHARD MAYER
2. LAW COMPANIES
3. 4914 WEST LAUREL STREET
4. TAMPA, FL 33623

W PASCO
CLASS E EXPANSION

P-1 REVIEW
AND COMMENT
ON THE CONDITIONS
TAX

of the West
fication

44-6100,

nt

FROM:

[Signature]

DATE

5/12/95

PHONE

08-18-93

----- Maryann, 1001 Tampa



Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

May 1, 1995

Mr. Vincent Mannella, P.E.
Solid Waste Facility Manager
Pasco County Utilities
7530 Little Road
New Port Richey, FL 34654

Re: West Pasco Solid Waste Cell SW-1
#PA87-23, Pasco County

Dear Mr. Mannella:

Thank you for your April 26 1995 letter. The Department does not object to the removal of the stored solid waste from Cell SW-1, however, requests the ash base underneath the solid waste remain in place rather than being excavated. Work in removing the ash base could cause liner damage and should be avoided. Additionally, the Department previously requested a piezometer be installed over the leachate header on the waste side of the divider that separates leachate from stormwater. Please provide the details for this piezometer and the elevations for both the top of the divider and piezometer.

Special care should be exercised while installing the piezometer which should be closely monitored and installed manually. This piezometer will be used for monitoring the depth of leachate to insure that it does not over-top the divider. Please provide a plan for its use.

If you have any questions, you may call me at (813) 744-6100, extension 382.

Sincerely,

Kim B. Ford, P.E.
Solid Waste Program
Division of Waste Management

KBF/ab

cc: Douglas Bramlett, Pasco County
Robert Butera, P.E., FDEP Tampa
Steve Morgan, FDEP Tampa

"Protect, Conserve and Manage Florida's Environment and Natural Resources"



Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

Mr. Douglas Bramlett, Assistant County Administrator
Pasco County Utilities Services
7536 State Street
New Port Richey, FL 34654

April 28, 1995

RE: Financial Responsibility Cost Estimates
West Pasco Class I Landfill, PA 87-23, Pasco County
West Pasco Class I Landfill, SW-1, Pasco County

Dear Mr. Bramlett:

This letter is to acknowledge receipt of the following information submitted by Law Engineering & Environmental Services:

1. Revised financial assurance cost estimates dated January 20, 1995, submitted in support of the estimates originally dated June 28, 1994, for the closure and long-term care of the West Pasco Class I Landfill (ash monofill); and
2. Financial assurance cost estimates dated January 23, 1995 for the closure and long-term care of the "solid waste cell" SW-1 at the West Pasco Class I Landfill.

The cost estimates as referenced above are not approved. Additional information is needed to fully evaluate the estimates submitted. Please respond to the following:

GENERAL:

1. Please provide revisions on a copy of the original estimates, with revisions specifically noted, and all costs totaled.
2. The final cover design appears to have been revised to include a "geofabric" and clay instead of a "geofabric" and a geomembrane. Please be advised that landfills which use a geomembrane in the bottom liner shall incorporate a geomembrane in the final cover system pursuant to FAC 62-701.600(5)(g)1. Please describe the type of "geofabric" which is proposed. Please revise the cost estimates to comply with the final cover requirements of FAC 62-701.600.
3. Please explain any discrepancies between costs for items common to the Ridge Road Landfill, West Pasco Class I (ash monofill cells and SW-1), and West Pasco Class III (e.g. mowing, sodding, water quality monitoring, etc.).

Class I Ash Monofill Cells:

1. The estimates dated January 20, 1995, indicate that "Both pages, 6 of 11 and 11 of 11, are signed and sealed by a professional engineer." However, the estimates received by the Department do not bear the original signature and seal of the professional engineer. Please provide revised estimates which bear the original signature and seal of the professional engineer who prepared them.

"Protect, Conserve and Manage Florida's Environment and Natural Resources"

2. The Department's January 4, 1995 letter requested additional clarification on maintenance of leachate collection/treatment systems, and administrative/overhead costs. This information was provided in the January 20, 1995 response. However, several costs which were satisfactory in the December 1, 1994 estimate were revised to costs previously submitted on June 28, 1994 (which were not satisfactory). Please explain why the following costs were revised from the December 1, 1994 (acceptable) amounts back to the June 28, 1994 (unacceptable) amounts:

- a. Slope & Fill - Delivery \$2.50/CY; no cost for placement, spreading or compaction.
- b. Geofabric - \$0.70/SY; December 1, 1994 estimate indicated that this item is \$0.10/SF.
- c. Top Soil Cover - no cost for placement, spreading, compaction; quantity does not appear to include the total thickness of protective layer required.
- d. Hydroseeding - \$875/acre; December 1, 1994 estimate indicates \$2,178/acre.
- e. Groundwater monitoring - \$500 (semi-annual), \$1500 (annual); December 1, 1994 estimated indicated that these costs are \$575 and \$1,575 per sample per event, respectively.
- f. Leachate monitoring - \$500 (semi-annual), \$1500 (annual); December 1, 1994 estimated indicated that these costs are \$575 and \$1,575 per sample per event, respectively.
- g. Mowing - \$500; December 1, 1994 estimate indicates that this cost is \$250. Since the third party estimate submitted in support of this cost is based on a 1993 county bid, this cost should be adjusted for inflation to 1995 dollars.
- h. Sodding - \$10,000/acre; December 1, 1994 estimate indicates that this item is \$0.25/SF.

Class I, "Solid Waste Cell" SW-1:

1. The information submitted indicates that SW-1 has "not [been] utilized yet". However, the Department understands that leachate has been stored in this cell for some time. Please provide the date when this cell began accepting leachate or other solid waste for disposal or "temporary" storage.
2. Please explain the discrepancy between the costs provided in the December 1, 1994 estimate for the ash monofill cells and the costs provided in the January 23, 1995 estimates provided for SW-1. (See comments above.)
3. Please explain why a cost for gas monitoring probes is not included, or provide a revised cost.
4. Since the water quality monitoring costs are based on a 1993 bid, please update these costs to reflect 1995 dollars, or provide revised costs. It appears that the cost listed does not include monitoring for all parameters required. Please explain if Appendix I parameters are included in the groundwater monitoring costs. Please explain why no cost for annual leachate monitoring is included, or provide a revised cost.
5. Since SW-1 is only 10 acres, please explain why mowing costs listed are for 31 acres.

6. Please clarify why the maintenance of the groundwater monitoring wells "cost shares with the SW-1 cell" (since the estimate is for the SW-1 cell).

The Department requests that all information be provided to the Solid Waste Section, FDEP, Tampa office within thirty (30) days of this notice. If you have any questions, you may contact me at (813) 744-6100 ext. 386.


Sincerely,

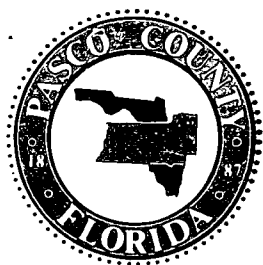


Susan J. Pelz, E.I.
Solid Waste Section
Division of Waste Management

sjp

cc: Robert J. Sigmond, Utilities Fiscal Services/Special Project Director, Pasco County,
7536 State St., New Port Richey, FL 34654
Vincent Mannella, P.E., Solid Waste Facility Manager, Pasco County Resource Recovery
Facility, 14230 Hays Road, Spring Hill, FL 34610
Richard E. Mayer, P.E., Law Environmental, PO Box 24183, Tampa, FL 33623
Fred Wick, FDEP, Tallahassee, w/attachment
Robert Butera, P.E., FDEP Tampa
Kim Ford, P.E., FDEP Tampa
Steve Morgan, FDEP Tampa





PASCO COUNTY, FLORIDA

D.E.P.

APR 27 1995

SOUTHWEST DISTRICT
TAMPA

DADE CITY (904) 521-4274
LAND O' LAKES (813) 996-7341
NEW PORT RICHEY (813) 847-8145

UTILITIES SERVICES BRANCH
PUB. WKS./UTILITIES BLDG., S-205
7530 LITTLE ROAD
NEW PORT RICHEY, FL 34654

April 26, 1995

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

RE: West Pasco Solid Waste Cell SW-1
P.A. B7-23, Pasco County

Dear Mr. Ford:

I herewith acknowledge receipt of your letter dated April 18, 1995. You are correct in having concerns regarding the stockpiling of and eventual removal of Municipal Solid Waste (MSW) from SW-1. Please be advised and assured that your concerns for liner integrity are amply magnified by Pasco County concerns for the cell integrity.

We understand that solid waste storage in SW-1 must comply with FAC 62-701, and the tenor of your letter of April 18, 1995 indicates our compliance with the rule for which we thank you. "Special Precautions" must not only be taken in removal of the solid waste from SW-1, but be advised "very special precautions" were taken prior to placing solid waste in SW-1.

A substantial ramp of sand lime rock and topping of boiler ash was made to descend down grade into the cell. At the ramp bottom, boiler ash was placed on the cell bottom and was pushed by dozer spreading the ash. The spreading took place with the dozer working on a full 1'-0 of compacted ash. The area was ash covered with selected ash free of metal and/or sharp objects, then compacted prior to the first load of MSW entering into the cell.

In regard to your three concerns, permit me a brief response. We share your concerns and fully understand the seriousness of our responsibilities.

Concern #1. The ash placed over the protective layer of soil in close proximity to inside slopes and MAY effect the collection and removal of leachate.

Mr. Kim Ford, P.E.
April 25, 1995

Response: Be advised your concern is valid, however, we have had 5.00 inches of rain from March 27th to date, and leachate from SW-1 has flowed to the holding tank freely in an uninterrupted fashion.

Concern #2. Storm water discharged from the Southwest side of cell SW-1 may be mixed with leachate.

Response: Pasco County did not believe this was possible, but in compliance with your suggestion, a Pizometer was installed and checked daily; after, before, and during rain storms, the Pizometer remained dry.

Concern #3. The on-site operator was not familiar with the landfill operating plan.

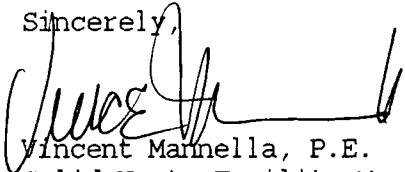
Response: The on-site operator was just that, an equipment operator operating a standard compactor. Further, FDEP personnel frighten equipment operators. The Superintendent left the site temporarily, for personal reasons, and was not absent from the site for more than 15 minutes and continually monitors the operations.

The solid waste will be removed from SW-1 in the same manner in which it was placed there - very carefully. The loader and haul trucks will work off of a 1'-0 thick bed of well compacted boiler ash, which will provide perfect protection to the protective layer of soil over the liner. Caution, great caution, will be exercised in removal of the MSW via the loader. Once the MSW has been removed, a Gradall will be employed to peel back the boiler ash, the area will be contoured and returned to original grade. The Gradeall will work on the ash base, peeling back the ash and loading it into trucks for return to ash cell A-1 or A-2. The Gradeall being the most accurate and controllable piece of construction equipment made, makes damage to the liner moot. We understand all material drained from that section of SW-1 will always be considered leachate and will be treated as such.

Mr. Kim Ford, P.E.
April 25, 1995

I trust I have responded to all of your concerns, however, should the contrary be the case, please call me direct at (813) 856-0119.

Sincerely,



Vincent Marnella, P.E.
Solid Waste Facility Manager

VM/mvv

cc: Robert Butera, Florida Department of Environmental Protection (FDEP),
3804 Coconut Palm Drive, Tampa, FL 33619
Hamilton Owen, P.E., Florida Department of Environmental Protection,
(FDEP), Twin Towers Office Building, 2600 Blair Stone Road,
Tallahassee, FL 32301
Douglas S. Bramlett, Assistant County Administrator (Utilities Services)



PASCO COUNTY, FLORIDA

RECEIVED
APR 28 1995

Department of Environmental Protection
SOUTHWEST DISTRICT

BY _____

DADE CITY (904) 521-4274
LAND O' LAKES (813) 996-7341
NEW PORT RICHEY (813) 847-8145

UTILITIES SERVICES BRANCH
PUB. WKS./UTILITIES BLDG., S-205
7530 LITTLE ROAD
NEW PORT RICHEY, FL 34654

April 24, 1995

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

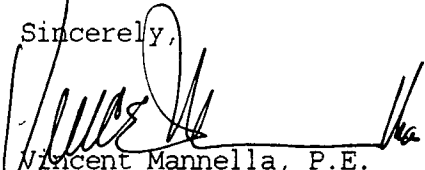
RE: Pasco County Ash Cell A-2

Dear Mr. Ford:

Please be advised that Pasco County has awarded the contract for the construction of Ash Cell A-2 to the Canonic Environmental Services Corp. The award was made in April, 1995. Contract and bonds in place by May 15, 1995 (or sooner). Mobilization by May 30, 1995. Construction to start on or before June 1, 1995. This construction schedule is tentative but will provide a base line from which the future plans and or operations may develop.

Please be advised that to date I have not received the conditions of certification that were to be sent by the Florida Department of Environmental Protection in lieu of the permit for Cell A-2.

Sincerely,


Vincent Mannella, P.E.
Solid Waste Facility Manager

VM/mvv

cc: Robert Butera, Florida Department of Environmental Protection (FDEP),
3804 Coconut Palm Drive, Tampa, FL 33619
Richard E. Mayer, P.E., Law Environmental, Inc., 1715 N. Westshore Blvd.,
Tampa, FL 33607
Douglas S. Bramlett, Assistant County Administrator (Utilities Services)



Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

April 18, 1995

Mr. Vincent Mannella, P.E.
Solid Waste Facility Manager
Pasco County Utilities
7530 Little Road
New Port Richey, FL 34654

Re: West Pasco Solid Waste Cell SW-1
#PA87-23, Pasco County

Dear Mr. Mannella:

In response to your January 6, 1995 letter to Mr. Kim Ford, you notified DEP that "glass cutlet" would be stored in Cell SW-1. In your March 31, 1995 letter to Mr. Hamilton Oven, you notified DEP that "Pasco County will start today to stockpile MSW in SW-1". The Department is concerned about the expanded nature of activities in Cell SW-1.

The County is advised that any solid waste storage in Cell SW-1 must comply with all the requirements in FAC 62-701 for solid waste disposal. There are no rule exemptions for this "storage" of solid waste. There is additional concern that removal of solid waste may affect the integrity of the existing liner system. Special precautions must be taken. Please describe all proposed activities associated with solid waste removal from Cell SW-1.

Upon visiting the site on April 7, 1995 and observing activities in Cell SW-1, the Department noticed several concerns for which a response is requested. These are:

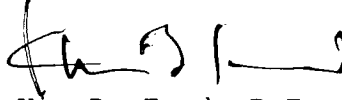
1. Ash has been placed over the protective layer of soil in close proximity to inside slopes and may affect the collection and removal of leachate;
2. Stormwater discharged from the southwest side of Cell SW-1 may be mixed with leachate; and
3. The on-site operator was not familiar with the landfill operating plan.

Mr. Vincent Mannella
Solid Waste Facility Manager
Pasco County Utilities

April 18, 1995
Page Two

Please provide your response to this letter by May 1, 1995. If you have any questions, you may call me at (813) 744-6100, extension 382.

Sincerely,

A handwritten signature in black ink, appearing to read "Kim B. Ford".

Kim B. Ford, P.E.
Solid Waste Program
Division of Waste Management

KBF/ab

cc: Douglas Bramlett, Pasco County
Hamilton Oven, P.E., FDEP Tallahassee
Robert Butera, P.E., FDEP Tampa



PASCO COUNTY, FLORIDA

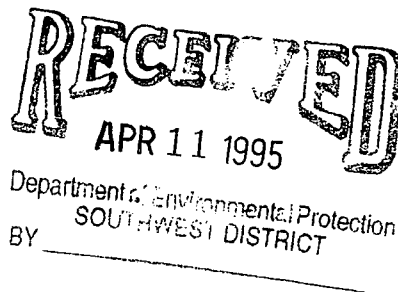
DADE CITY (904) 521-4274
LAND O' LAKES (813) 996-7341
NEW PORT RICHEY (813) 847-8145

UTILITIES OPERATIONS AND
MAINTENANCE DEPARTMENT
PUB. WKS./UTILITIES BLDG., S-205
7530 LITTLE ROAD
NEW PORT RICHEY, FL 34654

LETTER OF UNDERSTANDING

March 29, 1995

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



FE: Pasco County Ash Cell A-2 - Power Plant
Siting Act Permit 140 PSO-FL-127

Dear Mr. Ford:

Pursuant to our telephone conversation this date, this Letter of Understanding has been prepared for our mutual consideration and agreement.

The Pasco County Resource Recovery Facility has been issued a permit under the Power Plant Siting Act, which permit included construction and use of 16 separate MSW and ash cells and which are coincident to each other. The FDEP cannot issue a separate permit for Ash Cell A-2.

Per your recommendation, Pasco County could award the contract for the construction of A-2, without any serious ramifications considering Mr. Butera's review, which has not been made to date. In Mr. Butera's review, should some item arise that would need revised or changed, the contractor could be issued a change order for such revision. There was little concern that any major revisions would be forthcoming from Mr. Butera's review.

Pasco County could expect written comments regarding General Condition No. 10 in the final determination on Permit No. PSO-FL-127 dated September 19, 1986. It is my understanding your written comments would include Class I Landfill General Conditions and/or some special conditions that are routinely issued by the FDEP on all Class I Landfills.

Please advise me immediately if my understanding of our conversation is other than your understanding of our discussions.

Sincerely,


Vincent Vannella, P.E.
Solid Waste Facility Manager

VM/s040302:ltr

cc: Robert Butera, Professional Engineer III, Solid Waste Section, Florida Department of Environmental Protection, 3804 Coconut Palm Drive, Tampa, FL 33619-8318

Hamilton "Buck" Oven, Power Plant Siting Coordinator, Florida Department of Environmental Protection, 3804 Coconut Palm Drive, Tampa, FL 33619-8318
Douglas S. Bramlett, Assistant County Administrator (Utilities Services)



Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

SITE INSPECTION REPORT

NAME OF SITE: Wasco Class I DATE: 4/7/95
SITE ADDRESS/LOCATION: Hay Road
CITY: _____ PERMIT #: _____

REASON FOR VISIT:

- COMPLIANCE INSPECTION _____
- PERMITTING INSPECTION _____
- COMPLAINT INVESTIGATION _____

PERSONS PRESENT: Alison A. Emerson,
Vince Mammella, Ron Waller

SUMMARY REPORT: _____
Discussed "stockpiling" in SW-1
with MSW.
I asked ASH not be placed within
20' of inside slopes and
explained the rule for disposal apply
there was a question regarding
discharge from "stormwater diversion"
pipeline in ~~SW-1~~ SW to the south west.
Mr Mammella said he will investigate
leachate level and make sure leachate
does not backup into unlined portions
of the ~~SW-1~~ SW-1

VIOLATIONS NOTED: _____

DEP REPRESENTATIVE: [Signature]



PASCO COUNTY, FLORIDA

DADE CITY (904) 521-4274
LAND O' LAKES (813) 996-7341
NEW PORT RICHEY (813) 847-8145

UTILITIES OPERATIONS AND
MAINTENANCE DEPARTMENT
PUB. WKS./UTILITIES BLDG., S-205
7530 LITTLE ROAD
NEW PORT RICHEY, FL 34654

D.E.P.

April 6, 1995

APR - 7 1995

SOUTHWEST DISTRICT
TAMPA

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

RE: West Pasco Solid Waste Cell SW-1

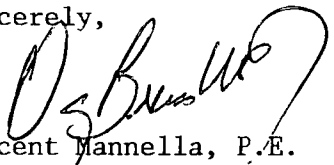
Dear Mr. Ford:

Pursuant to our telephone discussion this date, the following additional information is herewith submitted, per your request. The additional information should be considered as a supplement to my letter to Hamilton "Buck" Owen, P.E., of March 31, 1995.


All of the MSW now being placed in storage is so placed in compliance with Chapter 17-701. There is a licensed operator on site at all times. Special care has been taken to protect the liner and, when removing the MSW from SW-1, special care will be exercised in an effort not to damage the liner. Pasco County will restore SW-1 to its original condition after all MSW has been removed. Liner cover was checked prior to placing MSW in SW-1 and, if the selected area is to be expanded, liner cover will once again be checked. The base MSW was carefully screened for suitability as the base layer. We check loads daily as a routine and continue to do so in loads of MSW received in SW-1.

I trust that this communication will be sufficient for our needs.

Sincerely,


Vincent Mannella, P.E.
Solid Waste Facility Manager

VM/s040606:ltr

cc: Bob Butera, Professional Engineer III, Solid Waste Section, Florida Department
of Environmental Protection, 3804 Coconut Palm Drive, Tampa, FL 33619-8318
 Douglas S. Bramlett, Assistant County Administrator (Utilities Services)



PASCO COUNTY, FLORIDA

DADE CITY (904) 521-4274
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UTILITIES OPERATIONS AND
 MAINTENANCE DEPARTMENT
 PUB. WKS./UTILITIES BLDG., S-205
 7530 LITTLE ROAD
 NEW PORT RICHEY, FL 34654

April 6, 1995

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

Post-It™ Fax Note	7671	Date	4/6/95	Page	1
To	K. FORD	From	VINCE MANNELLA		
Co./Dept.	FDEP	Co.	P.C. UTILITIES		
Phone #		Phone #	847-8145		
Fax #	744-6125	Fax #			

RE: West Pasco Solid Waste Cell SW-1

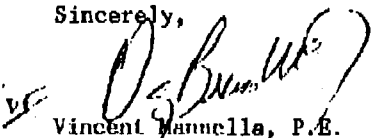
Duar Mr. Ford:

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I trust that this communication will be sufficient for our needs.

Sincerely,


 Vincent Mannelle, P.E.
 Solid Waste Facility Manager

VM/s040606:ltr

cc: Bob Butera, Professional Engineer III, Solid Waste Section, Florida Department of Environmental Protection, 3804 Coconut Palm Drive, Tampa, FL 33619-8318
 Douglas S. Bramlett, Assistant County Administrator (Utilities Services)



DADE CITY (904) 521-4274
 LAND O' LAKES (813) 996-7341
 NEW PORT RICHEY (813) 847-8145

Post-It Fax Note 7671		Date 4-5-95	# of pages 7
To Kim Ford		From Vince	
Co./Dept. DEP		Co. Pasco Co.	
Phone 813-744-6100		Phone 813-856-0119	
Fax 813-744-6125		Fax 813-856-0007	

January 6, 1995

Mr. Kim Ford, P.R.
 Florida Department of
 Environmental Protection
 3804 Coconut Palm Drive
 Tampa, FL 33619-8318

RE: Leachate Quantity Reports - East and West Pasco County
 Landfills; Permit Nos. S051-187368 and S051-182279; FDEP
 Letter of December 5, 1994

Dear Mr. Ford:

Thank you for the 30-day extension to respond to your letter of December 5, 1994. I shall respond to each item as it appeared in your letter of December 5, 1994.

1. A separate spread sheet for each landfill will be prepared by Michael Landi, Accountant II, and will be submitted as required in a timely manner.
2. East Pasco Landfill: I believe that the difference in leachate quantities in Tank No. 5 is the result of several factors. First, the active area, although covered with earth and properly drained to control surface sheet flow of stormwater, is not an impervious covering. The cover is sand and porous. Second, perhaps there may be some local ponding. I will check the area and will make every effort to eliminate ponding on the active inter-phase, if, in fact, ponding exists.
3. West Pasco Landfills: Daily LDS for A-1 and SW-1 will be provided to you per your request as soon as Pasco County purchases the required meters. The purchasing process has begun. LDS will be provided for A-1, SW-1, and the future A-2.
4. West Pasco County has one MSW cell referred to as SW-1. The approximate size of SW-1 is 9.03 acres of which 3.40 acres remains unused and in its original state of completed construction. SW-1 also has approximately 5.63 acres which has been used to store leachate surges from A-1 following heavy rains. The rain collected in the 3.4 acres of SW-1 on the west of the cell is discharged to the ground and flows over the surface as stormwater, which it is. The area on the east side of SW-1 used as leachate storage and dilution is now being utilized for storage of Pasco County glass cullet residue. It is our intent to utilize SW-1 for this purpose for an extended period of time. Be advised Pasco County is currently contracting for the construction

of an evaporator/crystallizer to provide treatment for the leachate from both A-1 and SW-1, and the future A-2.

5. The quantities of leachate reported on the October 21, 1994, spread sheet include A-1, both primary and secondary, and part of SW-1 primary and secondary. I understand the FDEP wishes to have the leachate reported separately for each liner and each unit. To do this reporting as required, metering and piping construction will be mandated. These projects are under consideration and will be implemented in the near future.
6. I have no idea or logic to explain why rainfalls are consistently lower at the Class I than at the Class III. The rainfall is measured at the Class I landfill situate in the immediate vicinity of the secondary leachate collection tank. The rainfall is measured at the Class III landfill immediate vicinity of the scale house.

In both locations, the rain gauge is read and recorded on the standard Pasco Leachate Recording Forms. I will counsel all readers to take particular care in future readings. I trust future readings will be true and accurate and will validate a rainfall differential we are now seeing.

7. The leachate report of October 21, 1994, appears to be incorrect. In discussions with staff, I find it impossible to untangle at this point in time. Pasco Class III did incur meter problems. May I suggest that the September 17 reading might indicate a 15,896 gal./day average, and the September 30 reading might average daily flow of 37,561 gal./day? I am at a loss for a rational explanation.

Please be advised I am reasonably assured that the 1'-0 head of leachate above the liner was not exceeded. A definitive explanation of this question, regarding daily leachate pumping reporting, etc., cannot be made.

I can assure you that more care in daily reading and reporting will follow.

Sincerely,



Vincent Mannella, P.E.
Solid Waste Facility Manager

VM/r010402:ltr

Enclosures:

1. Present and Future Leachate Meter Locations Plan
2. Plan of East Pasco Class I Landfill Areas
3. Plan of West Pasco Cells

cc: Robert Butera, P.E., Florida Department of Environmental Protection, 3804 Coconut Palm Drive, Tampa, FL 33619-8318
Douglas S. Bramlett, Assistant County Administrator (Utilities Services)
Michael F. Landi, Accountant II

12/28/94

CLASS I LANDFILL - EAST PASCO

AREA	TITLE	STATUS	ACREAGE	LEACHATE COLLECTION POINT
1	Old 40	Closed	41.22 acres	None
2	Phase I	Closed	15.86 acres	None
3	Interphase	Working	7.51 acres	Tank No. 5
4	Phase II	Inactive; not closed	14.1 acres	Tank No. 4
5	Phase III & IV	Closed	23.70 acres	Tank Nos. 3 and 4
6	Interim	Closed	11.60 acres	Tank No. 1

CLASS III - WEST PASCO

AREA	TITLE	STATUS	ACREAGE	LEACHATE COLLECTION POINT
1	Cell 1	C/O open	3.39 acres	Holding tank
2	Cell 2	Not in use	3.39 acres	---
3	Cell 3	Not in use	3.39 acres	---
4	Cell 4	Brush	3.39 acres	Holding tank

ASH CKLL A-1 - WEST PASCO

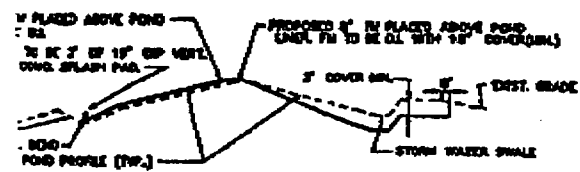
AREA	TITLE	STATUS	ACREAGE	LEACHATE COLLECTION POINT
1	A-1 Cell	Working	9.25 acres	Collection tanks*

*Primary and LDS tanks

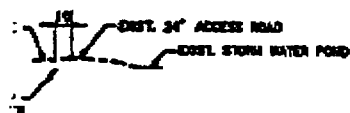
SW-1 CKLL - WEST PASCO

AREA	TITLE	STATUS	ACREAGE	LEACHATE COLLECTION POINT
1	Not active	Not used	3.40 acres	Drain to surface
2	Active	Working	5.63 acres	Collection tanks*

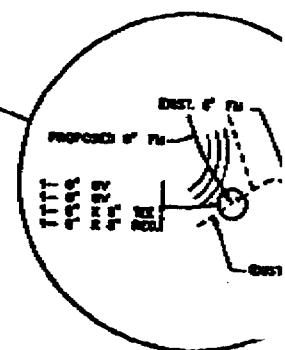
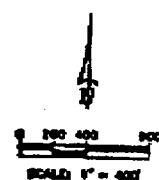
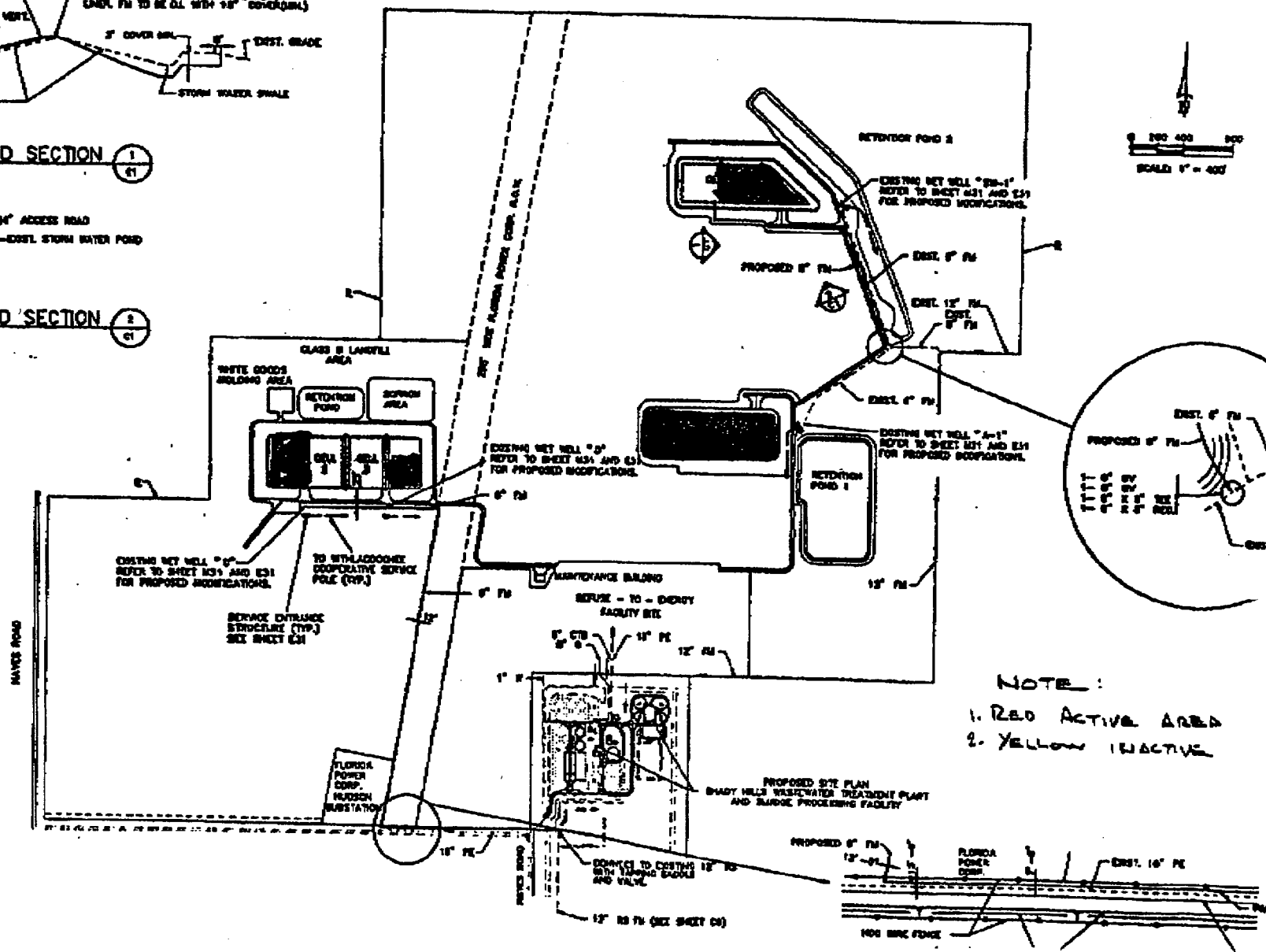
*Primary and LDS tanks



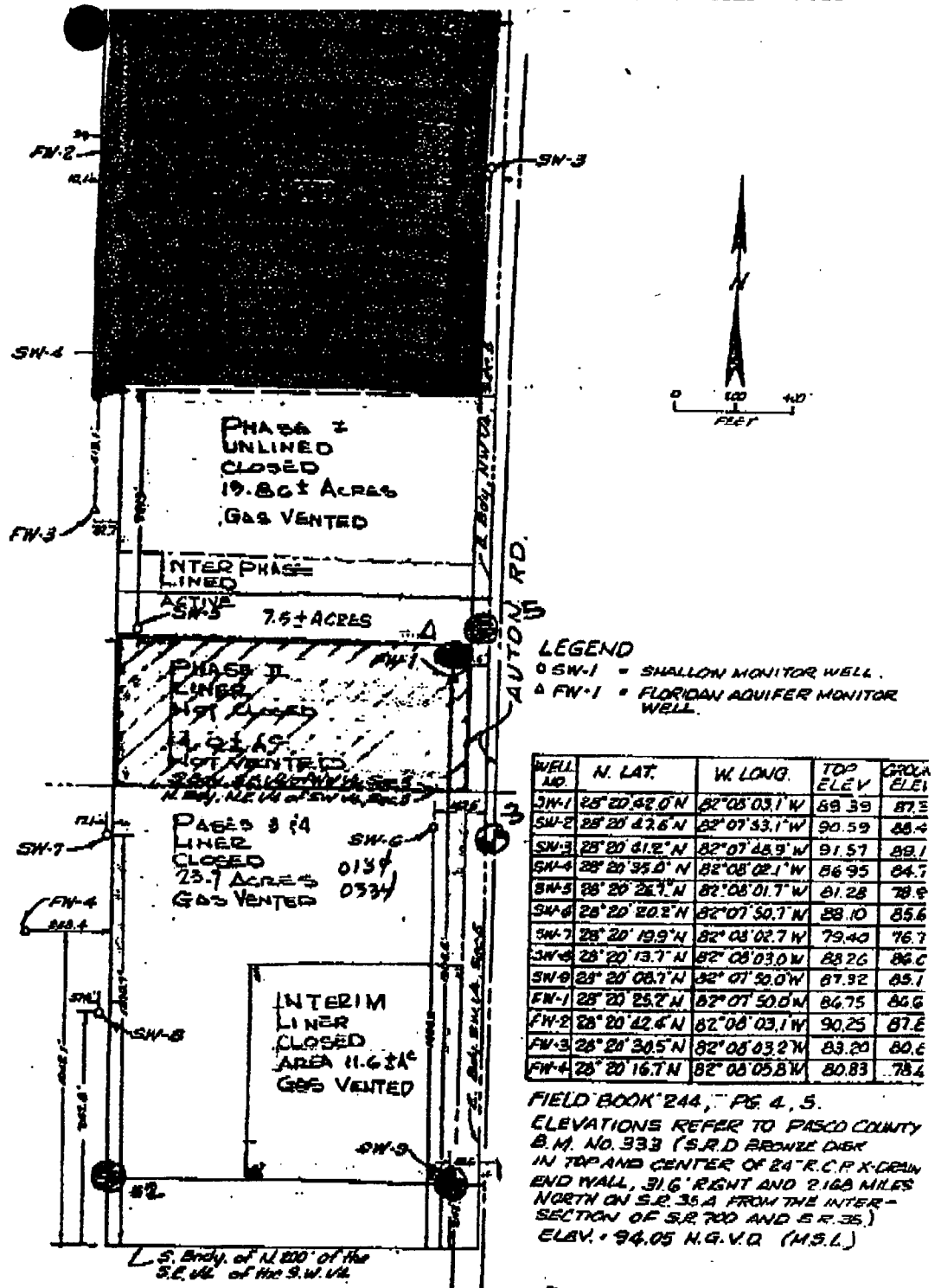
TYPICAL POND SECTION 1



TYPICAL ROAD SECTION 2

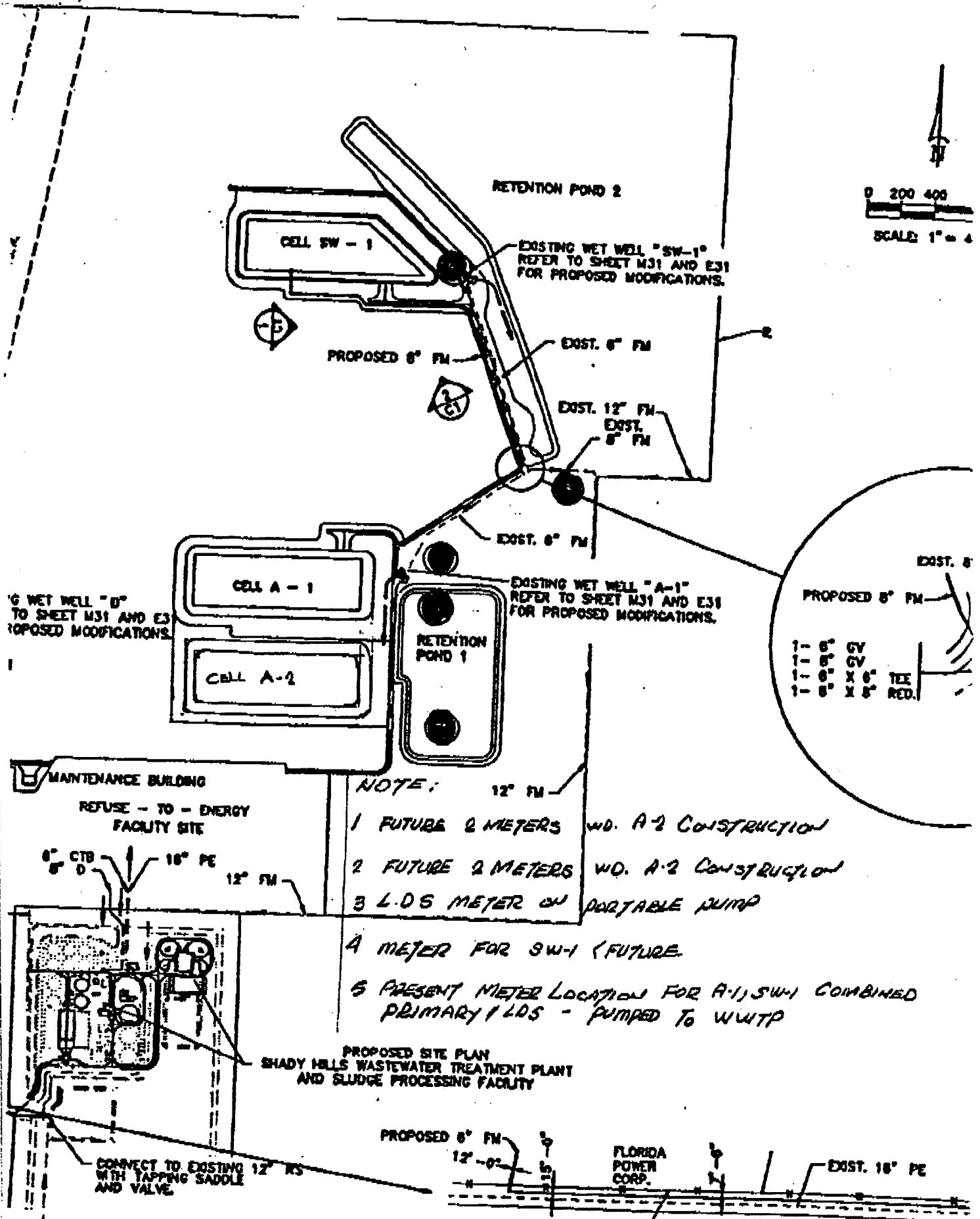


NOTE:
1. RED ACTIVE AREA
2. YELLOW INACTIVE



LOCATION OF MONITOR WELLS AT
EAST PASCO LANDFILL

D.H. 6/5/97



STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
SOUTHWEST DISTRICT

CONVERSATION RECORD

Date 4/5/95 Subject WPAWS C-I

Time 10:30 Permit No. _____

County _____

MR JULE MANUELA Telephone No. (813) 8478145

Representing Dade County

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

Other Individuals Involved in Conversation/Meeting _____

Summary of Conversation/Meeting _____

We discussed new Stockpiling

I asked for a copy of the

Jan 6, 95 letter and

explained that Stockpiling is to be

conducted the same as disposal

and must comply with 62-201.500

Especially 62-201.500 (6) & (7)

MR MANUELA AGREES AND WILL

SEND A DESCRIPTION OF ACTIVITIES

FOR CLARIFICATION

(continue on another
sheet, if necessary)

Signature [Signature]

Title _____



PASCO COUNTY, FLORIDA

(813)
8560019

DADE CITY (904) 521-4274
LAND O' LAKES (813) 996-7341
NEW PORT RICHEY (813) 847-8145

UTILITIES OPERATIONS AND
MAINTENANCE DEPARTMENT
PUB. WKS./UTILITIES BLDG., S-205
7530 LITTLE ROAD
NEW PORT RICHEY, FL 34654

March 31, 1995

Mr. Hamilton (Buck) Oven, P.E.
Power Plant Siting Coordinator
Southwest District
Florida Department of
Environmental Protection
3804 Coconut Palm Drive
Tampa, FL 33619-8318

D.E.P.

APR - 3 1995

SOUTHWEST DISTRICT
TAMPA

RE: Pasco County - West Pasco SW-1

Dear Mr. Oven:

I wrote the Solid Waste Section of the FDEP on January 6, 1995, advising that Pasco County was going to place glass cullet in the West Pasco solid waste, double-lined cell SW-1.

I am advising that Pasco County will start today to stockpile MSW in SW-1 for a period of approximately 45 days. This is the result of prescheduled boiler outages reducing fuel (MSW) consumption to about 600 tons to 650 tons per day. Reduced boiler consumption and increased MSW volume of 1,300 tons per day yield surplus of 700 tons per day, making tipping floor storage impracticable. Anticipated volume during summer months is expected at 900 tons per day, offering an excellent opportunity to mine the stored MSW for fuel. Mining MSW will be completed by August 1, 1995.

Daily cover will be of tire chips.

I trust that this information is sufficient for both our purposes.

Sincerely,

Vincent Mannella, P.E.
Solid Waste Facility Manager

VM/r032902:ltr

cc: Robert Butera, P.E. III, Solid Waste Section, Florida Dept. of Environmental Protection, 3804 Coconut Palm Drive, Tampa, FL 33619-8318
Kim Ford, P.E. I, Solid Waste Section, Florida Dept. of Environmental Protection, 3804 Coconut Palm Drive, Tampa, FL 33619-8318
Douglas S. Bramlett, Assistant County Administrator (Utilities Services)



LAW COMPANIES

ENGINEERING AND
ENVIRONMENTAL SERVICES

4919 WEST LAUREL STREET
P.O. BOX 24183 • TAMPA, FLORIDA 33623
(813) 289-0750

LETTER OF TRANSMITTAL

TO

H. M. Ford

DATE <i>3-16-95</i>	JOB NO. <i>464.3505-D1</i>
ATTENTION	
RE:	
RECEIVED	
MAR 16 1995	
Department of Environmental Protection, SOUTHWEST DISTRICT	
BY	

GENTLEMEN:

WE ARE SENDING YOU ☐ Attached ☐ Under separate cover via _____ the following items:

- ☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO.	DESCRIPTION

THESE ARE TRANSMITTED as checked below:

- ☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☐ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☐ For review and comment ☐ _____
☐ FOR BIDS DUE _____ 19 _____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS

*2 Sets, Sealed of Drawings
w/ changes you requested*

COPY TO

SIGNED:

K.E. Mayne

**LAW****Engineering & Environmental Services****TO:***Kim Ford***COMPANY:***FDER***FAX NUMBER:***744-6084***FROM:***DICK MAYER*

Number of Pages Including This Cover:

*6***MESSAGE:**

*Kim: Enclosed are the
revised Sections, etc you
requested. Please call with
your comments*

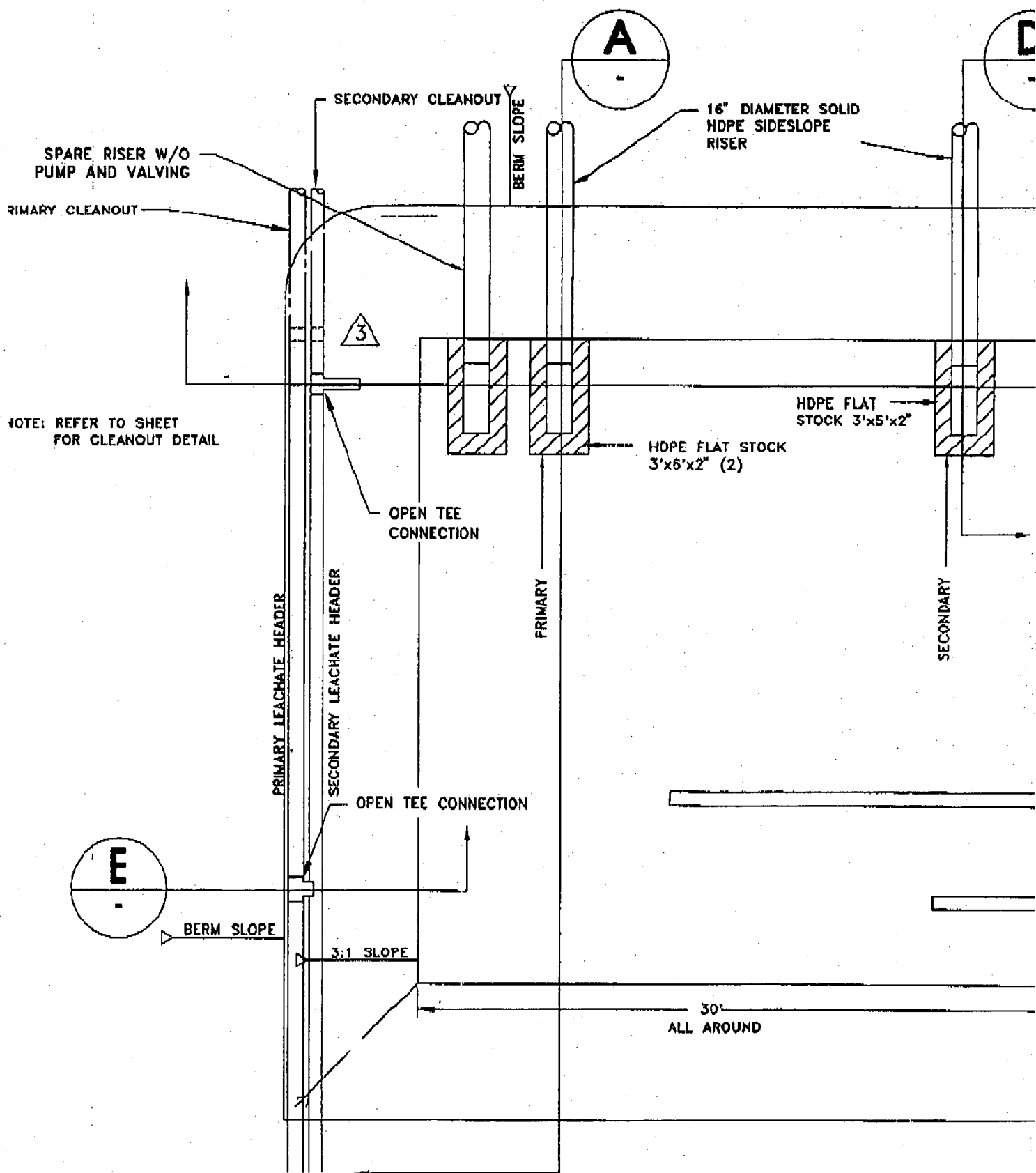
If you experience difficulty receiving this transmittal, please contact:

Law Engineering and Environmental Services, Inc.

4919 W. Laurel Street

Tampa, Florida 33607

(813) 289-0750 • Fax (813) 289-5474

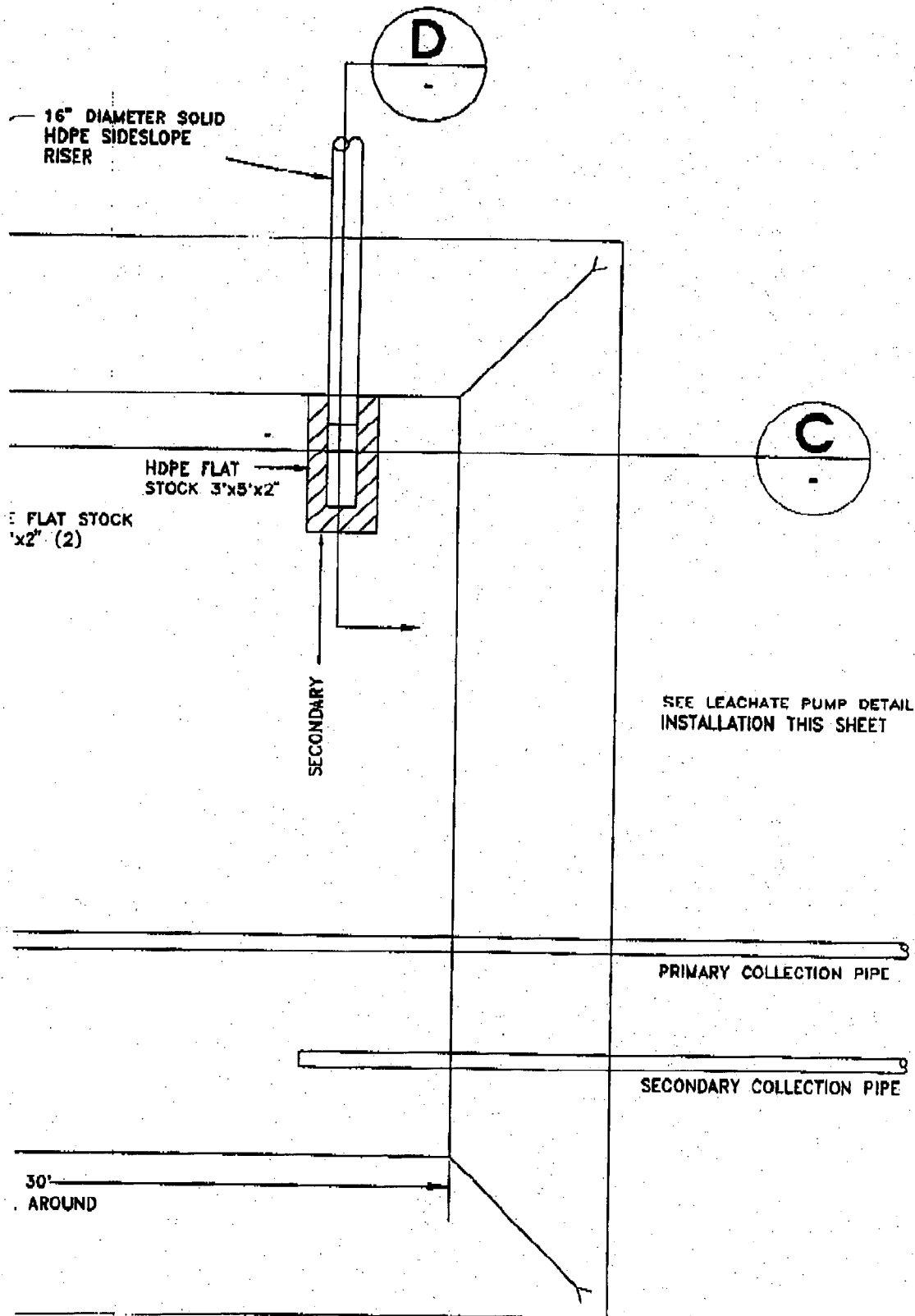


LEACHATE COLLECTION SUMP DET
PLAN VIEW

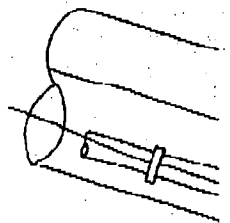
03-07-95 01:11PM FROM LAW ENGINEERING

TO 7446C84

POC3/JOE



60 MIL

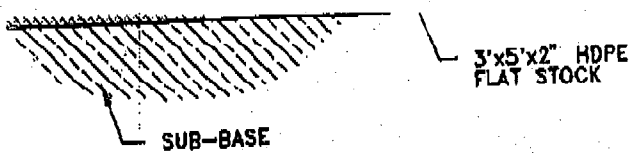


FASTEN VENT AND TRANS LOWER 10' PIPE WITH CLAMPS AT

ION SUMP DETAIL 1

FW

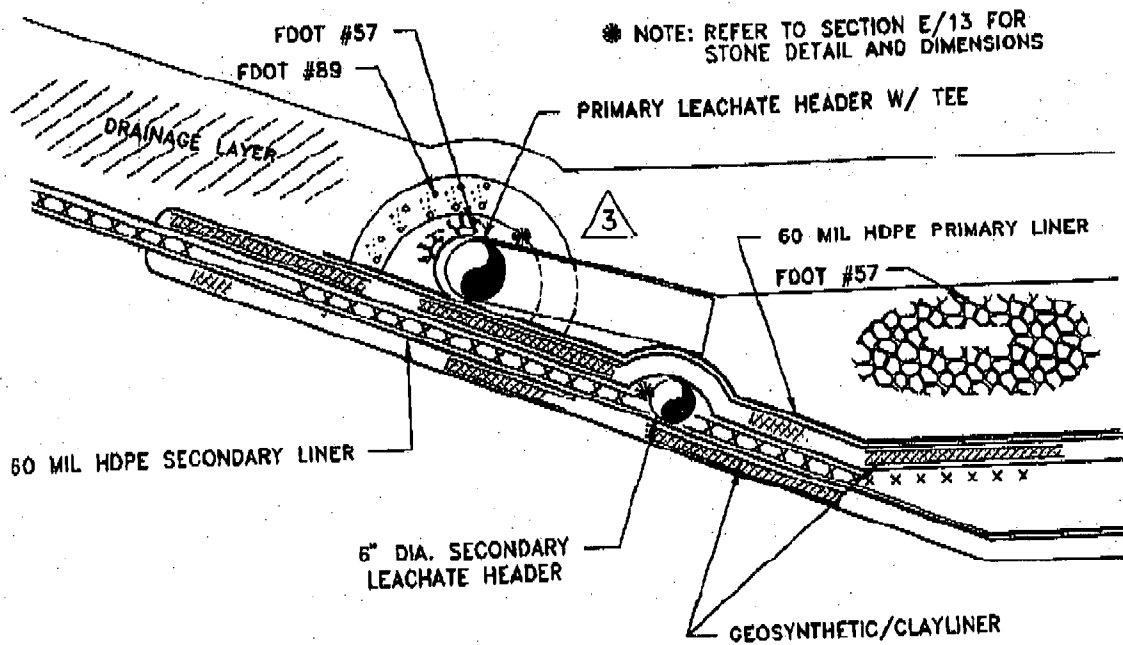
1 E A C



COLLECTION SUMP SECTION - PRIMARY

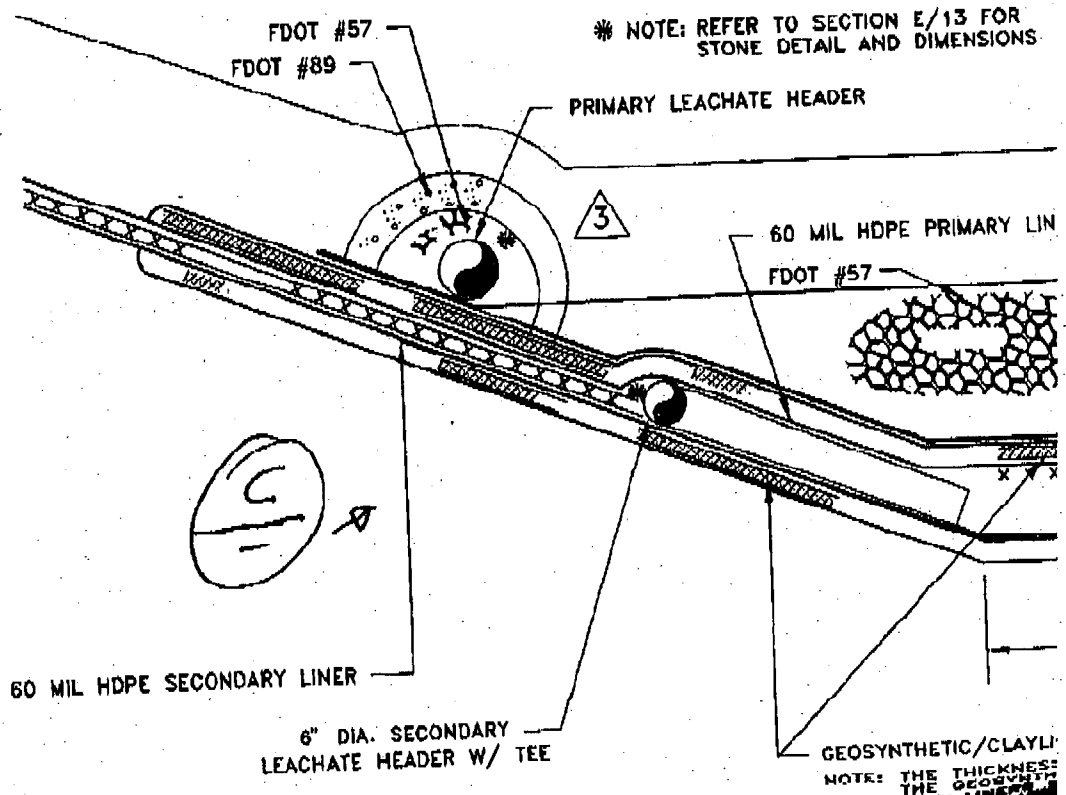
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NOT TO SCALE



SECTION THROUGH PRIMARY C

NOT TO SCALE



Sheet 12

POC5/00E

TO 7446C84

03-07-95 01:11 PM FROM LAW ENGINEERING

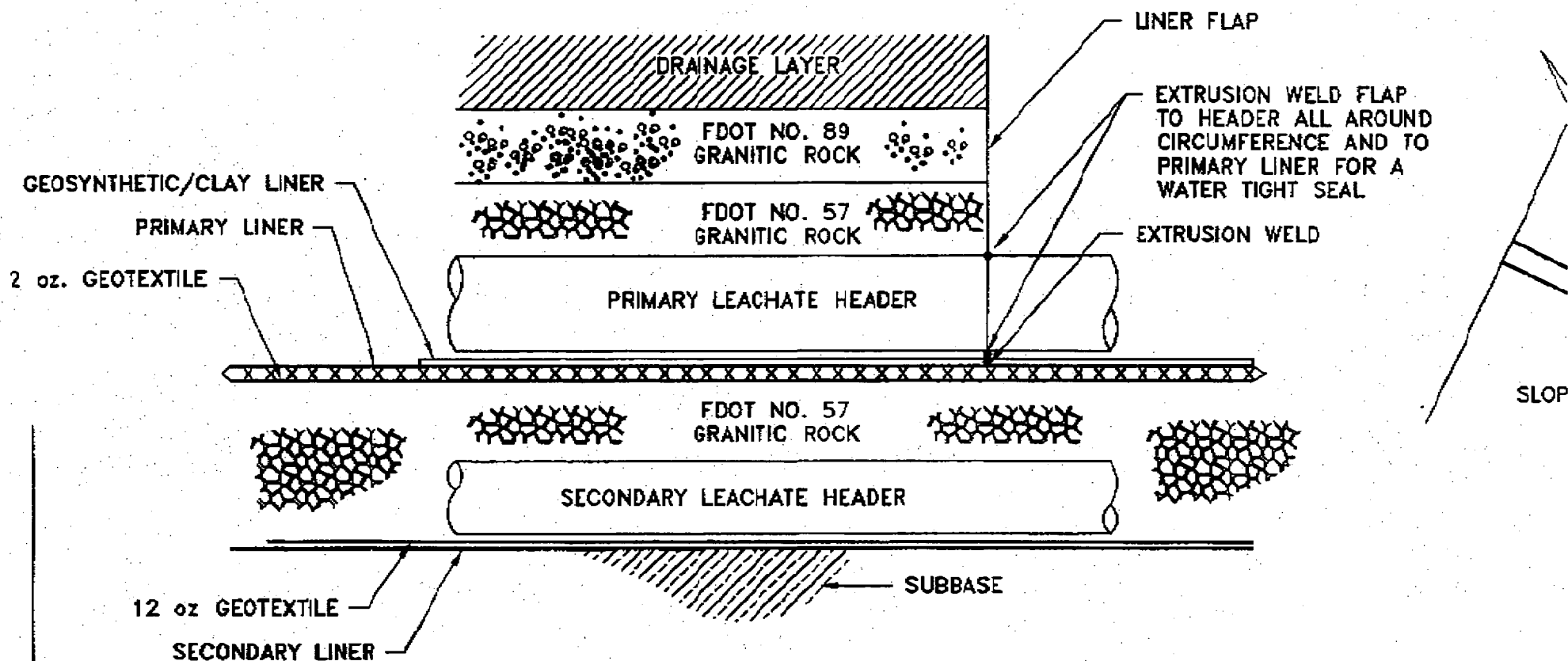
12 OZ. GEOTEXTILE - 3' WIDE

GEONET

SECONDARY LINER

A

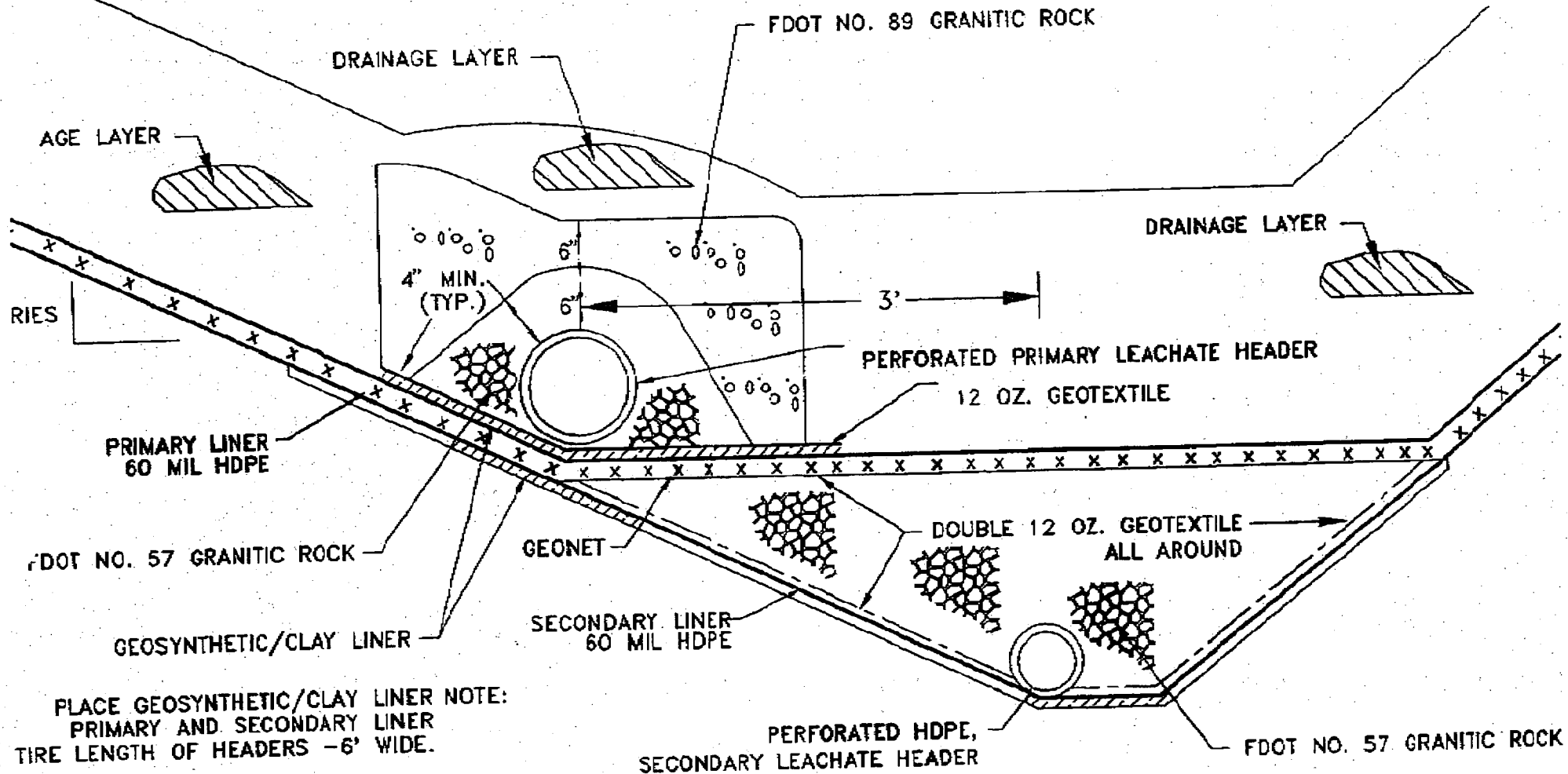
SECTION SIDESLOPE RISER - STORMWATER



SECTION SHOWING LINER FLAP BOOT

B

Sheet 13





LAW COMPANIES

ENGINEERING AND
ENVIRONMENTAL SERVICES

4919 WEST LAUREL STREET
P.O. BOX 24183 • TAMPA, FLORIDA 33623
(813) 289-0750

LETTER OF TRANSMITTAL

TO

KIM FORD
FDEP

DATE	<i>2/28/95</i>	JOB NO.	<i>464-83565-01</i>
ATTENTION			
<i>RECEIVED</i>			
<i>MAR 01 1995</i>			
<i>PROTECTION DISTRICT</i>			

Dep

BY

GENTLEMEN:

WE ARE SENDING YOU ☐ Attached ☐ Under separate cover via _____ the following items:

☐ Shop drawings

☒ Prints

☐ Plans

☐ Samples

☐ Specifications

☐ Copy of letter

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☐ As requested

☐ Returned for corrections

☐ Return _____ corrected prints

☐ For review and comment

☐

☐ FOR BIDS DUE _____ 19 _____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS

Corrected drawings

COPY TO

SIGNED:

Richard S. Krayer

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
SOUTHWEST DISTRICT

CONVERSATION RECORD

Date 2/20/95

Subject W PASELO Expansion

Time 9:15

Permit No. _____

County PASELO

M R Dickmayer

Telephone No. (813) 2890788

Representing _____

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

Other Individuals Involved in Conversation/Meeting _____

Summary of Conversation/Meeting _____

WE DISCUSSED SOME TREATMENTS

1. SHEET 71A PIPE END TREATMENTS FOR
BOTH LOCATIONS & EACH END

2. SHEET 12 TEE CONNECTION DETAILS

3. SHEET 14 BOOF DETAILS

MR MAYER SAID NEW SET COMING

HOPEFULLY BY END OF WK.

(continue on another
sheet, if necessary)

Signature [Signature]

Title _____



LAW

ENGINEERING AND ENVIRONMENTAL SERVICES

February 13, 1995

Mr. Kim Ford
Florida Department of Environmental Protection
Southwest District Office
3804 Coconut Palm Drive
Tampa, Florida 33619

Subject: **Permit Application for the Expansion of the Class 1
Landfill to Include Disposal Unit A-2 at the Pasco County
Resource Recovery Facility, Class 1 Landfill Expansion
LAW Project 464-83565.01**

Dear Mr. Ford:

Law Engineering, Inc. (LAW), on behalf of Pasco County, has addressed your comments about the drawings for the above-referenced application. Two sets of drawings are provided. When a conformed set of drawings, and specifications are produced after the bid opening you will be provided with two sets for your file.

If you have any questions please call the undersigned at (813)289-0750.

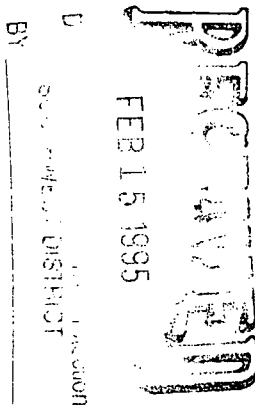
Sincerely,

LAW ENGINEERING, INC.

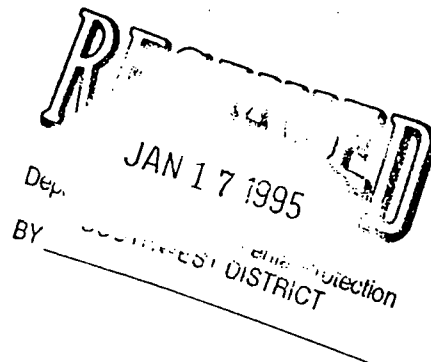
George W. Ellsworth

George W. Ellsworth, P.G.
Senior Geologist
Florida Registration 848

GWE/REM/wp/RES_RCVY/464365.06



Richard E. Mayer
Richard E. Mayer, P.E.
Principal Engineer
Florida Registration 41759
2/14/95



*for
1/24/95*

SECTION 8.0

LANDFILL OPERATION REQUIREMENTS

*Richard Skay
1-12-95*

SECTION 8.0

LANDFILL OPERATIONS

The landfill addressed in this application is an integral unit of the Pasco County Solid Waste System ("System"). The System is comprised of: a mass-burn resource recovery facility; 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 Resource Recovery Facility, the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center are co-located on an 800-acre site. The Resource Recovery Facility and the West Pasco Class I Landfill are permitted under the Florida Electrical Power Plant Siting Act, while the West Pasco Class III Landfill and Recycling Center was permitted separately under Chapter 17-701, F.A.C.

The Resource Recovery Facility is designed to receive and process 1,050 tons per day of waste generated by residential, commercial and industrial sources. Three separate combustion units with a capacity of 350 tons per day and a boiler system generate steam for conversion to electrical energy. Emissions controls include dry scrubbers and fabric filter baghouses for each combustion unit. The residue ash handling system is completely enclosed. Bottom ash and grate siftings from the combustion units, as well as fly ash and spent scrubber reagent, are collected and quenched. Ash is moved by conveyor through a scalper screen to remove large materials and through a magnetic separator to remove ferrous metal. Processed residue (MSW ash) is loaded into trucks for disposal in an ash monofill disposal unit at the adjacent West Pasco Class I Landfill.

Currently no delivery of municipal solid waste (MSW) is made directly to the West Pasco Class I Landfill. Deliveries are accepted at the Solid Waste Resource Recovery Facility (SWRRF) 10 hours each day, Monday through Saturday, except legal holidays. Refuse is delivered to the SWRRF in standard packer vehicles, open body dump trucks, semi-truck transfer trailers, and by smaller private vehicles. The waste transferring vehicles pass through an entrance and exit over an automated truck scale system. The scale system is operated by an adjacent scale house with a computerized record keeping system that maintains an accurate accounting of all refuse delivered and ash residue removed from the building.

All processible waste received is dumped inside the Resource Recovery Facility in a refuse storage pit with the exception of some waste from small private vehicles which are directed to a public drop-off area outside the building. Inside the facility building on the tipping floor rollover containers are provided for removing of non-processible waste. The County provides a trained spotter on the tipping floor to observe refuse dumping. The spotter has communication links with the scale house and the facility operators to advise them of the delivery of an unacceptable waste.

The West Pasco Class I Landfill was 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 to A-6) are designated for ash disposal, eight disposal units (SW-1 to 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 in Figure 8.1. The disposal area covers approximately 160 acres, each disposal unit is approximately 10 acres in size. The initial phase of construction was completed in 1990, 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.

The entire 800-acre site is enclosed by chain-link and barbed wire fence to limit access. To further limit access the Resource Recovery Facility, the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center are separated internally by a chain-link and barbed wire fence to control movement between the units.

8.1 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 17-703 FAC. Additionally, Pasco County currently has other staff members who have attended 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.

8.2 Landfill Operation Plan

8.2.1 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.

Certified Landfill Operators

Jim Gerger, Supervisor

Walter Dransky

Six Days*

MTWTF

____S

Equipment Operator/Spotters

Keith Wallace

Barry Wright

MTWT

____WTFS

*Landfill is closed on Sundays. No ash is hauled to ashfill disposal unit.

8.2.2 Contingency Operations for Emergencies

8.2.2.1 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 2-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 2-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.

8.2.2.2 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

8.2.2.3 Equipment Failure Procedures

If equipment fails the Landfill Supervisor will be notified so that arrangements can be made for the equipments 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.

8.2.2.4 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.
- Apply daily cover to working face where appropriate.
- Secure equipment where appropriate.

At the beginning of the work, immediately after opening, the Landfill Supervisor will direct staff to observe the condition 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.

8.2.3 Controlling Types of Waste Received at Landfill

One spotter will be located at each working face receiving wastes to inspect waste being dumped at the working face. In the event Resource Recovery Facility is not receiving waste and waste is being by-passed to landfill or other permitted facilities, the spotter(s) assigned to the Resource Recovery Facility tipping floor will be reassigned by the landfill supervisor to the specific Class I landfill.

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 re-quenching or the load may be dumped on the paved entry to the disposal unit and allowed to cool. The Landfill Supervisor will be notified so that the Resource Recovery Facility Manager can be advised of the receipt of the hot load and quenching operations be checked.

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 can be removed to the adjacent Class III Landfill and 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.

8.2.4 Weighing Incoming Waste

No waste can enter the site without passing over the weighing facilities at the Resource Recovery Facility and the West Pasco Class III Landfill. The Landfill Supervisor will periodically check ash trucks to see if they are crossing the scales by observing them as they leave the ash handling facility.

8.2.5 Vehicle Traffic Control and Unloading

Private refuse haulers are not allowed in the West Pasco Class I Landfill except during the highly unlikely event when non-processible waste and 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.

8.2.6 Method and Sequence of Filling Waste

The West Pasco Class I Landfill will be developed using 16 disposal units as shown on Figure 8.1. Each disposal unit is approximately 10 acres. Figure 8.2 depicts the sequencing progression of lifts within a typical disposal unit. 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.

Disposal Units SW-1 through SW-8 are currently designated for disposal of solid waste. Disposal Units A-1 through A-6 are currently designated for ash disposal. Depending on future volumes, Disposal Units I-1 and I-2 may be used for either ash or solid waste. The ash and solid waste will not be co-disposed. The ash residue will be monofilled, no mixing of the two materials will be allowed.

The method of filling wastes in a 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. Ash/solid waste will not be placed within ten feet of this flagged or marked line. All incoming ash/solid waste will be directed to the working face. Berms will be maintained around the entire working disposal area to intercept and contain leachates and divert stormwater to the surface water management system. See Figure 8.3. Ash/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, disposal units will be constructed having a minimum length working face to control the operation and leachate quantities, yet of sufficient length to provide adequate dumping areas and room for the landfill equipment to operate (Figure 8.3). A slope of 3 to 1 on a 50-foot wide working face will provide for centralization of operations, while providing maneuvering area for large private and commercial vehicles unloaded each day.

The sequence of filling future lined disposal unit areas with installed leachate collection systems is developed to meet the following objectives.

- Complete subsequent lifts over lower lifts frequent enough to minimize infiltration and conserve the field capacity of the lower lift disposal unit.
- Direct the surface runoff from unused portions of disposal units away from ash/solid waste using control valves and berms.
- 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 unit lifts within 180 days after the final lift over an area is completed. Final cover will consist of a 18 inches of clayey material covered with 6 inches of native soils. The top six inches will be uncompacted and vegetated with native grasses or other vegetation to promote evapotranspiration. See Figure 8.4.

8.2.7 Waste Compaction and Application of Cover

In the solid waste disposal unit sufficient cover material 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. In areas near a borrow area, stockpiling may not be necessary. The ash/solid waste is to be placed at the bottom of the working face, within the bermed working area, and spread up toward the top in 2-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. The spreading of refuse is a continuous operation.

Application of initial, intermediate, and final cover is to be performed as required per Chapter 17-701, FAC. Six inches of initial cover will be applied to the working face of the solid waste disposal unit. The ash monofill disposal unit will not require initial cover. Intermediate cover consisting of 1 foot of compacted sandy soil from an on-site borrow pit will be applied within 7 days of disposal unit completion if final cover or an additional lift is not to be applied within 180 days of disposal unit completion. All intermediate cover areas will be seeded or covered with wood chips, straw or other appropriate cover material to avoid slope erosion and sloped at 2 percent to allow stormwater to drain off and be removed from the disposal unit.

The initial intermediate and final slope on top of landfill areas will be a minimum of 2 percent and will not exceed 4 percent. The perimeter sides of all completed disposal units will have a slope of 4:1 to minimize erosion. Final cover will be applied to the landfill once the final grades are reached. Areas with final cover will be seeded or planted with grass or suitable cover vegetation.

8.2.8 Operations of Gas, Leachate, and Stormwater Controls

Since the site closure plan includes a low permeability top cap, the gas venting system in the solid waste disposal units will be installed as the disposal units are constructed. Gas vents will not be installed in the ash monofill disposal units. The detail of this gas vent is shown on Figure 8.5. The vents will provide an escape route for gases that are lighter than air, 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 collection tank(see Figure 8.6). When the leachate reaches a predetermined level which is less than one foot in the storage tank(s), leachate is automatically pumped to the Pasco County Shady Hills Subregional Wastewater Treatment Plant. If testing of the leachate indicates the need for pretreatment prior to processing at the wastewater treatment plant, the necessary pretreatment will be performed.

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 Drawing Sheets 8 through 12.

The stormwater controls shown on Drawing Sheets 8, 13 and 14 will be operated to collect and convey runoff to surface water management areas for sedimentation control in accordance with Chapters 17-3 and 17-4 FAC. Surface water management areas will be maintained by periodic removal of sediments. Surface water control devices such as weirs and culverts will be routinely checked, and cleaned to assure proper performance.

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

8.2.9 Water Quality Monitoring

The water quality monitoring will be performed by the Pasco County Environmental Laboratory. The water quality monitoring plan meets the requirements of Chapter 17-701.510, FAC.

If any of the ground-water 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 Operations and Maintenance Director of the damaged well so that the Department can be notified.

8.3 Operating Record

The Operating Record shall consist of all records, reports, analytical results, demonstrations, and notifications required by Chapter 17-701, FAC, including the Department approved permit, engineering drawings, and supporting information, and the landfill operator training verifications required by Chapter 17-703, FAC. 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 the permit, engineering drawings, and the operating plan are kept on-site at the office of the Landfill Supervisor.

The Operating Record will be available for inspection at reasonable times by Department personnel.

8.4 Waste Record

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

To the extent possible, the amount of solid waste received by the type of waste will be determined as listed under Chapter 17-701.5(4)(b), FAC. 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 to the Department.

8.5 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. Interior fencing separates the Resource Recovery Facility, West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center. Entrance gates at the Resource Recovery and the West Pasco Class III Landfill are chain-link and are closed and secured during non-working hours. The entrance gate to the Class I Landfill is internal.

The Landfill Supervisor will check or have checked the integrity of the perimeter fencing on a regular 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 operations and types of waste accepted are maintained.

8.6 Monitoring of Waste

Examination of the waste received is accomplished both at the East Pasco Transfer Station and at the Resource Recovery Facility tipping floor. At the East Pasco Transfer Station all loads are dumped on the transfer station tipping floor. At the Resource Recovery Facility all loads are dumped into the refuse pit, except those loads directed to dump on the floor. The SWRRF has a written plan for the identification, isolation, and handling of unacceptable materials.

Routinely, only ash residue loads are monitored at the Class I Landfill for hot loads. In the highly unlikely event that significant by-pass waste from the Resource Recovery Facility occurs, 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 Facility Operator who will contact the generator, hauler, or other party responsible for shipping the waste to the County facility. The facility operator will attempt to determine the identify of the waste sources, and facilitate its removal, proper disposal and correct handling in the future.

If the Facility Operator 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 cleanup, transportation to, and/or disposal at a permitted hazardous management facility has been assured. The Facility Operator 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 facility 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

8.7 Procedures for Spreading and Compacting Waste

8.7.1 Waste Layer Thickness and Compaction Frequencies

All solid waste if required will be spread in layers of approximately two (2) 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 and should be compacted to approximately one (1) foot in thickness.

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

An additional foot of protective layer soil material will be placed on the side slope and covered with a geotextile at the initial point of entry into the new disposal unit. The first layer of waste will be selected to be free of large rigid objects that may damage the liner or leachate collection system. The thickness of the first layer will be at least four feet of compacted waste. Placement of the first layer will be conducted by a trained operator.

8.7.3 Construction of Lifts

Solid waste will be placed into disposal units to construct lifts. The working face of the disposal unit, and side grades at a slope, no greater than three feet horizontal to one foot vertical rise. Lift thickness should not exceed ten (10) feet. A temporary berm will be constructed around the working face to minimize the formation of leachate (see Figure 8.3). The temporary berm will be moved as the working face/lift progresses.

8.7.4 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 minimal (± 50 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.

8.7.5 Initial Cover

Initial cover will be applied to solid waste disposal units 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.

Initial cover at the solid waste disposal units will be applied at the end of each working day. The initial cover will be comprised of soil material and be six (6) inches in compacted thickness.

8.7.6 Intermediate Cover

Intermediate cover, in addition to six-inch initial cover, will be applied and maintained within seven days of disposal unit completion if additional solid waste will not be deposited within 180 days of disposal unit completion. The intermediate cover, when disposal to the initial fill phase and disposal activity is shifted to a new adjacent disposal unit for more than 180 days, will be graded to provide a surface slope and will also be seeded or sodded with grass to further promote runoff and minimize infiltration. When disposal activity is resumed in the disposal unit, the intermediate cover will be pushed aside and stockpiled for use as initial cover for the resumed disposal activity.

8.7.7 Final Cover

Once the solid waste disposal units have been filled to the final grades, final cover will be applied in accordance with the closure plan. The top of the landfill area will be convex with an outward slope of 2 to 4 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 or suitable cover vegetation.

8.7.8 Litter Policing Methods

Litter generated within the landfill site is expected to be nominal because the litter generating waste is currently combusted at the Resource Recovery Facility. In the event the litter generating waste by-passes the Resource Recovery Facility, the Landfill Supervisor will initiate the following litter control methods:

- Require delivery vehicles remain covered until entry into landfill
- Routine clean-up around disposal unit and access roads
- Maintain small workface and effective initial cover

Clean-up along the Resource Recovery Facility access road, Hayes Road, and within the Facility grounds, particularly around the private drop-off area will be maintained. County crews will routinely police these areas.

8.7.9 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 routine inspections during the wet seasons and immediately after heavy storms to detect any emerging erosion. Detected erosion will be repaired by landfill staff.

8.8 Describe Operational Procedures For Leachate Management Including:

8.8.1 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 quarterly. A copy of the form that will be used to record the data is included in Table 8.1.

8.8.2 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 its maximum allowable level and that generation rates measured in the secondary leachate collection system are not excessive. Refer to Appendix A5.4 for calculations of this value. If exceedance are detected, the Operations and Maintenance Director will be notified so the exceedances can be addressed promptly.

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

Pasco County is evaluating options for pretreating the leachate prior to it being transmitted to the Shady Hills Subregional Wastewater Treatment Plant (WWTP).

8.8.4 Agreements for Off-Site Discharge and Treatment of Leachate.

No agreement for off-site discharge and treatment is necessary. Treatment and discharge is provided by the Shady Hills WWTP. Back-up treatment and discharge will be provided by the Hudson WWTP. The West Pasco Class I Landfill and the Shady Hills and the Hudson WWTPs are owned by Pasco County and operated by the Utilities Services Branch.

8.8.5 Contingency Plan for Managing Leachate During Emergencies or Equipment Problems

If equipment problems occur such as pump failure so that leachate cannot be removed from the leachate holding tanks or leachate pumps, the landfill supervisor will be notified 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, arrangements be made to transport leachate by tanker truck to the Shady Hills WWTP or the Hudson WWTP.

8.8.6 Procedures for Recording Quantities of Leachate generated in gal/day

The landfill supervisor will direct staff to daily record the leachate levels measured in the tanks and sumps and flow meters readings. Flow meter results will be subtracted from the previous day's results to determine the quantity of leachate generated, in gallons per day. Quantities will be measured and recorded daily for each primary and secondary liner system.

8.8.7 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 graphed and compared.

8.9 Describe Routine Gas Monitoring Program for the Landfill as Required

Routine gas monitoring will be initiated after the burial of putrescible waste or by-pass waste in the SW disposal units. No gas monitoring will be conducted relative to the last monofill disposal units.

8.10 Describe procedures for Operating and Maintaining the Landfill Stormwater Management System to Comply With the Standards of Chapters 17-3, 17-302, and 17-23, FAC.

The access road encompassing the landfill area and the disposal unit berms are elevated above existing ground elevations to prevent any 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 predeveloped and any closed-out areas of the landfill and direct it to one of four major retention basins.

The bottom of the landfill disposal units are lined and positioned above the seasonal 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. Also any closed-out disposal units will be capped with an 18-inch clay cap to inhibit vertical infiltration/percolation of rain.

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 Section 8.2.2.2.)

8.11 Equipment and Operation Feature Requirements.

8.11.1 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	2
Dump Trucks	2

8.11.2 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.

8.11.3 Communication Equipment

Communication between personnel in the West Pasco Landfill Maintenance Building Resource Recovery Facility Scalehouse, and 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.

8.11.4 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.

8.11.5 Dust Control Methods

That 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 area.

8.11.6 Fire Protection Capabilities and Procedures for Notifying Local Fire Department Authorities in Emergencies

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 8.2.2.1 Fire Emergency Procedures.

8.11.7 Litter Control Devices

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.

8.11.8 Signs Indicating Operating Authority, Traffic Flow, Hours of Operation, Disposal Restrictions

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

8.12 Provide a Description of All-Weather Access Road, Inside Perimeter Road and Other Roads Necessary for Access Which Shall Be Provided at the Landfill.

All roads providing access to the landfill disposal units are paved with asphalt. These roads include access roads from the Resource Recovery Facility and the West Pasco Class III Landfill and Recycling Center, a perimeter road and entrance ramps to the constructed disposal units.

8.13 Additional Recordkeeping and Reporting Requirements

8.13.1 Records Used For Developing Permit Applications and Supplemental Information Maintained For the Design Period of the Landfill

Records used for developing permit applications and other Supplemental information will be maintained for the design period of the landfill in the Utilities Services Branch files.

8.13.2 Monitoring Information Calibration and Maintenance Records, Copies of Reports Required By Permit Maintained For At Least Ten Years

Reports required by the permit will be maintained for at least 10 years in the Utilities Services Branch files.

8.13.3 Background Water Quality Records Shall be Maintained for the Design Period of the Landfill

Background water quality records will be maintained for the design period of the landfill in the Utilities Services Branch files.

8.13.4 Maintain Annual Estimates of the Remaining Life of Constructed Landfills and of Other Permitted Areas Not Yet Constructed and Submit This Estimate Annually to the Department

The Operations and Maintenance Director will submit annually to the Department estimates of other remaining capacity of the constructed and unconstructed, permitted waste disposal units. Estimates will be maintained in the Utilities Services Branch Files.

8.13.5 Annual Report Requirements Including a Report Submitted to the Department Which Is Signed, Dated and Sealed by P.G. or P.E.

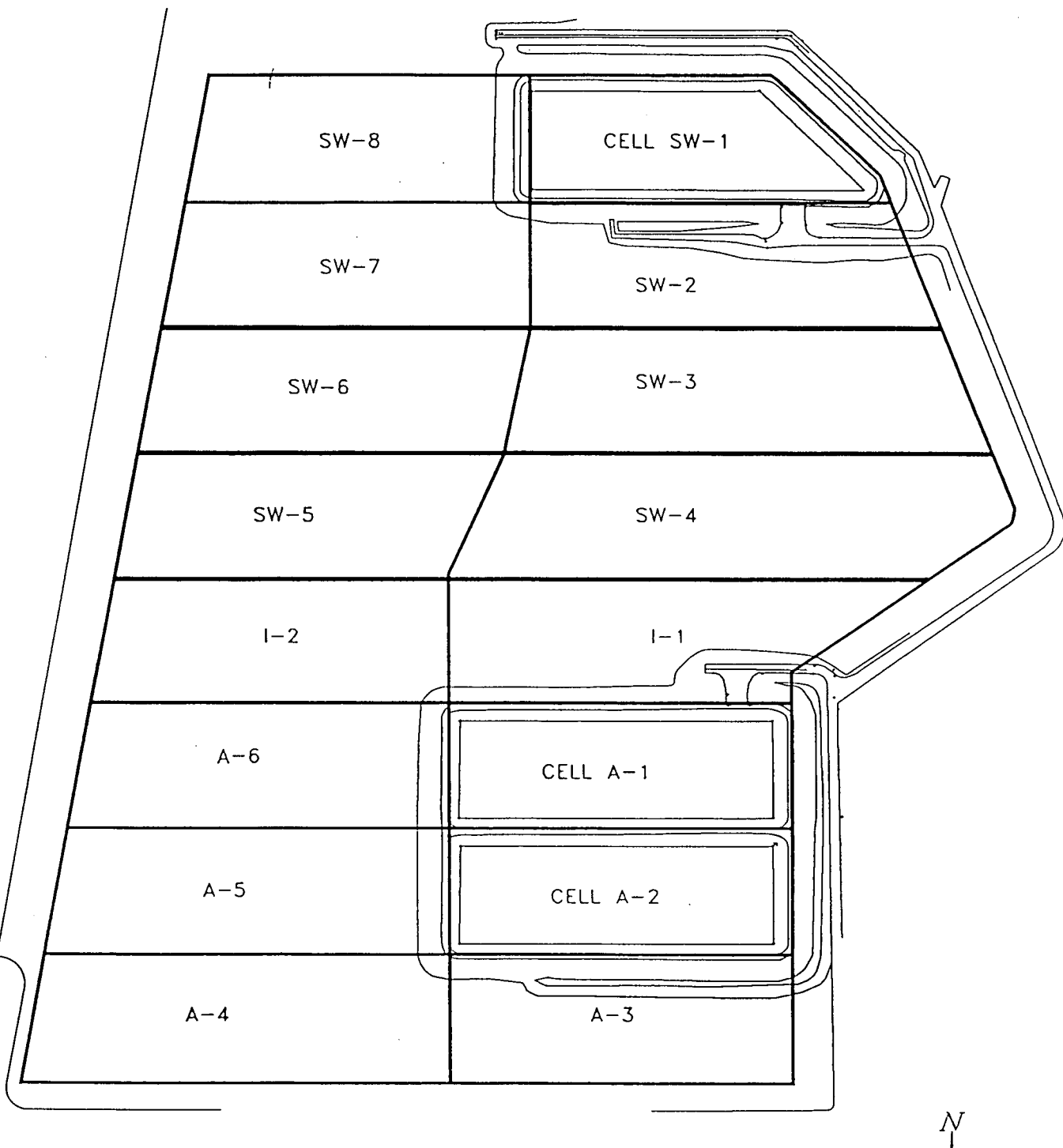
A technical report, prepared, signed and sealed by a P.G. or P.E. with experience in hydrogeologic investigations, will be submitted to the Department every two years. The report will summarize and interpret the water quality data and water level measurements collected during the previous two years.

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. Ground-water contour maps will be interpreted as to ground-water 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.

TABLE 8.1
WEST PASCO CLASS I LANDFILL
DAILY LEACHATE FLOW METER AND RAINFALL READINGS

Mo./Yr. Day	Rainfall (in inches)	CUMMULATIVE FLOW METER READINGS in Gallons						TOTAL
		CELL A-1		CELL A-2		CELL SW-1		
		Prim.	Sec.	Prim.	Sec.	Prim.	Sec.	
	0							
	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							
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	21							
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	23							
	24							
	25							
	26							
	27							
	28							
	29							
	30							
	31							

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Not To Scale

Prepared/Date:
Checked/Date:

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



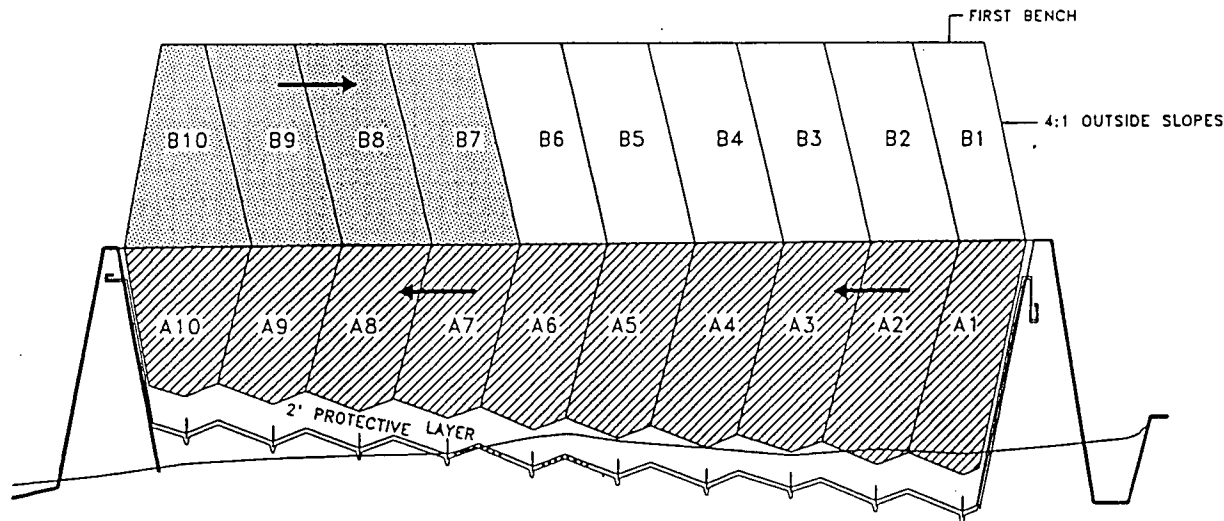
LAW

ENGINEERING AND ENVIRONMENTAL SERVICES

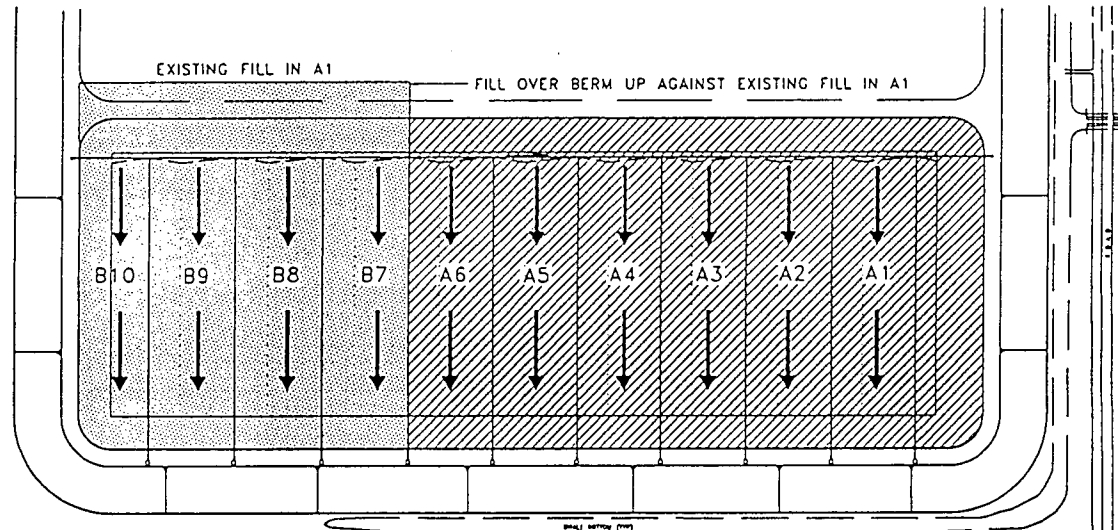
Resource Recovery Facility
Pasco County, Florida

West Pasco Class I
Landfill Footprint Schematic

Project 464-83565.01 Figure 8.



CROSS-SECTION CELL A-2



CROSS-SECTION CELL A-2

LEGEND



LIFT A



LIFT B

← FILL DIRECTION



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Checked/Date:

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



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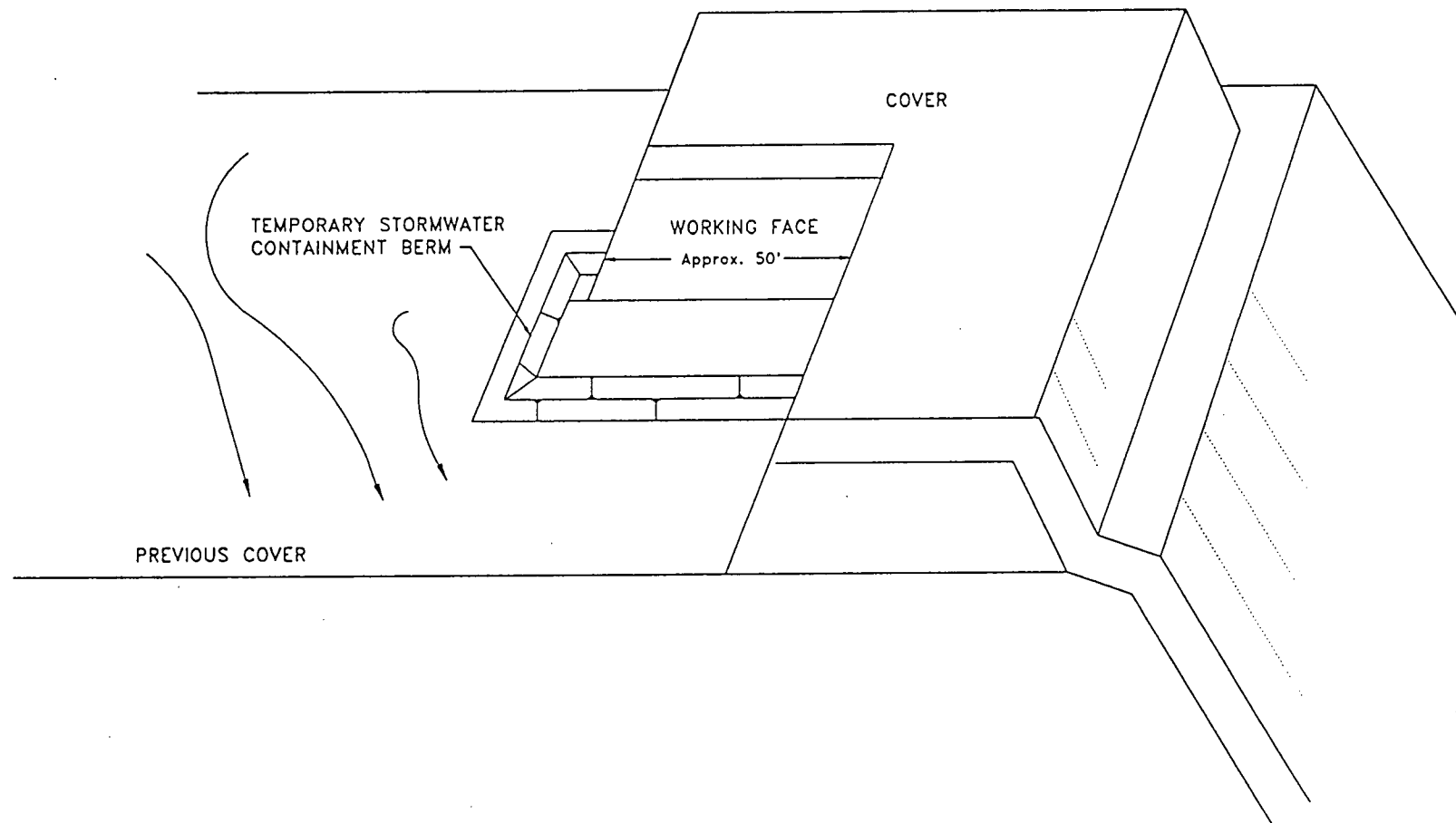
ENGINEERING AND ENVIRONMENTAL SERVICES

Resource Recovery Facility
Pasco County, Florida

Lift Sequence Schematic

Project 464-83565.01

Figure 8.2



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Prepared/Date:
Checked/Date:

ACAD=483565F3

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

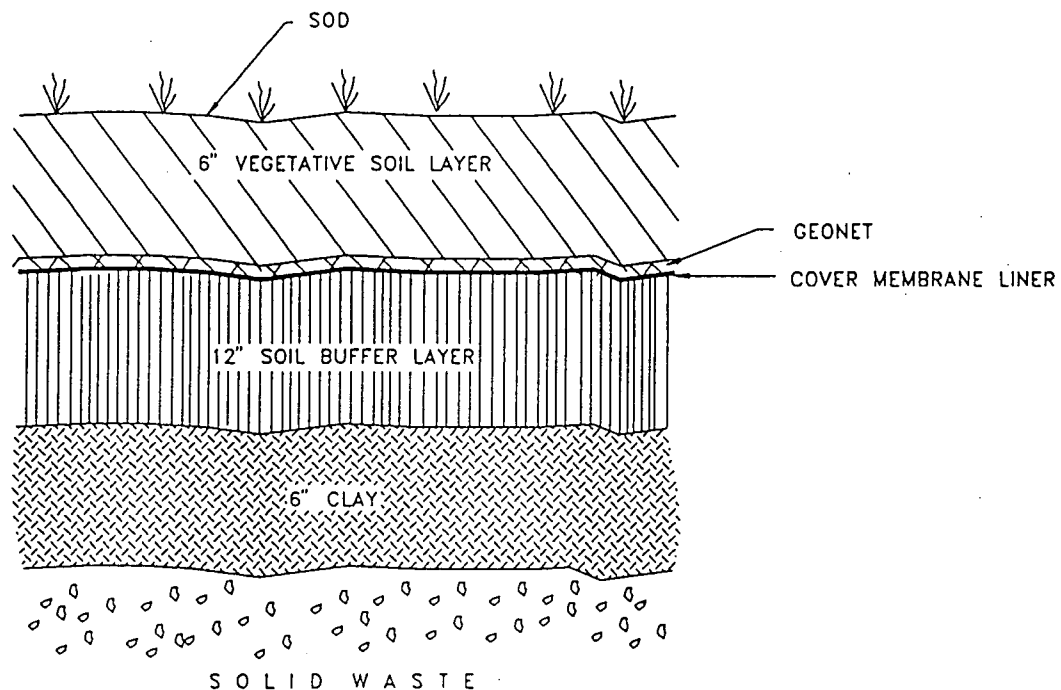


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SERVICES

Resource Recovery Facility
Pasco County, Florida
Working Face Schematic

Project 484-83565-01

Figure 8-3



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Checked/Date:

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



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ENGINEERING AND ENVIRONMENTAL SERVICES

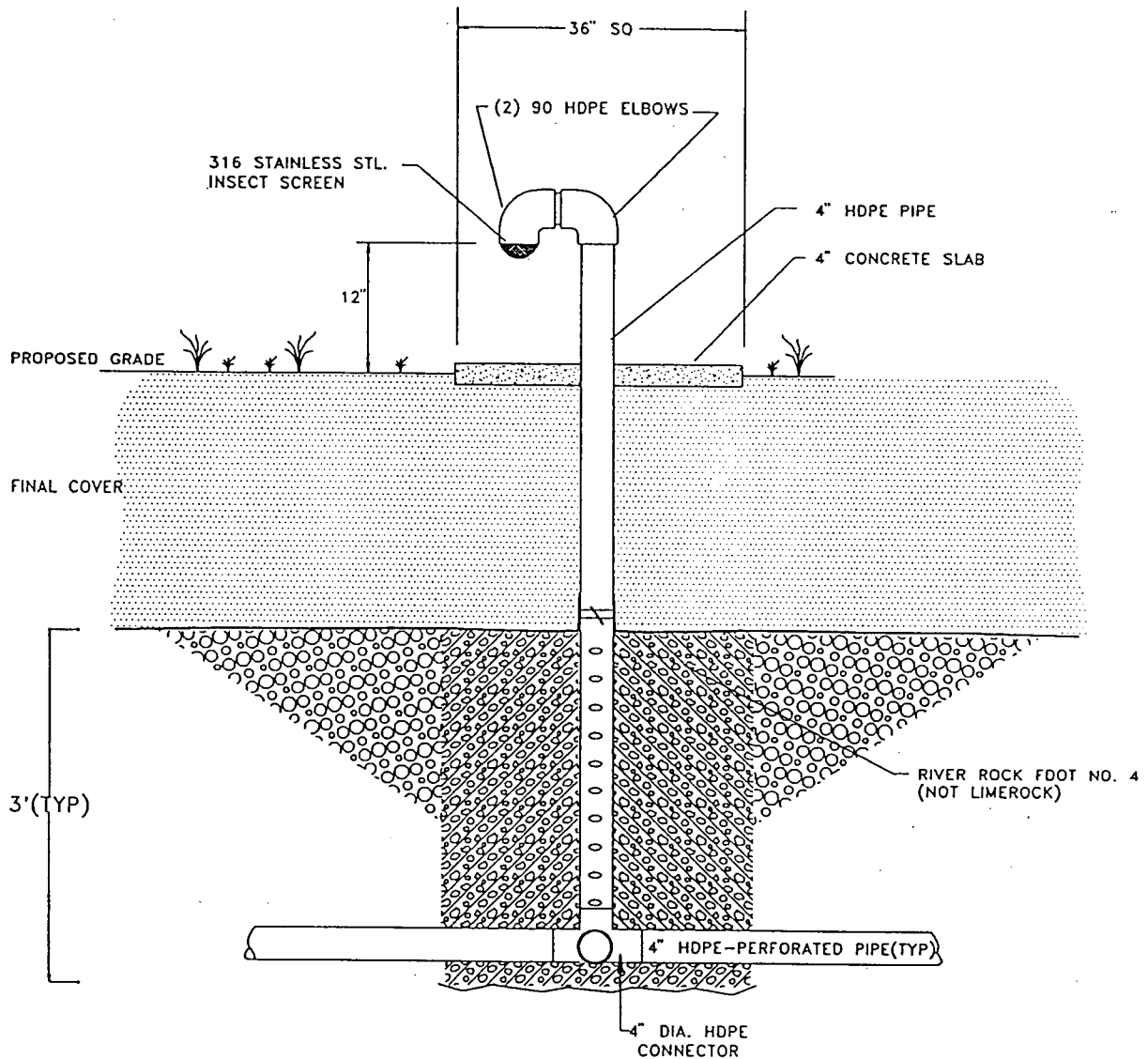
Resource Recovery Facility
Pasco County, Florida

Final Cover Detail

Proj464-83565.01

Figure 8.4

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Pasco County
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Commissioners
Utility Services Branch
Pasco County, Florida



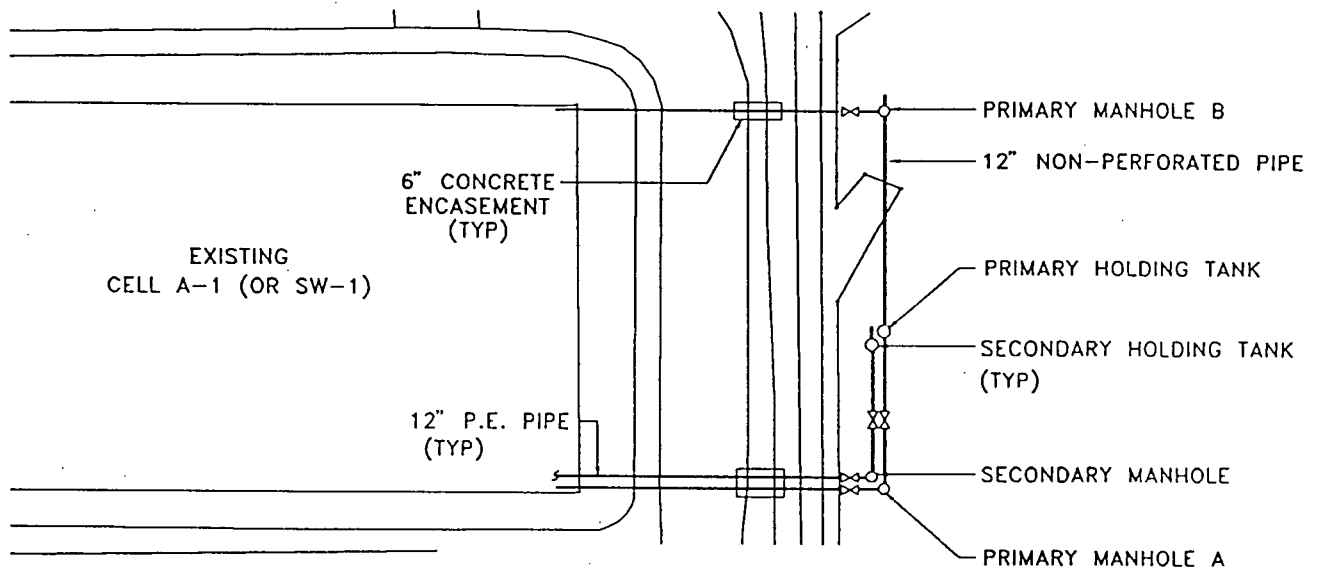
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ENGINEERING AND ENVIRONMENTAL SERVICES

Resource Recovery Facility
Pasco County, Florida

Gas Vent Detail

Project 464-83565.01 Figure 8.

ACAD-48356585



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Board of County
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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


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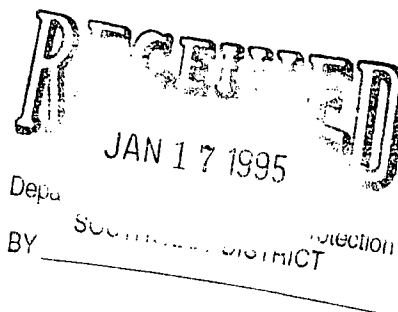


LAW

ENGINEERING AND ENVIRONMENTAL SERVICES

January 13, 1995


Mr. Kim Ford
Florida Department of Environmental Protection
Southwest District Office
3804 Coconut Palm Drive
Tampa, Florida 33619



**Subject: Permit Application for the Expansion of the Class 1
Landfill to Include Disposal Unit A-2 at the Pasco County
Resource Recovery Facility, Class 1 Landfill Expansion
LAW Project 464-83565.01**

Dear Mr. Ford:

This letter is to confirm that Law Engineering, Inc. (LAW), has proceeded with the modifications to the application that were agreed to between you and Richard Mayer during the meeting on December 7, 1994. These include:

Minor modifications to details on the drawings

Deleting Appendices 8 and 9 from the Engineering Report

Adding the list of soil tests and frequencies from Chapter 17-701 of the Florida Administrative Code to Section 02200 of the specifications in the Construction Quality Assurance Plan.

Adding the requirement for the contractor to perform a test strip prior to installing the liner subbase to Section 02215 of the specifications in the Construction Quality Assurance Plan.

In addition to the items listed above, the size of the gravel pack around the collection pipes was discussed. We understand that Mr. Bob Butera wanted the design changed to include larger stone and larger holes in the pipes. LAW considered that change and has decided to stay with the selected design. Also, the need for clean outs for the collection piping was discussed. It has been determined that the gravel can provide an alternative conveyance to the withdrawal point. The clean outs will be capped after intermediate closure. The calculations demonstrating that the current design can provide adequate conveyance are provided.

LAW ENGINEERING, INC.

4919 WEST LAUREL STREET • TAMPA, FL 33607
P.O. BOX 24183 • TAMPA, FL 33623
(813) 289-0750 • FAX (813) 289-5474

ONE OF THE LAW COMPANIES 

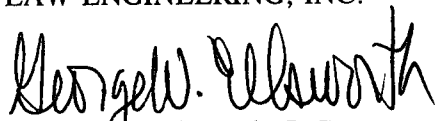
Mr. Kim Ford
January 13, 1995
Page 2

Pasco County has advertised for bids from contractors to construct A-2. The pre-bid conference will be January 18, 1995, and the bid opening date is February 21, 1995. We understand you will want to review the documents again after we make the changes described above. Any further changes you might have after that review can be incorporated into the documents after the pre-bid meeting.

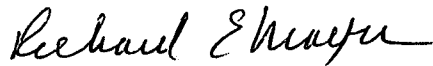
If you have any questions please call the undersigned at (813) 289-0750.

Sincerely,

LAW ENGINEERING, INC.

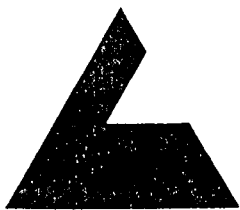


George W. Ellsworth, P.G.
Senior Geologist
Florida Registration 848



Richard E. Mayer, P.E.
Principal Engineer
Florida Registration 41759

GWE/REM/wp/RES_RCVY/464365.04



LAW COMPANIES

GEOTECHNICAL, ENVIRONMENTAL
& CONSTRUCTION MATERIALS
CONSULTANTS

JOB NO. 444-83565.01 SHEET 1 OF 2

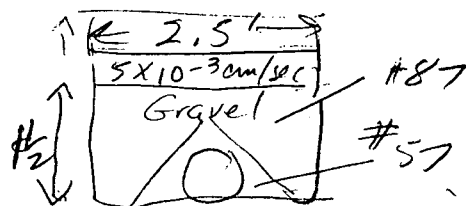
JOB NAME RESOURCE RECOVERY A-2

DATE 1-12-95

CHECKED BY J7 DATE 1-13-95

RECEIVED
JAN 17 1995

Primary Leachate Collection System



$$Q = KiA \quad A = \text{area}$$

where Q = flow, i = slope, K = hydraulic conductivity

$$K_{57} = 10^{-1} \text{ cm/sec} \times 0.0328 \text{ ft/cm} \approx 0.00328 \text{ ft/sec}$$

for #57 Stone

$$A_{57} = 1 \text{ ft}^2 - 0.2 \text{ ft}^2 (.50) \quad \text{collapse factor}$$

$$A_{57} = 0.9 \text{ ft}^2$$

$$i = 0.005$$

$$Q_{57} = (0.00328 \text{ ft/sec})(0.005)(0.9 \text{ ft}^2)$$

$$Q_{57} = 1.476 \times 10^{-5} \text{ ft}^3/\text{sec}$$

$$Q_{57} = 1.275 \text{ ft}^3/\text{day}$$

$$Q_{57} = 9.537 \text{ gal/day}$$

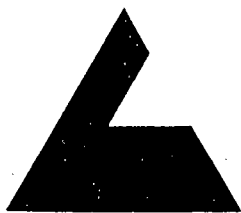
$$K_{87} = 0.0164 \text{ ft/sec}$$

$$A_{87} = (1.5' \times 2.5') - 1 \text{ ft}^2 = 2.75 \text{ ft}^2$$

$$Q_{87} = \frac{0.0164 \times 2.75}{0.0328 \times 0.90} \quad Q_{87} = 11.80 \text{ gal/day}$$

$$Q_{57+87} = (9.537 + 11.80) \text{ gal/day} = 21.34 \text{ gal/day}$$

60 sec/min
1440 min/day
24 hr/day



LAW COMPANIES

GEOTECHNICAL, ENVIRONMENTAL
& CONSTRUCTION MATERIALS
CONSULTANTS

JOB NO. 40483565.01 SHEET 2 OF 2
JOB NAME RESOURCE RECOVERY A-2
BY GWE DATE 1-12-95
CHECKED BY JF DATE 1-13-95

Cell A-2 Area = 10 acres

Drainage Lines = 10 @ 300 ft each

Drainage Unit Area = 1 acre

Leachate Generation Rate Max = 1500 gal/acre/day
Min = 200 gal/acre/day

If collapsed system flows 21.34 gal/day
per foot, 300 ft pipe will flow 6,402 gal/day
which is in excess the max of 1500 gal/day

$$\begin{aligned} K_{\#89} &= .02 \text{ '}/\text{sec} \\ \frac{300 \text{ '}}{\text{sec}} \times \frac{1500}{.02} &= 15000 \text{ sec} \\ 15000 \times \frac{1}{60} \times \frac{1}{60} &= 4 \text{ hr} \\ \text{to drain} & \\ 300 \text{ '} & \end{aligned}$$

SECTION 02200

EARTHWORK & GRADING

PART 1 - GENERAL

1.01 SCOPE

- A. Included in this section is all excavation, filling, and finishing necessary for the construction, preparation and completion of all embankments and structure backfill, intermediate cover for Disposal Unit A-1, drainage layer, liner subbase, and gravel envelopes or base. The work shall be done in accordance with the required contours, spot elevations and cross sections shown on the drawings or as directed by the ENGINEER.

PART 2 - PRODUCTS

2.01 EMBANKMENTS, STRUCTURE BACKFILL AND INTERMEDIATE COVER

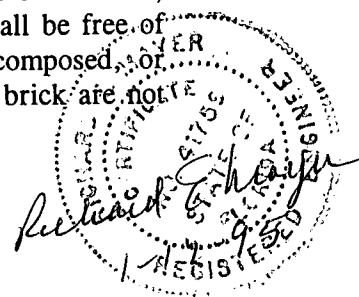
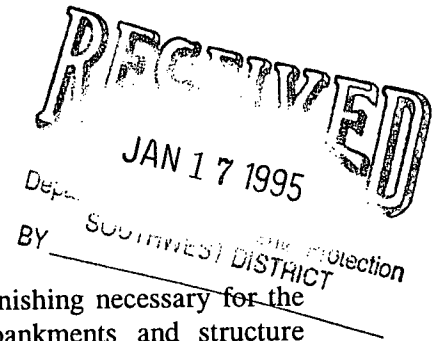
- A. The CONTRACTOR may excavate and borrow material (common fill) from the borrow area designated in the drawings. Borrow material shall conform to Unified Soil Classification SP, SM or SC. Off-site borrow material shall be certified by a professional geotechnical engineer as meeting the specifications. The borrow material shall be clean and free of rocks or cemented nodules greater than one inch in diameter, lumber, roots, trash or other debris.

2.02 DRAINAGE LAYER

- A. The soil used for the drainage layer shall be either masonry sand or concrete sand as described in the Florida Department of Transportation Standard Specification for Road and Bridge Construction, Sections 902-1.1, 902-1.2 and 902-2.2, with drainage characteristics (permeability) of at least 5.0×10^{-3} cm/second at a compacted density greater than or equal to the value called for in these specifications and a $D_{85} = 2.36$ mm.

2.03 GRAVEL

- A. The CONTRACTOR shall use river rock or crushed granitic rock as described in the Florida Department of Transportation Standard Specification for Road and Bridge Construction for the gravel envelope or base.
1. All river rock or crushed granitic rock shall be material that is sound, hard, durable, resistant to weathering and shall be free of overburden, spoil, shale, limestone and organic material. The rock shall be free of deleterious materials such as flat, elongated, friable, decomposed, or micaceous pieces. Broken pieces of concrete, asphalt, or brick are not acceptable.



SECTION 02215

LINER SUBBASE

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes construction of the liner subbase soil layer as part of landfill liner construction.

1.02 QUALITY ASSURANCE

- A. OWNER will retain the services of an independent testing firm to determine conformance of soils and conformance of the constructed work, with the specifications. Laboratory testing to determine acceptable zone for liner subbase soil compaction will be performed by the independent testing facility.

1.03 SUBMITTALS

- A. Submit samples of the proposed materials to the testing firm for analysis, as directed by the ENGINEER.

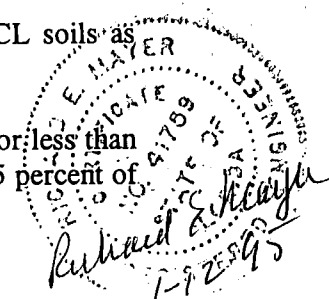
PART 2 - PRODUCTS

2.01 SOURCE QUALITY CONTROL

- A. The clayey soil material shall be provided by one supplier.
- B. Proposed materials and source of supply shall be approved for use on this project by the ENGINEER as specified, prior to use of the material in the construction.

2.02 LINER SUBBASE SOIL

- A. Shall have a minimum of 20 percent passing the No. 200 sieve, and a plasticity index in the range of 20 - 50 percent.
- B. Shall be free from rocks larger than one-quarter inch in greatest dimension, surface litter and roots. Rock sizes up to three inches in greatest dimension may be allowed, as approved by ENGINEER, for liner subbase soil lifts greater than six inches below the geomembrane, provided compliance with permeability requirements is demonstrated.
- C. The soil shall have characteristics consistent with SC, ML-CL, or CL soils as defined by USCS.
- D. The hydraulic conductivity of water through the soil shall be equal to or less than 1×10^{-5} centimeters per second (cm/sec) when compacted to at least 95 percent of



2. Sieve Analysis (ASTM D 422) and Soil Classification (ASTM D 2487): Minimum of one test from borrow source for every 1000 cubic yards of loose soil and for each change in material.
3. Moisture Content (ASTM D 2216) Minimum of one test from borrow source for every 1000 cubic yards of loose soil and for each change in material.
4. Proctor Moisture - Density Curve (ASTM D 698): Minimum of one test from borrow source for every 5000 cubic yards of loose soil and for each change in material.
5. Atterberg Limits (ASTM D 4318): Minimum of one test from borrow source for every 5000 cubic yards of loose soil and for each change in material.
6. Permeability of remolded samples (COE EM 1110-2-1906, Appendix VII, Section 1, or ASTM D 5084): Minimum of one test from borrow source for every 10,000 cubic yards of loose soil.

PART 3 - EXECUTION

3.01 PREPARATION

- A. The ENGINEER will inspect and approve the subgrade before installation of the subbase can proceed. It shall be the CONTRACTOR's responsibility to properly prepare the subgrade for the subbase installation.
- B. If the installation CONTRACTOR damages the compacted subgrade, he shall restore, recompact and have the OWNER's testing service retest it prior to installing the subbase. All costs related to the repair and retest of the subgrade shall be paid for by the CONTRACTOR.
- C. The installation CONTRACTOR shall provide adequate protection of the clayey materials delivered to the site from inclement weather conditions and any traffic that may occur near the storage area.

3.02 TEST STRIP

- A. A field test strip of a dimension of no less than 50 feet x 150 feet shall be constructed on-site using the same equipment and processing procedures that will be used during full-scale production. The test strip shall be constructed over a prepared surface within the landfill area. If the initial test strip does not give the desired results, additional strips shall be performed until the desired results are obtained. Placement moisture content and degree of compaction shall be recorded to determine the effort required to achieve the specified hydraulic conductivity. If test results indicate that the test strips meet the technical specifications provided herein, the test strips may be used as part of the production layer provided that they are adequately protected from drying and equipment damage during

installation and provided that they are adequately tied into the surrounding clayey soil layer. The tie in shall consist of feathered overlapping edges.

- B. Four triaxial-type permeability tests shall be performed on the test strip. All tests shall be taken within the middle 50 feet of the test strip at locations selected by the ENGINEER. These tests shall be performed on 3-inch diameter (O.D.) undisturbed samples obtained from a Shelby tube or drive cylinder, trimmed if needed, encapsulated within a flexible latex membrane and mounted in triaxial-type permeameters. The test specimen shall then be consolidated under an effective stress of 5-10 psi, and permeated under a back pressure of 80-90 psi to achieve saturation. The hydraulic head across on the samples shall not exceed 2.5 feet of water (approximately 1 psi). The inflow and outflow from the samples shall then be monitored and the coefficient of permeability calculated for each recorded flow increment. The tests shall continue until steady state flow is achieved as evidenced by values of inflow and outflow that do not differ by more than 10 percent for the last six readings and by stable values of the coefficient of permeability.
- C. The subbase layer thickness shall be determined from four locations per test strip.
- D. A minimum of two random samples of the clayey soil material delivered to the site shall be tested for moisture content and Atterberg limits.
- E. At least 16 samples of the materials from each test strip shall be recovered for fines content determination.

3.03 FIELD QUALITY CONTROL

- A. Tests specified below will be performed by the independent testing firm during construction of the liner subbase soil layer.
- B. Testing of Liner Subbase Soil Layer
 - 1. Compaction/Density tests, (using ASTM D 2922 or D 1556) and Moisture Content (using ASTM D 3017): Minimum of one test per 10,000 square feet for each compacted lift on a maximum 100-foot grid pattern that includes the disposal area side slopes, and a minimum of one test per 200 linear feet of side slope for each compacted lift.
 - a. The results of each test will be compared to the most recent moisture-density curve for the soil to check that the proper percent compaction is being obtained and to the most recent hydraulic conductivity-density curve to check that the proper hydraulic conductivity is being obtained.
 - 2. Percent fines (ASTM D-1140) and Atterberg Limits (ASTM D 4318): Minimum of one test per 20,000 square feet for each compacted lift on a 200-foot grid pattern that includes disposal area side slopes, and one sample per 800 linear feet of side slope for each compacted lift.

3. Undisturbed samples will be taken, using a thin-walled tube sampler, at a minimum frequency of one sample per 40,000 square feet for each compacted lift on a 200-foot grid pattern that includes disposal area side slopes, and one sample per 800 linear feet of side slope for each compacted lift. Samples shall not be collected at the same location on succeeding lifts. The following laboratory tests will be performed on the undisturbed samples by the independent testing firm:
 - a. Permeability (COE EM 1110-2-1906, Appendix VII, Section 1, or ASTM D 5084)
 - b. Dry Density (ASTM D 2922)
 - c. Moisture Content (ASTM D 2216)
 4. If selected for compaction/density testing, the calibration of each nuclear densitometer will be checked daily by comparison to the density measured on the same material by the other methods. Wherever a conflict exists, sand-cone results will be accepted over nuclear density results.
 5. A minimum of four thickness measurements shall be conducted per acre.
- C. Repair of Undisturbed Sample Location:
1. Upon extraction of an undisturbed sample, the sidewalls of the remaining hole shall be scored and the hole properly filled with liner subbase soil or a soil/bentonite mixture, and hand-tamped.
 2. The repaired hole shall be void of any obvious flaws detrimental to permeability such as gaps, cracks, rocks, roots and miscellaneous debris.
- D. Repair of Compaction/Density Testing Locations:
1. At locations where the ASTM D 1556 procedure is used to measure compaction/density, all sand remaining in the test location shall be removed. The side walls of the remaining hole shall be scored and the hole properly filled with a liner subbase soil or a soil/bentonite mixture, and hand-tamped.
 2. At locations where the ASTM D 2922 procedure is used to measure compaction/density, if the liner subbase soil layer is sufficiently plastic, as determined by the ENGINEER, test holes shall be closed by reworking the surface of the liner subbase soil with the compaction equipment to remold the surface of the layer. If not sufficiently plastic, or as an alternate to reworking, the test holes shall be filled with a dry bentonite powder.
- E. Materials not meeting density and moisture content specifications shall be scarified, the moisture content adjusted, and the area recompacted and re-tested at CONTRACTOR's expense.

- F. Surveying will be performed by a qualified land surveyor retained by the ENGINEER to monitor as-built soil layer elevations.

3.04 PLACEMENT AND COMPACTION OF LINER SUBBASE SOIL LAYER

- A. The measured in-place dry density and moisture content immediately after subbase soil compaction shall fall within the acceptable zone determined by the ENGINEER as described in subsection 2.02 of this Section.
- B. Place in uniform layers no less than ten feet wide, compacted full width to the lines and grades shown.
- C. Compaction shall be obtained using non-vibratory self-propelled or towed sheeps-foot or pad type rollers with foot length equal to or greater than loose lift thickness. The compaction equipment shall be heavy enough to achieve the required compaction, and provide adequate kneading action to reduce clod sizes. The weight of all roller drums during compaction of material shall be not less than 4000 pounds per foot of drum length.
- D. Contact surfaces shall be scarified to a depth of approximately one inch prior to placing the next lift of liner subbase soil if the compaction results in a smooth surface not conducive to good bonding between lifts, as determined by the ENGINEER. Contact surfaces requiring critical attention include locations where new soil is placed several hours after the previous lift is completed and when liner subbase soil from one borrow source touches soil from another borrow source.
- E. Intermediate lifts shall be rolled to seal when subsequent lifts will not be placed within two calendar days. The sealed surface of the intermediate lifts shall be scarified, moistened if required to aid compaction, and prepared to receive subsequent lifts prior to placement of liner subbase soil.
- F. Compaction of fill material that contains excessive moisture shall not be attempted. The material shall be aerated by blading, disking, harrowing, or other methods, to hasten the drying process and mixed thoroughly within the loose lift to ensure an even distribution of moisture within the loose lift prior to compaction.
- G. During clayey soil compaction and until the surface is covered, the moisture content of the soil shall be maintained within the acceptable zone.
- H. The top surface of the completed liner subbase soil layer shall be smooth and the upper three inches shall be free of stones at locations where the geomembrane will be installed.

3.05 MAINTENANCE AND REPAIR OF LINER SUBBASE SOIL LAYER

- A. Rutting due to hauling equipment shall be minimized as much as possible by reducing speed and travel frequency.

- B. Damage to any compacted lift at any time during the course of construction, such as rutting under the loads imposed by earth-moving or hauling equipment, shall be fully repaired prior to placement of any overlying materials.
- C. Whenever moisture content, density or hydraulic conductivity are out of the ranges specified, an area at least one-half the distance in all directions to the nearest passed test shall be scarified, the moisture content adjusted, and the area recompacted and retested.
- D. In the event that the moisture content is not properly maintained and desiccation cracks develop on the clayey soil surface, the following corrective procedures shall be followed:
 - 1. For cracks measuring two inches in depth or less, dry powder bentonite shall be used for repair, or the surface shall be rewetted.
 - 2. For cracks greater than two inches but less than the depth of the disking blade (measured from the axle to the edge of blade), bentonite will not be accepted. The surface shall be rewetted, disked, recompacted and retested.
 - 3. For cracks greater than the depth of the disking blade, the lift shall be removed.
 - 4. The method for measuring crack depth shall be the insertion of a circular rod that is sufficiently small in size to accurately measure the actual depth of the crack. This method, and rod diameter, shall remain consistent throughout the liner subbase soil layer construction.

3.06 AS-BUILT TOPOGRAPHY

Prior to placing the liner on top of the subbase, the CONTRACTOR shall submit three sets of As-Built Topography of Prepared Surface, with the completed elevations and contours placed on the drawing (Scale 1"=100') for ENGINEER's review. The CONTRACTOR will not be allowed to continue the construction until the ENGINEER has reviewed and responded with comments on the submitted information. The CONTRACTOR shall immediately commence placement of the liner system after the ENGINEER has acknowledged there are no exceptions to the proposed topography.

SECTION 02280

GEOMEMBRANE

PART 1 - GENERAL

1.01 SCOPE

- A. Included in this section of these specifications are the requirements for furnishing all labor materials, equipment and incidentals and complete installation and ready for use of the High Density Polyethylene (HDPE) geomembrane for the solid waste disposal cell as shown on the Drawings and as specified herein.

1.02 EXPERIENCE

- A. Manufacturer - The manufacturer of the lining material described hereunder shall have previously demonstrated his ability to produce this membrane by having successfully manufactured a minimum of one hundred million square feet of similar liner material for hydraulic lining installations. The manufacturer must be listed by the NSF (National Sanitation Foundation) Standard 54.
- B. Installer - The Installer shall demonstrate previous experience in similar liner installations. The Installer shall have installed at least fifty million square feet of liner and shall meet the requirements outlined in subsequent sections of these specifications.

PART 2 - PRODUCTS

2.01 LINING MATERIAL

- A. The new membrane liner shall be comprised of HDPE material manufactured of VIRGIN, first-quality products designed and manufactured specifically for the purpose of liquid containment in hydraulic structures. Manufacturer shall, as a minimum, perform density (ASTM D-792 or D-1505) and melt flow index tests (ASTM D-1238) tests on the incoming resin.
- B. The CONTRACTOR shall, at the time of bidding, submit a certification from the manufacturer of the sheeting, stating that the sheeting meets physical property requirements stated in these specifications.
- C. The liner material shall be so produced as to be free of holes, surface blemishes, scratches, blisters, undispersed raw materials, or any sign of contamination by foreign matter (e.g., nonuniform color, streaking, roughness, carbon black agglomerates, visually discernible regrind, etc.).
- D. The lining material shall be manufactured a minimum of 15 feet seamless widths. Labels on the roll shall identify the thickness, length, and manufacturer's roll number. There shall be no factory seams.



TABLE 1. HDPE LINER PROPERTIES - SMOOTH SHEET

TYPICAL PROPERTIES	TEST METHOD	VALUE	TESTING FREQUENCY
Gauge Thickness, mils min. $\pm 10\%$	ASTM D1593	60 mil nominal 54 mil minimum	once/sht.
Density g/cc. (Min)	ASTM D1505	0.93 minimum	once/batch
Melt Flow Index g/10 min.	ASTM D1238 Condition E (190°C, 2.16g.)	1.0 maximum 0.1 minimum	once/batch
Tensile Properties 1. Tensile Strength at Break (Pounds/inch width) 2. Tensile Strength at Yield (Pounds/inch width) 3. Elongation at Break (%) 4. Elongation at Yield (%)	ASTM D638 Type IV Dumb-bell at 2 ipm.	190 minimum 120 minimum 600 maximum 13 maximum	1/50,000 ft ² 1/50,000 ft ² 1/50,000 ft ² 1/50,000 ft ²
Puncture Resistance Pounds.	FTMS 101 Method 2065	80 minimum	1/50,000 ft ²
Tear Resistance Initiation lbs.	ASTM D1004 Die C	30 minimum	1/50,000 ft ²
Low Temperature Brittleness °F	ASTM D746 Procedure B	-40 minimum	1/50,000 ft ²
Dimensional Stability. % Change Each Direction	ASTM D1204 212°F 1 hr.	± 2 maximum	1/50,000 ft ²
Resistance to Soil Burial. Percent change in original value.	ASTM D3083 using ASTM D638 Type IV Dumb-bell at 2 ipm.		1/50,000 ft ²
Tensile Strength at Break and Yield.	% Change	± 10 maximum	
Elongation at Break & Yield	% Change	± 10 maximum	
Environmental Stress Crack. Hours.	ASTM D1693	500 minimum	1/50,000 ft ²
Carbon Black	ASTM D1603	2% minimum 3% maximum	once/sht1
Max. Vapor Transmission Rate	E96-80	0.24 g/m ² minimum	1/50,000 ft ²

TABLE 2. TEST METHOD DETAILS FOR GEOMEMBRANE SEAMS IN SHEAR AND IN PEEL AND FOR UNSEAMED SHEET

TYPE OF TEST	HDPE	VALUE
Shear Test on Seams ASTM Test Method Specimen Shape Specimen Width (in.) Specimen Length (in.) Gage Length (in.) Strain Rate (ipm) Strength (psi) or (ppi)	D4437 Strip 1.00 6.00 + seam 4.00 + seam 2.0 Force/(1. 00xt)	120 lbs/ in width
Peel Test on Seams ASTM Test Method Specimen Shape Specimen Width (in.) Specimen Length (in.) Gage Length (in.) Strain Rate (ipm) Strength (psi) or (ppi)	D4437 Strip 1.00 4.00 n/a 2.0 Force/(1. 00xt)	Film Tear Bond
Tensile Test on Sheet ASTM Test Method Specimen Shape Specimen Width (in.) Specimen Length (in.) Gage Length (in.) Strain Rate (ipm) Strength (psi) or (lb) Strain (in./in.) Modulus (psi)	D638 Dumbbell 0.25 4.50 1.30 2.0 Force/(0. 25xt) Elong./1. 30 From Graph	See Table 1

where n/a = not applicable
 t = geomembrane thickness
 psi = pounds/square inch of specimen cross section
 ppi = pounds/linear inch width of specimen
 ipm = inches/minute
 Force = maximum force attained at specimen failure (yield or break)

SECTION 02715

POLYETHYLENE LEACHATE PIPE

PART 1 - GENERAL

1.01 SCOPE

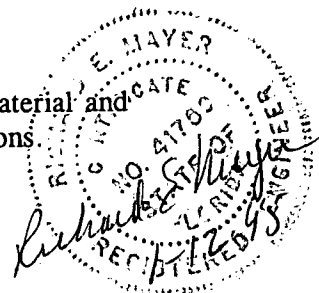
- A. This section refers to leachate collection pipes and forced main. The CONTRACTOR shall furnish all labor, materials, equipment and main incidentals required for complete installation of polyethylene pipe, fittings and all appurtenances as shown on the Drawings and as specified herein.

1.02 SUBMITTALS

- A. The CONTRACTOR shall submit to the ENGINEER within ten days after signing the contract, a list of materials to be furnished, the names of the suppliers and the date of delivery of materials to the site.
- B. The CONTRACTOR shall submit for approval, as provided in the general Conditions, complete, detailed shop drawings of all polyethylene pipe and fittings.
- C. The CONTRACTOR shall submit and shall comply with pipe manufacturer's recommendations for handling, storing and installing pipe and fittings.
- D. The CONTRACTOR shall submit pipe manufacturer's certification of compliance with these specifications.
- E. The CONTRACTOR shall submit a manufacturer's certification that the pipe was manufactured from resins in compliance with these specifications. The certificate shall state the specific resin, its source and the specific information required by ASTM 1248. The pipe shall contain no recycled compound except that generated in the manufacturer's own plant from resin of the same specification from the same raw material. The pipe shall be homogenous throughout and free of visible cracks, holes (other than leachate manufactured perforation), foreign inclusions, or other deleterious defects and shall be identical in color, density, melt index and other physical properties.
- F. The polyethylene pipe manufacturer shall provide certification that stress regression testing has been performed on the specific product. This stress regression testing shall have been done in accordance with ASTM D2837, and the manufacturer shall provide a product supplying a minimum Hydrostatic Design Basis (HDB) of 1,600 psi, as determined in accordance with ASTM D2837.

1.03 WARRANTY

- A. The manufacturer must warrant the pipe to be free from defects in material and workmanship in accordance with ASTM D3350 and F714, latest editions.



- E. Bedding: The bedding surface for the pipe shall provide a firm foundation of uniform density throughout the entire length of the pipe. The pipe shall be carefully bedded in a soil foundation that has been accurately shaped and rounded to conform to the lowest 1/4 of the outside circular portion of the pipe for its entire length, and when necessary, shall be tamped to secure uniform, firm support. Where bell and spigot pipe is used, the bell holes shall be deep enough to ensure that the bell does not bear on the bottom of the excavation, and shall not be excessively wide in the longitudinal direction of the culvert or storm drain. Bedding shall be Class C or better.
- F. Anchors: Concrete weights shall be installed in accordance with Contract Drawings. Exact support assembly shall be as recommended by the pipe manufacturer.
- G. Backfilling: Refer to Section 02200.
- H. Polyethylene stub ends and flanges must be at the ambient temperature of the surrounding soil at the time they are bolted tight to prevent relaxation of the flange bolts and loosening of the joint due to Thermal Contraction of the polyethylene.

3.03 INSTALLATION OF LEACHATE COLLECTION PIPES

- A. The leachate collection system shall be installed within the drainage layer where shown on the Drawings. The CONTRACTOR shall exercise special care not to disturb or damage the geomembrane. If a backhoe is used to construct the trench a rubber modification will be installed on the bucket. All areas of the liner damaged shall be immediately repaired as directed by the ENGINEER.
- B. The CONTRACTOR shall inform the ENGINEER when the installation is to the place and shall not proceed without the ENGINEER or authorization representative present. A 2-inch minimum layer of sand shall be placed in the bottom of the trench followed by geotextile strip. The leachate piping shall be installed, and shall be backfilled with river rock or crushed granitic rock to the depth and width shown on the Drawings. Care shall be taken during backfilling of the pipe to assure the pipe will not be crushed or otherwise damaged.
- C. Following installation of the leachate collection piping, the drainage layer shall be brought to final grade with compacted fill.
- D. Care shall be taken during the placing, spreading and compacting operations so as to preserve the integrity of the base liner, river rock or crushed granitic rock, filter fabric, and sand, to prevent mixing of the materials.
- E. Exact methods for installation of the leachate collection system shall be presented to the ENGINEER prior to initiating work for approval.

3.04 CLEANING

- A. The interior of the pipes shall be thoroughly cleaned of all foreign matter before being gently lowered in the trench and shall be kept clean during laying operations

SOUTHWEST DISTRICT
CONVERSATION RECORD

Date 1/4/95
Time 8:35

Subject W Pasco
Permit No. _____
County Pasco
Telephone No. 813/856-0119

M Vince Manella
Representing Pasco Co

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

West Pasco - will begin to use SW-1 cell for solid waste. He will be switching beachate collection on in that portion of the cell that he is disposing. Will also ask for ability to leave waste uncovered -- only plan to dispose of cullet glass at this time. CL told him that we'd probably need to make a site visit to evaluate the cover issue.

(continue on another
sheet, if necessary)

Signature Allison Amman
Title PGI

cc: Kim Ford



Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

Mr. Douglas Bramlett, Assistant County Administrator
Pasco County Utilities Services
7536 State Street
New Port Richey, FL 34654

January 4, 1995

RE: Financial Responsibility Cost Estimates
West Pasco Class I Landfill, PA 87-23, Pasco County

Dear Mr. Bramlett:

This letter is to acknowledge receipt of the revised financial assurance cost estimates submitted by Law Engineering & Environmental Services, dated December 2, 1994, submitted in support of the estimates originally dated June 28, 1994, for the closure and long-term care of the West Pasco Class I Landfill (ash monofill). The cost estimates as revised December 2, 1994 are not approved. Additional information is needed to fully evaluate the estimates submitted. Please respond to the following:

GENERAL:

1. Please provide revisions on a copy of the original estimates, with revisions specifically noted, and all costs totaled. The estimates dated December 2, 1994, were not signed and sealed by a professional engineer. Please provide revised estimates which bear the original signature and seal of the professional engineer who prepared them.
2. The information submitted indicated that 10 acres are included in the cost estimate. However, 20 acres of lined cells (10 acres ash monofill and 10 acres currently holding leachate) currently exist at the site, with an additional 10 acre expansion of the ash monofill proposed. Please be advised that closing costs shall be estimated for the time and extent when the closing is the most expensive. Since 20 acres of cells currently exist, if the financial assurance mechanism funding is based on 20 acres, then the estimates shall be adjusted to include the 10 acre expansion prior to acceptance of waste (or leachate) in the new cell. Please advise the Department if the 10 acre expansion will be included in this estimate (total of 30 acres).

LONG TERM CARE COSTS:

1. Maintenance of Leachate Collection/Treatment Systems

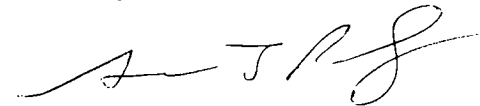
Based on information submitted by Mr. Vincent Mannella, P.E., dated October 21, 1994, the average quantity of leachate removed for disposal from the Class I cells is 8,064,800 gallons per year. The cost listed for leachate disposal is \$10,000 per year. Based on 8,064,800 gallons per year, the disposal cost is approximately \$1.24/1000 gallons. This cost seems low. The Department understands that the disposal facility is located adjacent to the Resource Recovery Facility (i.e. no transportation costs). However, please provide a copy of the charges from the wastewater facility indicating the cost for leachate disposal.

2. Administrative/Overhead

The administrative/overhead costs seem low and unsubstantiated. The information submitted indicates that the administrative/overhead costs are "shared" costs. Please provide a detailed breakdown of the costs, indicating the total costs and "shared" amounts. Do the amounts listed include administrative activities such as preparing permit renewal applications, supervising maintenance and repair crews, office supplies and personnel, etc.

The Department requests that all information be provided to the Solid Waste Section, FDEP, Tampa office within thirty (30) days of this notice. If you have any questions, you may contact me at (813) 744-6100 ext. 386.

Sincerely,

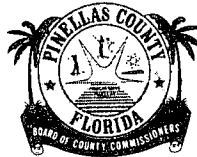


Susan J. Pelz, E.I.
Solid Waste Section
Division of Waste Management

sjp
cc:

Robert J. Sigmond, Utilities Fiscal Services/Special Project Director, Pasco County,
7536 State St., New Port Richey, FL 34654
Vincent Mannella, P.E., Solid Waste Facility Manager, Pasco County Resource Recovery
Facility, 14230 Hays Road, Spring Hill, FL 34610
Richard E. Mayer, P.E., Law Environmental, PO Box 24183, Tampa, FL 33623
Fred Wick, FDEP, Tallahassee, w/attachment
Robert Butera, P.E., FDEP Tampa
Kim Ford, P.E., FDEP Tampa
Steve Morgan, FDEP Tampa

Phone: (813) 464-4425
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Andrew P. Squires
Environmental Program Manager

**Department of
Environmental Management**

Water Resources Management Section
Environmental Resources Management Division
300 South Garden Ave., Clearwater, FL 33756