



WEST PASCO CLASS I LANDFILL
FINANCIAL ASSURANCE
CLOSURE AND LONG-TERM CARE ESTIMATES
DISPOSAL CELLS A1, A2, A3, A4, SW1, AND SW2

Facility I.D. Number 45799
Permit No. PA87-23

Prepared for:

Pasco County Utilities
14230 Hays Road
Spring Hill, FL 34610

Prepared by:

JMG Engineering, Inc.
238 East Davis Blvd., Suite 206
Tampa, FL 33606

June 2018

TABLE OF CONTENTS

PART 1	INTRODUCTION
PART 2	FDEP FORM 62-701.900(28)
PART 3	CLOSURE COST AND LONG-TERM CARE COST ESTIMATE REPORT
PART 4	UNIT COST REFERENCES
PART 5	DESIGN REFERENCES

PART 1
INTRODUCTION

JMG Engineering, Inc. has prepared this Financial Assurance Closure and Long-term Care Cost Estimates document for the Ash Monofill Cells and the Solid Waste Cells located at the West Pasco Solid Waste Facility (WACS No. 45799) in accordance with Rule 62-701.630, F.A.C. The cost estimates were completed using FDEP Form 62-701.900 (28) and signed by the authorized representative of the Owner of the facility and signed and sealed by the Engineer of Record. These forms are provided in Part 2 of this report.

Accompanying the cost estimate forms is a Cost Estimate Report provided in Part 3. The Report includes general information regarding the cost estimates, the assumptions and calculations used in preparing the cost estimates, and the unit cost references associated with each line item. The source information for the cost references and contractors' quotes used in Part 3 is provided in Part 4. The references to the landfill design used in Part 3 are provided in Part 5. JMG either requested unit costs from third party vendors/contractors, or used unit costs from RS Means construction cost estimating manuals and adjusted the unit cost for the Tampa, Florida area.

Unit cost estimates for closure and long-term care of the facility are being calculated in accordance with the February 2015 revisions to FDEP 62-701.630(3)(d).

PART 2

FINANCIAL ASSURANCE COST ESTIMATE FORMS



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form # 62-701 900(28) F.A.C.

Form Title: Closure Cost Estimating Form
For Solid Waste Facilities

Effective Date: January 6, 2010

Incorporated in Rule 62-701 630(3) F.A.C.

CLOSURE COST ESTIMATING FORM FOR SOLID WASTE FACILITIES

Date of DEP Approval: _____

I. GENERAL INFORMATION:

Facility Name: West Pasco Class I Landfill - Ash Disposal Cells WACS ID: 45799

Permit Application or Consent Order No.: PA87-23 Expiration Date: _____

Facility Address: 14230 Hays Road, Spring Hill, FL 34610

Permittee or Owner/Operator: Pasco County Utilities

Mailing Address: same

Latitude: 28° 22' 30" Longitude: 82° 34' 00"

Coordinate Method: _____ Datum: _____

Collected by: _____ Company/Affiliation: _____

Solid Waste Disposal Units Included in Estimate:

Phase / Cell	Acres	Date Unit Began Accepting Waste	Active Life of Unit From Date of Initial Receipt of Waste	If active: Remaining life of unit	If closed: Date last waste received	If closed: Official date of closing
A1	10	Feb 1991	5.75			
A2	10	Dec 1996	6.50			
A3	10	May 2003	8.0			
A4	20	Jul 2011	6.83	11		

Total disposal unit acreage included in this estimate: _____ Closure: 50 Long-Term Care: 50

Facility type: ☒ Class I ☐ Class III ☐ C&D Debris Disposal
(Check all that apply) ☐ Other: _____

II. TYPE OF FINANCIAL ASSURANCE DOCUMENT (Check type)

- ☐ Letter of Credit* ☐ Insurance Certificate ☒ Escrow Account
☐ Performance Bond* ☐ Financial Test ☐ Form 29 (FA Deferral)
☐ Guarantee Bond* ☐ Trust Fund Agreement

* - Indicates mechanisms that require the use of a Standby Trust Fund Agreement

Northwest District
160 Government Center
Pensacola, FL 32502-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. B200
Jacksonville, FL 32256-7590
904-807-3300

Central District
3319 Maguire Blvd., Ste. 232
Orlando, FL 32803-3787
407-894-7555

Southwest District
13051 N. Telecom Pkwy.
Temple Terrace, FL 33637
813-632-7600

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33901-3881
239-332-6975

Southeast District
400 N. Congress Ave., Ste. 200
West Palm Beach, FL 33401
561-681-6600

III. ESTIMATE ADJUSTMENT

40 CFR Part 264 Subpart H as adopted by reference in Rule 62-701.630, Florida Administrative Code, (F.A.C.) sets forth the method of annual cost estimate adjustment. Cost estimates may be adjusted by using an inflation factor or by recalculating the maximum costs of closure in current dollars. Select one of the methods of cost estimate adjustment below.

☐ (a) Inflation Factor Adjustment

☒ (b) Recalculated or New Cost Estimates

Inflation adjustment using an inflation factor may only be made when a Department approved closure cost estimate exists and no changes have occurred in the facility operation which would necessitate modification to the closure plan. The inflation factor is derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its survey of Current Business. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year. The inflation factor may also be obtained from the Solid Waste website www.dep.state.fl.us/waste/categories/swfr or call the Financial Coordinator at (850) 245-8706.

This adjustment is based on the Department approved closing cost estimate dated: _____

Latest Department Approved Closing Cost Estimate:	Current Year Inflation Factor, e.g. 1.02		Inflation Adjusted Closing Cost Estimate:
_____	_____	x =	_____

This adjustment is based on the Department approved long-term care cost estimate dated: _____

Latest Department Approved Annual Long-Term Care Cost Estimate:	Current Year Inflation Factor, e.g. 1.02		Inflation Adjusted Annual Long-Term Care Cost Estimate:
_____	_____	x =	_____
Number of Years of Long Term Care Remaining:		x	_____
Inflation Adjusted Long-Term Care Cost Estimate:		=	_____

Signature by: ☐ Owner/Operator

☒ Engineer (check what applies)



Signature
Jason Gorrie, President

Name & Title

238 East Davis Blvd., Suite 206

Address

Tampa, FL 33606

City, State, Zip Code

jason@jmg-eng.com

E-Mail Address

6/12/2018

Date

(813) 605-0706

Telephone Number

IV. ESTIMATED CLOSING COST (check what applies)

☒ Recalculated Cost Estimate

☐ New Facility Cost Estimate

Notes: 1. Cost estimates for the time period when the extent and manner of landfill operation makes closing most exp

2. Cost estimate must be certified by a professional engineer.

3. Cost estimates based on third party suppliers of material, equipment and labor at fair market value.

4. In some cases, a price quote in support of individual item estimates may be required.

Description	Unit	Number of Units	Cost / Unit	Total Cost
1. Proposed Monitoring Wells	(Do not include wells already in existence.)			
	EA	0	\$0.00	
		Subtotal Proposed Monitoring Wells:		
2. Slope and Fill (bedding layer between waste and barrier layer):				
Excavation	CY			
Placement and Spreading	CY	88,935	\$4.50	\$400,207.50
Compaction	CY	88,935	\$0.52	\$46,246.20
Off-Site Material	CY			
Delivery	CY	88,935	\$12.90	\$1,147,261.50
		Subtotal Slope and Fill:		
3. Cover Material (Barrier Layer):				
Off-Site Clay	CY			
Synthetics - 40 mil	SY	254,100	\$5.50	\$1,397,550.00
Synthetics - GCL	SY			
Synthetics - Geonet	SY			
Synthetics - Other (explain)	SY	254,100	\$7.50	\$1,905,750.00
Geocomposite				
		Subtotal Cover Material:		
4. Top Soil Cover:				
Off-Site Material	CY			
Delivery	CY	177,870	\$12.90	\$2,294,523.00
Spread	CY	177,870	\$5.00	\$889,350.00
		Subtotal Top Soil Cover:		
5. Vegetative Layer				
Sodding	SY	266,805	\$2.75	\$733,713.75
Hydroseeding	AC			
Fertilizer	AC			
Mulch	AC			
Other (explain)				
		Subtotal Vegetative Layer:		
6. Stormwater Control System:				
Earthwork	CY	73,680	\$5.45	\$401,556.00
Grading	SY			
Piping	LF	3,800	\$11.80	\$44,840.00
Ditches	LF			
Berms	LF			
Control Structures	EA	10	\$22,625.00	\$226,250.00
Other (explain)	CY	10,298	\$4.08	\$42,015.84
pipe trenches				
		Subtotal Stormwater Control System:		

Description	Unit	Number of Units	Cost / Unit	Total Cost
7. Passive Gas Control:				
Wells	EA	_____	_____	_____
Pipe and Fittings	LF	_____	_____	_____
Monitoring Probes	EA	_____	_____	_____
NSPS/Title V requirements	LS	1	_____	_____
Subtotal Passive Gas Control:				_____
8. Active Gas Extraction Control:				
Traps	EA	_____	_____	_____
Sumps	EA	_____	_____	_____
Flare Assembly	EA	_____	_____	_____
Flame Arrestor	EA	_____	_____	_____
Mist Eliminator	EA	_____	_____	_____
Flow Meter	EA	_____	_____	_____
Blowers	EA	_____	_____	_____
Collection System	LF	_____	_____	_____
Other (explain) _____	_____	_____	_____	_____
Subtotal Active Gas Extraction Control:				_____
9. Security System:				
Fencing	LF	_____	_____	_____
Gate(s)	EA	_____	_____	_____
Sign(s)	EA	1	\$2,000.00	\$2,000.00
Subtotal Security System:				\$2,000.00
10. Engineering:				
Closure Plan Report	LS	1	\$120,000.00	\$120,000.00
Certified Engineering Drawings	LS	1	\$275,000.00	\$275,000.00
NSPS/Title V Air Permit	LS	1	_____	_____
Final Survey	LS	1	\$20,000.00	\$20,000.00
Certification of Closure	LS	1	\$5,000.00	\$5,000.00
Other (explain) _____	_____	_____	_____	_____
Subtotal Engineering:				\$420,000.00

Description	Hours	Cost / Hour	Hours	Cost / Hour	Total Cost
11. Professional Services					
	<u>Contract Management</u>		<u>Quality Assurance</u>		
P.E. Supervisor	640	\$150.00	640	\$150.00	\$192,000.00
On-Site Engineer	_____	_____	640	\$125.00	\$80,000.00
Office Engineer	320	\$125.00	320	\$125.00	\$80,000.00
On-Site Technician	_____	_____	_____	\$90.00	_____
Other (explain) _____	960	\$50.00	_____	_____	\$48,000.00
Admin Assistant	_____	_____	_____	_____	_____

Description	Unit	Number of Units	Cost / Unit	Total Cost
Quality Assurance Testing	LS	1	\$50,000.00	\$50,000.00
Subtotal Professional Services:				\$450,000.00

Subtotal of 1-11 Above: \$10,401,263.79

12. Contingency	<u>5</u>	% of Subtotal of 1-11 Above	\$520,063.19
------------------------	----------	-----------------------------	--------------

Subtotal Contingency:	\$520,063.19
-----------------------	--------------

Estimated Closing Cost Subtotal: \$10,921,326.98

Description	Total Cost
13. Site Specific Costs	
Mobilization	
Waste Tire Facility	
Materials Recovery Facility	
Special Wastes	
Leachate Management System Modification	
Other (explain) _____	

	Subtotal Site Specific Costs:

TOTAL ESTIMATED CLOSING COSTS (\$): \$10,921,326.98

V. ANNUAL COST FOR LONG-TERM CARE

See 62-701.600(1)a.1., 62-701.620(1), 62-701.630(3)a. and 62-701.730(11)b. F.A.C. for required term length. For landfills certified closed and Department accepted, enter the remaining long-term care length as "Other" and provide years remaining. (Check Term Length) ☐ 5 Years ☐ 20 Years ☒ 30 Years ☐ Other, ___ Years

Notes: 1. Cost estimates must be certified by a professional engineer.

2. Cost estimates based on third party suppliers of material, equipment and labor at fair market value.

3. In some cases, a price quote in support of individual item estimates may be required.

All items must be addressed. Attach a detailed explanation for all entries left blank.

Description	Sampling Frequency (Events / Year)	Number of Wells	(Cost / Well) / Event	Annual Cost
1. Groundwater Monitoring [62-701.510(6), and (8)(a)]				
Monthly	12	_____	_____	_____
Quarterly	4	_____	_____	_____
Semi-Annually	2	20	\$350.00	\$14,000.00
Annually	1	_____	_____	_____
Subtotal Groundwater Monitoring:				\$14,000.00
2. Surface Water Monitoring [62-701.510(4), and (8)(b)]				
Monthly	12	_____	_____	_____
Quarterly	4	_____	_____	_____
Semi-Annually	2	_____	_____	_____
Annually	1	_____	_____	_____
Subtotal Surface Water Monitoring:				_____
3. Gas Monitoring [62-701.400(10)]				
Monthly	12	_____	_____	_____
Quarterly	4	_____	_____	_____
Semi-Annually	2	_____	_____	_____
Annually	1	_____	_____	_____
Subtotal Gas Monitoring:				_____
4. Leachate Monitoring [62-701.510(5), (6)(b) and 62-701.510(8)c]				
Monthly	12	_____	_____	_____
Quarterly	4	_____	_____	_____
Semi-Annually	2	_____	_____	_____
Annually	1	_____	_____	_____
Other (explain) EA _____	1	1	\$350.00	\$350.00
TCLP Analysis _____				
Subtotal Leachate Monitoring:				\$350.00

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
5. Leachate Collection/Treatment Systems Maintenance				
<u>Maintenance</u>				
Collection Pipes	LF	_____	_____	_____
Sumps, Traps	EA	_____	_____	_____
Lift Stations	EA	_____	_____	_____
Cleaning	LS	1	\$9,000.00	\$9,000.00
Tanks	EA	_____	_____	_____

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
5. (continued)				
<u>Impoundments</u>				
Liner Repair	SY	_____	_____	_____
Sludge Removal	CY	_____	_____	_____
<u>Aeration Systems</u>				
Floating Aerators	EA	_____	_____	_____
Spray Aerators	EA	_____	_____	_____
<u>Disposal</u>				
Off-site (Includes transportation and disposal)	1000 gallon	<u>1,286</u>	<u>\$70.00</u>	<u>\$90,020.00</u>
Subtotal Leachate Collection / Treatment Systems Maintenance:				<u>\$99,020.00</u>
6. Groundwater Monitoring Well Maintenance				
Monitoring Wells	LF	_____	_____	_____
Replacement	EA	<u>20</u>	<u>\$150.00</u>	<u>\$3,000.00</u>
Abandonment	EA	_____	_____	_____
Subtotal Groundwater Monitoring Well Maintenance:				<u>\$3,000.00</u>
7. Gas System Maintenance				
Piping, Vents	LF	_____	_____	_____
Blowers	EA	_____	_____	_____
Flaring Units	EA	_____	_____	_____
Meters, Valves	EA	_____	_____	_____
Compressors	EA	_____	_____	_____
Flame Arrestors	EA	_____	_____	_____
Operation	LS	<u>1</u>	_____	_____
Subtotal Gas System Maintenance:				_____
8. Landscape Maintenance				
Mowing	AC	<u>50</u>	<u>\$180.00</u>	<u>\$9,000.00</u>
Fertilizer	AC	_____	_____	_____
Subtotal Landscape Maintenance:				<u>\$9,000.00</u>
9. Erosion Control and Cover Maintenance				
Sodding	SY	<u>11,858</u>	<u>\$2.75</u>	<u>\$32,609.50</u>
Regrading	AC	<u>0.3</u>	<u>\$9,750.00</u>	<u>\$2,925.00</u>
Liner Repair	SY	_____	_____	_____
Clay	CY	_____	_____	_____
Subtotal Erosion Control and Cover Maintenance:				<u>\$35,534.50</u>
10. Storm Water Management System Maintenance				
Conveyance Maintenance	LS	<u>1</u>	<u>\$3,150.00</u>	<u>\$3,150.00</u>
Subtotal Storm Water Management System Maintenance:				<u>\$3,150.00</u>
11. Security System Maintenance				
Fences	LS	<u>1</u>	<u>\$1,210.00</u>	<u>\$1,210.00</u>
Gate(s)	EA	<u>2</u>	<u>\$40.00</u>	<u>\$80.00</u>
Sign(s)	EA	_____	_____	_____
Subtotal Security System Maintenance:				<u>\$1,290.00</u>

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
12. Utilities	LS	1	\$1,640.00	\$1,640.00
Subtotal Utilities:				\$1,640.00

13. Leachate Collection/Treatment Systems Operation

Operation

P.E. Supervisor	HR			
On-Site Engineer	HR			
Office Engineer	HR			
OnSite Technician	HR	2,080	\$35.00	\$72,800.00
Materials	LS	1		

Subtotal Leachate Collection/Treatment Systems Operation: \$72,800.00

14. Administrative

P.E. Supervisor	HR			
On-Site Engineer	HR			
Office Engineer	HR			
OnSite Technician	HR	2,080	\$25.00	\$52,000.00
Other _____				

Subtotal Administrative: \$52,000.00

Subtotal of 1-14 Above: \$291,784.50

15. Contingency	10	% of Subtotal of 1-14 Above		\$29,178.45
Subtotal Contingency:				\$29,178.45

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
16. Site Specific Costs				
Subtotal Site Specific Costs:				

ANNUAL LONG-TERM CARE COST (\$ / YEAR): \$320,962.95

Number of Years of Long-Term Care: 30

TOTAL LONG-TERM CARE COST (\$): \$9,628,888.50

VI. CERTIFICATION BY ENGINEER

This is to certify that the Cost Estimates pertaining to the engineering features of this solid waste management facility have been examined by me and found to conform to engineering principles applicable to such facilities. In my professional judgment, the Cost Estimates are a true, correct and complete representation of the financial liabilities for closing and/or long-term care of the facility and comply with the requirements of Rule 62-701.630 F.A.C. and all other Department of Environmental Protection rules, and statutes of the State of Florida. It is understood that the Cost Estimates shall be submitted to the Department annually, revised or adjusted as required by Rule 62-701.630(4), F.A.C.

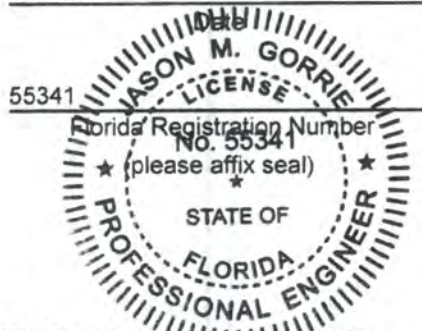


Signature

Jason Gorrie

Name and Title (please type)

8/27/2018



238 East Davis Blvd., Suite 206

Mailing Address

Tampa, FL 33606

City, State, Zip Code

jason@jmg-eng.com

E-Mail address (if available)

(813) 605-0706

Telephone Number

VII. SIGNATURE BY OWNER/OPERATOR



Signature of Applicant

Robert Sigmond

Name and Title (please type)

rsigmond@pascocountyfl.net

E-Mail address (if available)

19420 Central Blvd., Suite 219

Mailing Address

Land O' Lakes, FL 34637

City, State, Zip Code

(813) 235-6196

Telephone Number



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form # 62-701 900(28), F.A.C.

Form Title: Closure Cost Estimating Form
For Solid Waste Facilities

Effective Date: January 6, 2010

Incorporated in Rule 62-701 630(3) F.A.C.

CLOSURE COST ESTIMATING FORM FOR SOLID WASTE FACILITIES

Date of DEP Approval: _____

I. GENERAL INFORMATION:

Facility Name: West Pasco Class I Landfill - Solid Waste Disposal Cells WACS ID: 45799

Permit Application or Consent Order No.: PA87-23 Expiration Date: _____

Facility Address: 14230 Hays Road, Spring Hill, FL 34610

Permittee or Owner/Operator: Pasco County Utilities

Mailing Address: same

Latitude: 28 ° 22 ' 30 " Longitude: 82 ° 34 ' 00 "

Coordinate Method: _____ Datum: _____

Collected by: _____ Company/Affiliation: _____

Solid Waste Disposal Units Included in Estimate:

Phase / Cell	Acres	Date Unit Began Accepting Waste	Active Life of Unit From Date of Initial Receipt of Waste	If active: Remaining life of unit	If closed: Date last waste received	If closed: Official date of closing
SW1	10	Jun 1990	14.33			
SW2	10	Nov 2004	13.50	3		

Total disposal unit acreage included in this estimate: Closure: 20 Long-Term Care: 20

Facility type: ☒ Class I ☐ Class III ☐ C&D Debris Disposal
(Check all that apply) ☐ Other: _____

II. TYPE OF FINANCIAL ASSURANCE DOCUMENT (Check type)

- ☐ Letter of Credit* ☐ Insurance Certificate ☒ Escrow Account
☐ Performance Bond* ☐ Financial Test ☐ Form 29 (FA Deferral)
☐ Guarantee Bond* ☐ Trust Fund Agreement

* - Indicates mechanisms that require the use of a Standby Trust Fund Agreement

Northwest District
160 Government Center
Pensacola, FL 32502-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. B200
Jacksonville, FL 32256-7590
904-807-3300

Central District
3319 Maguire Blvd., Ste. 232
Orlando, FL 32803-3767
407-894-7555

Southwest District
13051 N. Telecom Pkwy.
Tempe Terrace, FL 33637
813-632-7600

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33901-3881
239-332-6975

Southeast District
400 N. Congress Ave., Ste. 200
West Palm Beach, FL 33401
561-681-6600

III. ESTIMATE ADJUSTMENT

40 CFR Part 264 Subpart H as adopted by reference in Rule 62-701.630, Florida Administrative Code, (F.A.C.) sets forth the method of annual cost estimate adjustment. Cost estimates may be adjusted by using an inflation factor or by recalculating the maximum costs of closure in current dollars. Select one of the methods of cost estimate adjustment below.

☐ (a) Inflation Factor Adjustment

☒ (b) Recalculated or New Cost Estimates

Inflation adjustment using an inflation factor may only be made when a Department approved closure cost estimate exists and no changes have occurred in the facility operation which would necessitate modification to the closure plan. The inflation factor is derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its survey of Current Business. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year. The inflation factor may also be obtained from the Solid Waste website www.dep.state.fl.us/waste/categories/swfr or call the Financial Coordinator at (850) 245-8706.

This adjustment is based on the Department approved closing cost estimate dated: _____

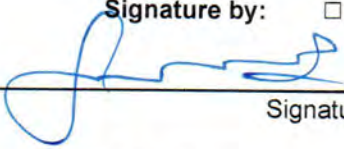
Latest Department Approved Closing Cost Estimate:		Current Year Inflation Factor, e.g. 1.02			Inflation Adjusted Closing Cost Estimate:
_____	x	_____	=	_____	_____

This adjustment is based on the Department approved long-term care cost estimate dated: _____

Latest Department Approved Annual Long-Term Care Cost Estimate:		Current Year Inflation Factor, e.g. 1.02			Inflation Adjusted Annual Long-Term Care Cost Estimate:
_____	x	_____	=	_____	_____
Number of Years of Long Term Care Remaining:			x	_____	_____
Inflation Adjusted Long-Term Care Cost Estimate:			=	_____	_____

Signature by: ☐ Owner/Operator

☒ Engineer (check what applies)



Signature

238 East Davis Blvd., Suite 206

Address

Jason Gorrie, President

Name & Title

Tampa, FL 33606

City, State, Zip Code

4/12/2018

Date

jason@jmg-eng.com

E-Mail Address

(813) 605-0706

Telephone Number

IV. ESTIMATED CLOSING COST (check what applies)

☒ Recalculated Cost Estimate

☐ New Facility Cost Estimate

- Notes: 1. Cost estimates for the time period when the extent and manner of landfill operation makes closing most exp
2. Cost estimate must be certified by a professional engineer.
3. Cost estimates based on third party suppliers of material, equipment and labor at fair market value.
4. In some cases, a price quote in support of individual item estimates may be required.

Estimate may be required.				
Description	Unit	Number of Units	Cost / Unit	Total Cost
1. Proposed Monitoring Wells (Do not include wells already in existence.)				
	EA	0	\$0.00	
		Subtotal Proposed Monitoring Wells:		
2. Slope and Fill (bedding layer between waste and barrier layer):				
Excavation	CY			
Placement and Spreading	CY	35,574	\$4.50	\$160,083.00
Compaction	CY	35,574	\$0.52	\$18,498.48
Off-Site Material	CY	35,574	\$10.00	\$355,740.00
Delivery	CY	35,574	\$4.00	\$142,296.00
		Subtotal Slope and Fill:		
3. Cover Material (Barrier Layer):				
Off-Site Clay	CY			
Synthetics - 40 mil	SY	101,640	\$5.50	\$559,020.00
Synthetics - GCL	SY			
Synthetics - Geonet	SY			
Synthetics - Other (explain)	SY	101,640	\$7.50	\$762,300.00
Geocomposite				
		Subtotal Cover Material:		
4. Top Soil Cover:				
Off-Site Material	CY	88,935	\$10.00	\$889,350.00
Delivery	CY	88,935	\$4.00	\$355,740.00
Spread	CY	88,935	\$5.00	\$444,675.00
		Subtotal Top Soil Cover:		
5. Vegetative Layer				
Sodding	SY	101,640	\$2.75	\$279,510.00
Hydroseeding	AC			
Fertilizer	AC			
Mulch	AC			
Other (explain)				
		Subtotal Vegetative Layer:		
6. Stormwater Control System:				
Earthwork	CY	29,472	\$5.45	\$160,622.40
Grading	SY			
Piping	LF	2,600	\$11.80	\$30,680.00
Ditches	LF			
Berms	LF			
Control Structures	EA	7	\$22,625.00	\$158,375.00
Other (explain)	CY	7,046	\$4.08	\$28,747.68
pipe trenches				
		Subtotal Stormwater Control System:		

Description	Unit	Number of Units	Cost / Unit	Total Cost
7. Passive Gas Control:				
Wells	EA	_____	_____	_____
Pipe and Fittings	LF	_____	_____	_____
Monitoring Probes	EA	_____	_____	_____
NSPS/Title V requirements	LS	1	_____	_____
Subtotal Passive Gas Control:				_____
8. Active Gas Extraction Control:				
Traps	EA	_____	_____	_____
Sumps	EA	_____	_____	_____
Flare Assembly	EA	_____	_____	_____
Flame Arrestor	EA	_____	_____	_____
Mist Eliminator	EA	_____	_____	_____
Flow Meter	EA	_____	_____	_____
Blowers	EA	_____	_____	_____
Collection System	LF	_____	_____	_____
Other (explain) _____	_____	_____	_____	_____
Subtotal Active Gas Extraction Control:				_____
9. Security System:				
Fencing	LF	_____	_____	_____
Gate(s)	EA	_____	_____	_____
Sign(s)	EA	1	\$2,000.00	\$2,000.00
Subtotal Security System:				\$2,000.00
10. Engineering:				
Closure Plan Report	LS	1	\$120,000.00	\$120,000.00
Certified Engineering Drawings	LS	1	\$275,000.00	\$275,000.00
NSPS/Title V Air Permit	LS	1	_____	_____
Final Survey	LS	1	\$20,000.00	\$20,000.00
Certification of Closure	LS	1	\$5,000.00	\$5,000.00
Other (explain) _____	_____	_____	_____	_____
Subtotal Engineering:				\$420,000.00

Description	Hours	Cost / Hour	Hours	Cost / Hour	Total Cost
11. Professional Services					
	<u>Contract Management</u>		<u>Quality Assurance</u>		
P.E. Supervisor	640	\$150.00	640	\$150.00	\$192,000.00
On-Site Engineer	_____	_____	640	\$125.00	\$80,000.00
Office Engineer	320	\$125.00	320	\$125.00	\$80,000.00
On-Site Technician	_____	_____	_____	\$90.00	_____
Other (explain) _____	960	\$50.00	_____	_____	\$48,000.00
Admin Assistant	_____	_____	_____	_____	_____

Description	Unit	Number of Units	Cost / Unit	Total Cost
Quality Assurance Testing	LS	1	\$50,000.00	\$50,000.00
Subtotal Professional Services:				\$450,000.00

Subtotal of 1-11 Above: \$5,217,637.56

12. Contingency	<u>5</u>	% of Subtotal of 1-11 Above	<u>\$260,881.88</u>
-----------------	----------	-----------------------------	---------------------

Subtotal Contingency: \$260,881.88

Estimated Closing Cost Subtotal: \$5,478,519.44

Description	Total Cost
13. Site Specific Costs	
Mobilization	
Waste Tire Facility	
Materials Recovery Facility	
Special Wastes	
Leachate Management System Modification	
Other (explain) _____	

Subtotal Site Specific Costs:	

TOTAL ESTIMATED CLOSING COSTS (\$): \$5,478,519.44

V. ANNUAL COST FOR LONG-TERM CARE

See 62-701.600(1)a.1., 62-701.620(1), 62-701.630(3)a. and 62-701.730(11)b. F.A.C. for required term length. For landfills certified closed and Department accepted, enter the remaining long-term care length as "Other" and provide years remaining. (Check Term Length) ☐ 5 Years ☐ 20 Years ☒ 30 Years ☐ Other, ___ Years

Notes: 1. Cost estimates must be certified by a professional engineer.

2. Cost estimates based on third party suppliers of material, equipment and labor at fair market value.

3. In some cases, a price quote in support of individual item estimates may be required.

All items must be addressed. Attach a detailed explanation for all entries left blank.

Description	Sampling Frequency (Events / Year)	Number of Wells	(Cost / Well) / Event	Annual Cost
1. Groundwater Monitoring [62-701.510(6), and (8)(a)]				
Monthly	12			
Quarterly	4			
Semi-Annually	2	9	\$350.00	\$6,300.00
Annually	1			
Subtotal Groundwater Monitoring:				\$6,300.00
2. Surface Water Monitoring [62-701.510(4), and (8)(b)]				
Monthly	12			
Quarterly	4			
Semi-Annually	2			
Annually	1			
Subtotal Surface Water Monitoring:				
3. Gas Monitoring [62-701.400(10)]				
Monthly	12			
Quarterly	4	6	\$20.00	\$480.00
Semi-Annually	2			
Annually	1			
Subtotal Gas Monitoring:				\$480.00
4. Leachate Monitoring [62-701.510(5), (6)(b) and 62-701.510(8)c]				
Monthly	12			
Quarterly	4			
Semi-Annually	2			
Annually	1			
Other (explain) EA	1	1	\$350.00	\$350.00
TCLP Analysis				
Subtotal Leachate Monitoring:				\$350.00

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
5. Leachate Collection/Treatment Systems Maintenance				
<u>Maintenance</u>				
Collection Pipes	LF			
Sumps, Traps	EA			
Lift Stations	EA			
Cleaning	LS	1	\$9,000.00	\$9,000.00
Tanks	EA			

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
5. (continued)				
<u>Impoundments</u>				
Liner Repair	SY			
Sludge Removal	CY			
<u>Aeration Systems</u>				
Floating Aerators	EA			
Spray Aerators	EA			
<u>Disposal</u>				
Off-site (Includes transportation and disposal)	1000 gallon	514	\$70.00	\$35,980.00
Subtotal Leachate Collection / Treatment Systems Maintenance:				\$44,980.00
6. Groundwater Monitoring Well Maintenance				
Monitoring Wells	LF			
Replacement	EA	29	\$150.00	\$4,350.00
Abandonment	EA			
Subtotal Groundwater Monitoring Well Maintenance:				\$4,350.00
7. Gas System Maintenance				
Piping, Vents	LF	6	\$416.67	\$2,500.02
Blowers	EA			
Flaring Units	EA			
Meters, Valves	EA			
Compressors	EA			
Flame Arrestors	EA			
Operation	LS	1		
Subtotal Gas System Maintenance:				\$2,500.02
8. Landscape Maintenance				
Mowing	AC	20	\$180.00	\$3,600.00
Fertilizer	AC			
Subtotal Landscape Maintenance:				\$3,600.00
9. Erosion Control and Cover Maintenance				
Sodding	SY	5,082	\$2.75	\$13,975.50
Regrading	AC	0.1	\$9,750.00	\$975.00
Liner Repair	SY			
Clay	CY			
Subtotal Erosion Control and Cover Maintenance:				\$14,950.50
10. Storm Water Management System Maintenance				
Conveyance Maintenance	LS	1	\$3,150.00	\$3,150.00
Subtotal Storm Water Management System Maintenance:				\$3,150.00
11. Security System Maintenance				
Fences	LS	1	\$1,210.00	\$1,210.00
Gate(s)	EA	2	\$40.00	\$80.00
Sign(s)	EA			
Subtotal Security System Maintenance:				\$1,290.00

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
12. Utilities	LS	1	\$660.00	\$660.00
Subtotal Utilities:				\$660.00

13. Leachate Collection/Treatment Systems Operation

Operation

P.E. Supervisor	HR			
On-Site Engineer	HR			
Office Engineer	HR			
OnSite Technician	HR	2,080	\$35.00	\$72,800.00
Materials	LS	1		

Subtotal Leachate Collection/Treatment Systems Operation: \$72,800.00

14. Administrative

P.E. Supervisor	HR			
On-Site Engineer	HR			
Office Engineer	HR			
OnSite Technician	HR	2,080	\$25.00	\$52,000.00
Other				

Subtotal Administrative: \$52,000.00

Subtotal of 1-14 Above: \$207,410.52

15. Contingency	10	% of Subtotal of 1-14 Above	\$20,741.05
Subtotal Contingency:			\$20,741.05

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
16. Site Specific Costs				
Subtotal Site Specific Costs:				

ANNUAL LONG-TERM CARE COST (\$ / YEAR): \$228,151.57

Number of Years of Long-Term Care: 30

TOTAL LONG-TERM CARE COST (\$): \$6,844,547.16

VI. CERTIFICATION BY ENGINEER

This is to certify that the Cost Estimates pertaining to the engineering features of this solid waste management facility have been examined by me and found to conform to engineering principles applicable to such facilities. In my professional judgment, the Cost Estimates are a true, correct and complete representation of the financial liabilities for closing and/or long-term care of the facility and comply with the requirements of Rule 62-701.630 F.A.C. and all other Department of Environmental Protection rules, and statutes of the State of Florida. It is understood that the Cost Estimates shall be submitted to the Department annually, revised or adjusted as required by Rule 62-701.630(4), F.A.C.



Signature

Jason Gorrie

Name and Title (please type)

8/27/2018

Date

55341

Florida Registration Number



238 East Davis Blvd., Suite 206

Mailing Address

Tampa, FL 33606

City, State, Zip Code


jason@jmg-eng.com

E-Mail address (if available)

(813) 605-0706

Telephone Number

VII. SIGNATURE BY OWNER/OPERATOR



Signature of Applicant

Robert Sigmond

Name and Title (please type)

rsigmond@pascocountyfl.net

E-Mail address (if available)

19420 Central Blvd., Suite 219

Mailing Address

Land O' Lakes, FL 34637

City, State, Zip Code

(813) 235-6196

Telephone Number

PART 3
COST ESTIMATE REPORT

CLOSURE COST ESTIMATES REPORT

June 2018

Pursuant to Rule 62-701.630(4)(b) F.A.C., unit cost estimates for closure and long-term care of the facility are being calculated in accordance with the February 2015 revisions to FDEP 62-701.630(3)(d), F.A.C. Note that some of the quantities have been obtained from previously calculated and approved Financial Assurance Cost Estimates (FACE).

GENERAL INFORMATION AND ASSUMPTIONS

Ash Monofill Cells (A1, A2, A3, and A4)

Surface area of Ash Monofill Cells = ~ 50 acres

For Closure Items 2 through 4, assume an overall loss factor of 5% to count for soil losses & testing, geosynthetics losses & testing, and miscellaneous materials uses (such as installation of anchor trenches) during construction.

Geosynthetics:

Area (incorporating 5% loss factor) = 52.5 acres = 2,286,900 ft² = 254,100 yd²

Soils:

2,286,900 ft² x 0.25 ft (3") cover = 571,725 ft³ / 27 = 21,175 yd³

2,286,900 ft² x 0.5 ft (6") cover = 1,143,450 ft³ / 27 = 42,350 yd³

2,286,900 ft² x 1.0 ft (12") cover = 2,286,900 ft³ / 27 = 84,700 yd³

2,286,900 ft² x 2.0 ft (24") cover = 4,573,800 ft³ / 27 = 169,400 yd³

Solid Waste Cells (SW-1 and SW-2)

Surface area of Solid Waste Cells = ~20 acres

For Closure Items 2 through 4, assume an overall loss factor of 5% to count for soil losses & testing, geosynthetics losses & testing, and miscellaneous materials uses (such as installation of anchor trenches) during construction. Following quantities for geosynthetics & soils are calculated using 5% loss factor.

Geosynthetics:

Area (incorporating 5% loss factor) = 21 acres = 914,760 ft² = 101,640 yd²

Soils:

914,760 ft² x 0.25 ft (3") cover = 228,690 ft³ / 27 = 8,470 yd³

914,760 ft² x 0.5 ft (6") cover = 457,380 ft³ / 27 = 16,940 yd³

914,760 ft² x 1.0 ft (12") cover = 914,760 ft³ / 27 = 33,880 yd³

914,760 ft² x 2.5 ft (30") cover = 2,286,900 ft³ / 27 = 84,700 yd³

Unit Cost Estimations and Calculations:

All unit costs are explained in the following parts for each item. The RS Means 2017 Heavy Construction Cost Data 31st Annual Edition was used to estimate some unit costs. The cost references third party contractors' quotes, recent construction costs at nearby landfills, and RS Means pages have been provided in Part 4.

CLOSURE COSTS

Item No. 1 Proposed Monitoring Wells

No additional monitoring wells are proposed for closure of either the ash monofill cells or the solid waste cells.

Item No. 2 Slope and Fill

The slope and intermediate cover will be maintained during the operation of the landfill. During closure, there will be a need to shape and compact the intermediate cover existing at the time of closure. The currently approved closure design for the ash cells is depicted in **Figure 1** and the currently approved closure design for the solid waste cells is depicted in **Figure 2**. These design concepts were used to generate grading/compaction costs associated with the intermediate cover and cap foundation layer. Soil quantities were increased by an additional 5% to account for shrinkage & bulking losses.

Ash Cells (A1, A2, A3, and A4): Quantity of 12" soil fill (intermediate cover + cap foundation layer) = 84,700 CY * 1.05 = 88,935 CY

Solid Waste Cells (SW1 and SW2): Quantity of 12" soil fill (intermediate cover + cap foundation layer) = 33,880 CY * 1.05 = 35,574 CY

Off-site soils will be purchased and delivered for closure purposes. Unit cost estimates are based on a third party quotations and on RS Means 2017 Heavy Construction Cost Data 31st Annual Edition.

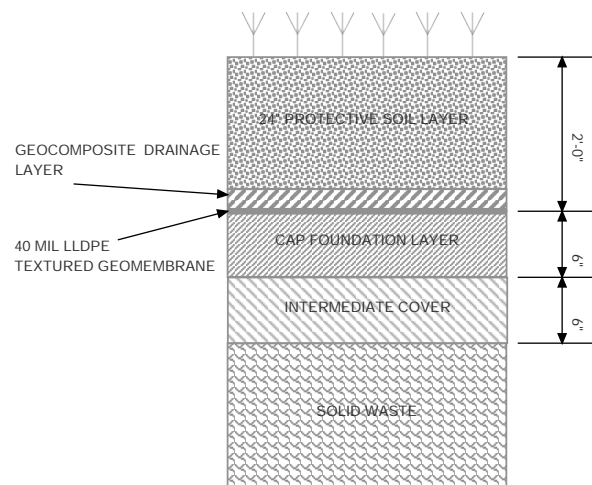


Figure 1
Permitted Ash Cell Closure Cap Design

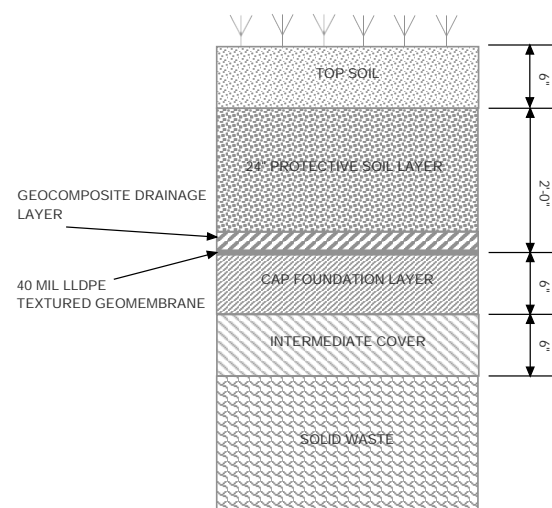


Figure 2
Permitted SW Cell Closure Cap Design

Item No. 3 Barrier Layer

The landfill barrier layers will consist of a layer of 40-mil textured LLDPE (linear low-density polyethylene) geomembrane and a geocomposite drainage layer, as depicted in Figures 1 and 2

Ash Cells (A1, A2, A3, and A4): Quantity of geosynthetics = 254,100 SY

Solid Waste Cells (SW1 and SW2): Quantity of geosynthetics = 101,640 SY

Geosynthetics costs are based on bid pricing by a third party contractor. To verify this cost, third party contractors' quotations for landfill closure projects at similar landfill facilities in Florida were obtained and compared. The estimates used to determine unit cost for the installed geosynthetics are provided in Part 4 of this document.

Item No. 4 Final Cover Material

The quantity for this item was based on 24 inches of top vegetative soil layer above the geosynthetics for the Ash Cells and 30 inches of top vegetative soil layer above the geosynthetics for the Solid Waste Cells. Also, soil quantities were increased by additional 5% to count for shrinkage & bulking losses.

Ash Cells (A1, A2, A3, and A4): Quantity of 24" topsoil layer = $169,400 \text{ CY} * 1.05 = 177,870 \text{ CY}$

Solid Waste Cells (SW1 and SW2): Quantity of 30" topsoil layer = $84,700 \text{ CY} * 1.05 = 88,935 \text{ CY}$

Topsoil cost is based on bid pricing by a third party contractor and is compared to recent construction activities (March 2015) at the Hillsborough County SCLF. The 2015 bid price included the costs of excavation, transportation, placement, grading and compaction. To verify this cost, third party contractors' quotations for landfill closure projects at similar landfill facilities in Florida were obtained.

Item No. 5 Vegetative Cover

When closed, the landfill will be covered with 24" of protective soil (accounted for in Item 4 above) with the upper 6" capable of supporting vegetative growth. The upper layer will be sodded.

Ash Cells (A1, A2, A3, and A4): Quantity of sod placed on top of 24" soil layer = $254,100 \text{ SY} * 1.05 = 266,805 \text{ SY}$

Solid Waste Cells (SW1 and SW2): Quantity of sod placed on top of 6" soil layer = $96,800 \text{ SY} * 1.05 = 101,640 \text{ SY}$

Sodding cost is based on an April 2015 third party contractors quotations received on landfill closure projects for similar landfill facilities in the Tampa Bay area and from a Pasco County-specific quote provided by Comanco.

- Sodding unit cost from 2015 and 2017 contractor quotes = \$2.75 per SY

Item No. 6 Stormwater Control Systems

At closure, the interstices between all existing cells will be filled, thus creating a single merged ash cell and a single merged solid waste cell. The stormwater control systems for each merged cell will ultimately be designed to shed water from the horizontal surfaces to the existing perimeter swale system. The system components used to accomplish this will include construction of new berms, downchutes, and control structures similar to that depicted in **Figure 3**. For financial planning purposes¹, is assumed that the number of downchute structures at final closure for each cell will be consistent with that depicted in Figure 3.

¹ Until Final Closure Design of the merged cells is complete, the total number and length of stormwater downcomer structures can only be estimated.

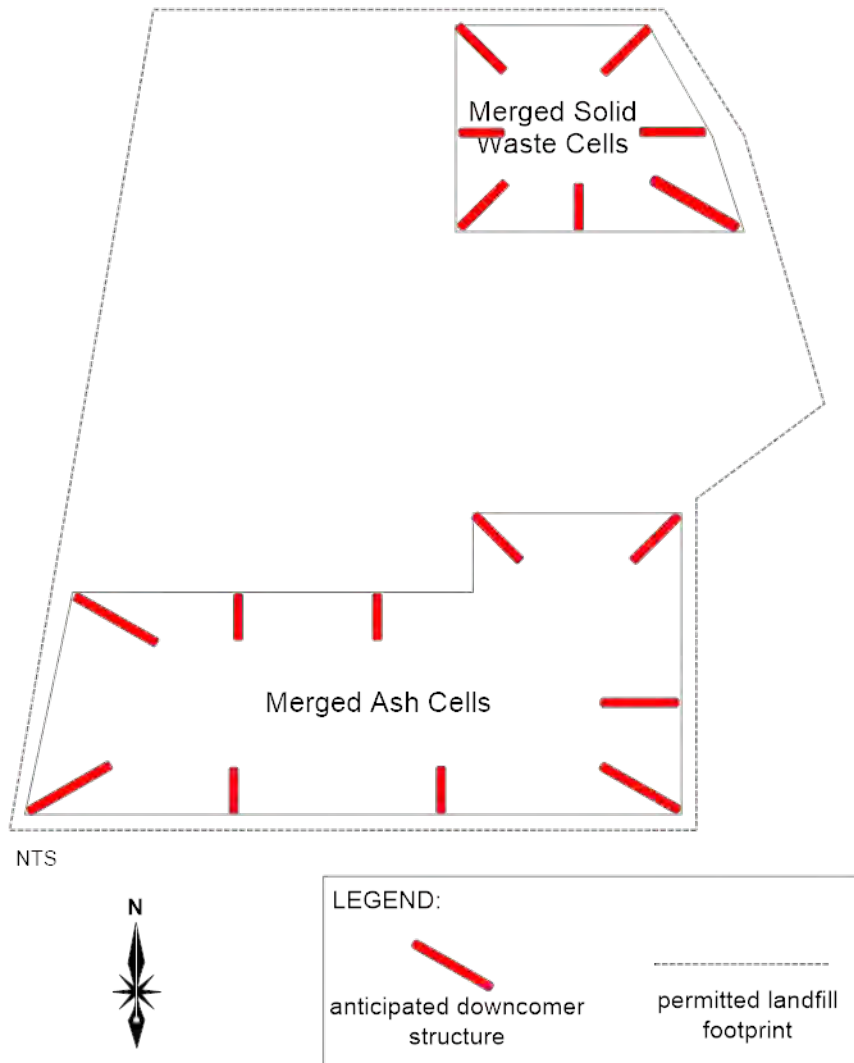


Figure 3
Approximation of Stormwater Downcomer Structures at Closure

Table 1 Conceptual Stormwater Downchute Control System at Closure			
Disposal Cell	Approximate Footprint (Acres)	Anticipated Number of Downchutes	Approximate Total Linear Feet
Merged Ash Cells	110	10	3,800
Merged Solid Waste Cells	50	7	2,660

A typical downchute is comprised of three major components: 24" corrugated HDPE pipe, a mitered end section at the inlet, and an FDOT Index 261 endwall at the discharge (see Part 5). The earthwork associated with the anticipated stormwater control systems/structures includes perimeter berms and trenching. The engineer's estimate for the earthwork associated with the stormwater structures (berms, ditches, grading) prepared for the last Closure Cost Estimate has been reviewed and determined to be

reasonable. For the ash cells, the previously estimated volume of earthwork was determined to be 18.42 cubic yards per linear foot of berm, with an estimated 4,000 linear feet of berms; and 2.71 cubic yards per linear foot of downchutes (pipe trenching), with an estimated 3,800 linear feet of downchutes.

Stormwater Control System Components Ash Monofill Cells (A1, A2, A3, A4)					
Item	Component	Quantity	Unit	Unit Cost	Total
Control Structure	Fabriform Riprap	1,500	SY	\$124	\$186,000
Control Structure	FDOT Index 261 Endwall	10	EA	\$4,025	\$40,250
Downchute	12" Corrugated HDPE Pipe	3,800	LF	\$11.80	\$44,840
Downchute	Excavation and Fill – pipe trenches	10,298	CY	\$4.08	\$42,016
Diversion Berm	Excavation and Fill	4,000 (73,680)	LF (CY)	\$5.45	\$401,556

For the solid waste cells, the estimated volume of earthwork was determined to be 18.42 cubic yards per linear foot of berm, with an estimated 1,600 linear feet of berms; and 2.71 cubic yards per linear foot of downchutes (pipe trenching) with an estimated 2,600 linear feet of downchutes.

Stormwater Control System Components Solid Waste Cells (SW1, SW2)					
Item	Component	Quantity	Unit	Unit Cost	Total
Control Structure	Fabriform Riprap	1,050	SY	\$124	\$130,200
Control Structure	FDOT Index 261 Endwall	7	EA	\$4,025	\$28,175
Downchute	12" Corrugated HDPE Pipe	2,600	LF	\$11.80	\$30,680
Downchute	Excavation and Fill – pipe trenches	7,046	CY	\$4.08	\$28,748
Diversion Berm	Excavation and Fill	1,600 (29,472)	LF (CY)	\$5.45	\$160,622

Item No. 7 Passive Gas Control

Because no putrescible waste will be placed in the ash cells, there is no potential for the generation of landfill gas and no gas control systems are envisioned.

The gas collection system for the solid waste cells, and any additional passive vents that must be installed in the future, is considered to be an operational cost, therefore, no additional closure costs are included.

Item No. 8 Active Gas Extraction Control

Because no putrescible waste will be placed in the ash cells, there is no potential for the generation of landfill gas and no gas control systems are envisioned.

The gas collection system for the solid waste cells is considered to be an operational cost, therefore, no additional closure costs are included.

Item No. 9 Security System

Perimeter fencing, gates and signs already exist at the facility. A \$2,000 lump sum is allocated in the cost estimates for additional signs or fence modifications required at the time of closure.

Item No. 10 Engineering

The engineering costs associated with closing the ash cells and the solid waste cells is estimated to be approximately 5% of the closure costs, or approximately \$420,000.

Item No. 11 Professional Services

The cost for professional services related to contract management and quality assurance for closure is estimated to be approximately 6% of the closure costs, or approximately \$450,000.

Item No. 12 Contingency

A contingency of 5% is added to the subtotal of items 1 through 11.

Item No. 13 Site Specific Costs

There are no Site Specific Costs identified at this time

LONG TERM CARE COST ESTIMATE

(Note: These estimates are for the entire Class I Landfill, inclusive of A1, A2, A3, A4, SW1, and SW2)

June 2018

1. Groundwater Monitoring [62-701.510 (6), and (8)(a)]

The West Pasco Class I Landfill has 29 groundwater monitoring wells (20 associated with the ash cells and 9 associated with the solid waste cells) that are sampled semi-annually. Sampling and analysis is conducted by Pasco County Environmental Services. Included in Part 4 are the unit costs estimates provided by Pasco County Environmental Laboratory to obtain the required groundwater samples and to analyze them for the required constituents. Annual groundwater sampling and analysis is estimated to be **\$20,300**.

2. Surface Water Monitoring [62-701.510(4), and (8)(b)]

It is not anticipated that the existing stormwater system will discharge from the site. Accordingly, there is no cost associated with surface water monitoring.

3. Gas Monitoring [62-701.400(10)]

Landfill gas from the solid waste cells is monitored at 6 gas monitoring locations on a quarterly basis. Sample analysis is conducted in-situ, so the only costs associated with the gas monitoring program are employee time and mileage. Annual costs associated with the gas monitoring program are:

- Quarterly samples (four hours on site at \$20/hr, four 30-mile trips @ \$0.575/mile) = \$389 (add \$100 for conservancy)

Annual gas monitoring is estimated to be approximately **\$480**.

4. Leachate Monitoring [62-701.510(5),(6)(b) and 62-701.510(8)(c).

Currently, leachate is collected and periodically hauled off-site for disposal. The disposal site requires an annual demonstration that the leachate does not exhibit the toxicity characteristic defined at 40 CFR 261.24. The annual cost to conduct a TCLP analysis is approximately \$350.

Annual leachate monitoring is estimated to be **\$350**.

5. Leachate Collection/Treatment Systems Maintenance

Routine maintenance of the leachate collection system is a high-pressure cleaning of all laterals and collection mains every five years. A third-party contractor recently conducted this maintenance at a cost of \$9,120 (see **Part 4**). Though not deemed necessary following the last routine pressure cleaning, it is possible that additional video-inspection *could* become necessary

in the future. Therefore, for purposes of estimating long-term care costs, Pasco County will apply a safety factor to this estimate and assume an annual cost of **\$9,000** per year for the ash cells and **\$9,000** per year for the solid waste cells.

Leachate from the ash cells is currently collected in a 2 million gallon above ground storage tank and periodically hauled off site for disposal at a permitted domestic wastewater treatment facility. Leachate from the solid waste cells is pumped directly to the adjacent Shady Hills Wastewater Treatment Facility. The current contract price for transportation and disposal of the ash leachate is approximately \$0.07/gallon. For consistency, it is conservatively assumed that leachate from the solid waste cells will also be hauled off-site once the cells are closed.

Once the landfill (both the ash cells and the solid waste cells) is in long term care, the amount of leachate generated will be minimal because of the landfill cover. To approximate the amount of leachate that will be generated following installation of the final cover systems, leachate generation rates for the closed East Pasco Class I landfill were reviewed. The East Pasco Landfill was used for this analysis because the closure design is similar to that anticipated for the West Pasco landfill. The portion of the East Pasco Landfill that incorporates a leachate collection system is approximately 80 acres in size, which is just slightly larger than the 70 acres envisioned in this Long Term Care Cost estimate for the West Pasco site. Monthly leachate generation rates for East Pasco show that the average monthly volume of leachate collected in the capped and closed landfill is approximately 150,000 gallons per month. Extrapolating this value out over a 12-month period results in an estimated annual leachate generation rate of 1.8 million gallons for the 80 acre closed landfill (which is conservatively larger than the 70 acre West Pasco landfill.) At \$0.07/gallon for transportation and disposal, this equates to approximately **\$126,000** per year in leachate disposal costs (\$90,020 for the ash cells and \$35,980 for the solid waste cells). The previously prepared estimate for leachate collection erroneously assumed that the leachate generation rate following closure would be identical to the rate generated during operation.

6. Groundwater Monitoring Well Maintenance

It is estimated that the construction of a new well, installed to a depth of approximately 30 feet (the average depth of a surficial aquifer monitoring well at the site) is approximately \$4,500. Assuming that all of the existing monitoring wells will at some point during the 30-year long term care period be replaced, total replacement cost will be \$130,500 (\$4,500 x 29 wells). Dividing this value by the 30-year long term care period results in an estimated annual cost of **\$4,350**.

7. Gas System Maintenance

The gas monitoring system at SW-1 and SW-2 consists of passive vents designed to reduce the potential for lateral gas migration beyond the property boundary. The estimated cost to design, permit, and construct a passive vent is assumed to be \$12,500 (based on 2015 installation of passive vents at the East Pasco Class I Landfill). Assuming that routine maintenance over the

course of the 30-year long term care period will require replacement of a single vent every five years, the estimated annual cost for gas system maintenance is assumed to be **\$2,500** (\$12,500 / 5 years).

8. Landscape Maintenance

Pasco County Utilities will contract out the mowing and landscape services necessary at the landfill. **Part 4** provides the latest Bid Tabulation for the Request for Bid associated with the landscape maintenance activities. The prevailing bidder provided a cost of \$20/acre and the estimated acreage will be approximately 70 acres. Assuming a mowing frequency of 9 times per year, the annual cost associated with landscape maintenance is **\$12,600** (\$20/acre x 70 acres x 9 events/year).

9. Erosion Control and Cover Maintenance

It is estimated that approximately 0.5% of the landfill surface area requires re-sodding every year. This equates to approximately 3.5 acres of sod per year. Assuming a conservative cost for sod of \$2.75 per square foot, the total estimated annual cost for re-sodding is approximately **\$46,585**.

To estimate the amount the amount of cover soil, it is assumed that 6 inches of soil will need to be placed and graded for every 0.125 acres of sod placed each year. This results in a required volume of 0.4 acres x 0.5 ft x 43,560 ft²/acre = 8,712 ft³ = 325 cubic yds. Assuming a conservative unit rate of \$12/yd³, the total annual cost for soil is estimated to be **\$3,900**.

The estimated total annual cost for cover soil and sod is approximately **\$50,485**

10. Stormwater Management System Maintenance

In order to maintain the stormwater system in its current capacity of precluding off-site discharges, it will be necessary to maintain the drainage swale system by removing vegetation from the swales. To accomplish this, it is assumed that a portion of the annual landscape maintenance costs can be applied to the stormwater system. For purposes of this estimate, it is assumed that annual swale maintenance can be achieved at approximately 25% of the annual landscape maintenance cost, or approximately **\$3,150**.

11. Security System Maintenance

The site security system consists of a 6' chain link fence and multiple rolling chain-link gates. It is estimated that there will be approximately 50 feet of fence that must be replaced each year for the 30 years of long term care, at a cost of approximately \$25 per linear foot. In addition, it is anticipated that 2 gates will need to be replaced at least once in the next 30 years. This results in an annual estimated cost of **\$1,290** (50 feet x \$25/ft + \$1,200/30 years).

12. Utility Costs

It is assumed that electricity from the Waste-to-Energy Facility will not be available during the long term care period of the landfill and that electrical power to operate the leachate pumps and other electrical equipment must be purchased from the local electric utility. A review of

annual purchases from Withlacoochee Electrical Cooperative (included in Part 4) shows that the site currently purchases approximately **\$2,300** worth of electricity annually. For convenience it will be assumed that \$1,640 is associated with the ash cells and \$660 is associated with the solid waste cells.

13. Leachate Collection/Treatment System Operation

It is assumed that a full-time operator will be assigned to the landfill throughout the closure period to maintain the leachate collection system and perform daily site security functions. At a fully loaded labor rate of \$35/hr, this results in an annual cost of approximately **\$145,600** per year (\$72,800 for the solid waste cells and \$72,800 for the ash cells).

14. Administrative

In addition to the full-time operator detailed in Item 13 above, it is assumed that a full-time administrative assistant will be employed by the County at the landfill. At a fully loaded rate of \$25/hr, this results in an annual cost of approximately **\$104,000** per year (\$52,000 for the solid waste cells and \$52,000 for the ash cells).

PART 4
UNIT COST REFERENCES

Jason Gorrie

From: David Scherbaty <dscherbaty@comanco.com>
Sent: Wednesday, December 27, 2017 11:33 AM
To: Jason Gorrie
Subject: Pasco Co. LF Closure Budget Numbers
Attachments: Pasco Co. LF - Closure Budget.pdf

Jason,

It was great talking with you earlier. Per our conversation attached please find some closure budgetary numbers. These numbers assume that the site has an on-site borrow source for the fill below the geomembrane layer and cover material will need to be imported. Geosynthetics will be per the standard Subtitle D closure with a 40-Mil Textured LLDPE and a Geocomposite. Hopefully these numbers help, but please let me know if you need anything else.

Also, if you're around in early January I'd love to get together to discuss any upcoming opportunities that you all might be working on. Please just let me know what your availability is.

Thanks,
David



David Scherbaty | Director of Sales
COMANCO Environmental Corporation
4301 Sterling Commerce Drive | Plant City, FL 33566
Office: 813-988-8829 | Cell: 813-323-3584
E-mail: dscherbaty@comanco.com | web: www.comanco.com

This
email
has
been

scanned for email related threats and delivered safely by Mimecast.
For more information please visit <http://www.mimecast.com>

IV. ESTIMATED CLOSING COST (check what applies)

☐ Recalculated Cost Estimate

☐ New Facility Cost Estimate

- Notes: 1. Cost estimates for the time period when the extent and manner of landfill operation makes closing most exp
 2. Cost estimate must be certified by a professional engineer.
 3. Cost estimates based on third party suppliers of material, equipment and labor at fair market value.
 4. In some cases, a price quote in support of individual item estimates may be required.

Description	Unit	Number of Units	Cost / Unit	Total Cost
1. Proposed Monitoring Wells (Do not include wells already in existence.)				
	EA			
			Subtotal Proposed Monitoring Wells:	
2. Slope and Fill (bedding layer between waste and barrier layer):				
Excavation	CY SY		1.00	
Placement and Spreading	CY		4.50	
Compaction	CY			
Off-Site Material	CY			
Delivery	CY			
			Subtotal Slope and Fill:	
3. Cover Material (Barrier Layer):				
Off-Site Clay	CY			
Synthetics - 40 mil	SY		5.50	
Synthetics - GCL	SY			
Synthetics - Geonet	SY			
Synthetics - Other (explain)	SY		7.50	
Geocomposite				
			Subtotal Cover Material:	
4. Top Soil Cover:				
Off-Site Material	CY		10.00	
Delivery	CY		4.00	
Spread	CY		5.00	
			Subtotal Top Soil Cover:	
5. Vegetative Layer				
Sodding	SY		2.75	
Hydroseeding	AC			
Fertilizer	AC			
Mulch	AC			
Other (explain)				
			Subtotal Vegetative Layer:	
6. Stormwater Control System:				
Earthwork	CY			
Grading	SY			
Piping	LF			
Ditches	LF			
Berms	LF			
Control Structures	EA			
Other (explain)				
			Subtotal Stormwater Control System:	

Prepared By: Candia E. Mulhern, Laboratory Manager
 Pasco County Environmental Laboratory
 Date: 2016 July 20

ANNUAL COST OF ANALYSIS FOR GWM AT EPSL

Quarterly COSTS (4 Quarters)

ANALYSIS	COST/ANALYSIS	# OF WELLS	ANNUAL COST
Arsenic	\$10.00	13	\$520.00
Iron	\$10.00	13	\$520.00
Benzene	\$50.00	13	\$2,600.00
*Mileage	\$0.575	82 miles	\$188.60
*Time	\$20.00	8 hours	\$640.00
Total Annual Cost			\$4,468.60

SEMI-ANNUAL COSTS

Total Ammonia - N	\$13.00	39	\$1,014.00
Chlorides	\$6.00	39	\$468.00
Nitrate	\$7.00	39	\$546.00
TDS	\$7.00	39	\$546.00
Iron	\$10.00	39	\$780.00
Mercury	\$20.00	39	\$1,560.00
Sodium	\$10.00	39	\$780.00
40 CFR Pt. 258, APP I	\$110.00	39	\$8,580.00
*Mileage	\$0.575	492 miles	\$565.80
*Time	\$20.00	48 hours	\$1,920.00
Total Annual Cost			\$16,759.80

Quarterly + Semi-Annual Cost for GWM @ EPSL **\$21,228.40**

*Mileage and Sampling Time vary depending on environmental conditions. The hours and mileage are estimates.

BID NO. IFB-EC-15-177
HOG/MOWING AND SCARIFYING ANNUAL AWARD
7/7/15 @ 2:15PM

A. SOLID WASTE FACILITIES:

Item No.	Description	REEVES LAND SERVICES DADE CITY, FL Cost Per Acre	RANJANS TROPICAL LAWN AND LANDSCAPE LEESBURG, FL Cost Per Acre	TOTAL PROPERTY MAINTENANCE TAMPA, FL Cost Per Acre	LUKE BROTHERS, INC. HOLIDAY, FL Cost Per Acre	R.A BURKE SERVICES INC. BROOKSVILLE, FL Cost Per Acre	SUMMER LAND MANAGEMENT BALM, FL Cost Per Acre	DID NOT ACKNOWLEDGE ADDENDUM 2
1	East Pasco Sanitary Landfill 17511 Auton Road Dade City, Florida	\$ 20.00	\$ 18.00	\$ 20.00	\$ 24.00	\$ 20.00	\$ 28.00	
2	Approximately 115 Acres East Pasco Transfer Station 9626 Handart Road Dade City, Florida	\$ 20.00	\$ 35.00	\$ 25.00	\$ 27.00	\$ 25.00	\$ 27.00	
3	Approximately 11 Acres West Pasco Landfill 14230 Hays Road Spring Hill, Florida	\$ 20.00	\$ 18.00	\$ 20.00	\$ 24.00	\$ 20.00	\$ 26.00	
4	Approximately 160 Acres Ridge Road Closed Landfill (Southeast Corner of San Mequet Drive and Galen Wilson Enlowway) Port Richey, Florida	\$ 20.00	\$ 20.00	\$ 20.00	\$ 25.00	\$ 25.00	\$ 28.00	
SUB TOTAL OF A		\$ 80.00	\$ 91.00	\$ 85.00	\$ 100.00	\$ 90.00	\$ 106.00	\$ -

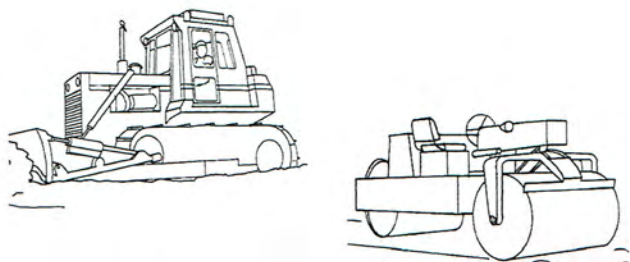
BID NO. IFB-EC-16-130
 LANDFILL COVER MATERIAL - AA
 5/23/16 2:30 PM

Description	CENTRAL FLORIDA TRANSPORT, LLC		RON MORSE TRACTOR SERVICE LLC	
	COLEMAN, FL		BROOKSVILLE, FL	
Sand Cover Materials Delivered to: West Pasco County Class I Sanitary Landfill 14230 Hays Road Spring Hill, Florida Per the specifications, on an as-needed basis.	Cost per Cubic Yard		Cost per Cubic Yard	
	\$ 12.90		\$ 14.50	
Delivery: _____ Calendar Days after Receipt of Purchase Order.	3		10	

* The above price is for purchase & delivery of clean fill material.

Site Preparation

Site Earthwork



The Cut and Fill Gravel System includes: moving gravel cut from an area above the specified grade to an area below the specified grade utilizing a bulldozer and/or scraper with the addition of compaction equipment, plus a water wagon to adjust the moisture content of the soil.

The Expanded System Listing shows Cut and Fill operations with hauling distances that vary from 50' to 5000'. Lifts for compaction in the filled area vary from 6" to 12". There is no waste included in the assumptions.

Components	QUANTITY	UNIT	COST PER C.Y.		
			EQUIP.	LABOR	TOTAL
M G1030 105 1000					
L CUT & FILL, 80 HP DOZER & COMPACT, 50' HAUL, 6" LIFT, 2 PASSES					
Excavating, bulk, dozer, 80 H.P. 50' haul sand and gravel	1.000	C.Y.	1.12	1.93	3.05
Water wagon rent per day	.003	Hr.	.20	.21	.41
Backfill, dozer, 50' haul sand and gravel	1.000	C.Y.	.54	.93	1.47
Compaction, vibrating roller, 6" lifts, 2 passes	1.000	C.Y.	.22	.30	.52
TOTAL			2.08	3.37	5.45

Stormwater
Diversion Berms

105	Cut & Fill Gravel	COST PER C.Y.		
		EQUIP.	LABOR	TOTAL
el cut & fill, 80 HP dozer & roller compact, 50' haul, 6" lift, 2 passes		2.08	3.37	5.45
4 passes		2.21	3.54	5.75
12" lift, 2 passes		1.99	3.24	5.23
4 passes		2.12	3.41	5.53
150' haul, 6" lift, 2 passes		3.74	6.20	9.94
4 passes		3.87	6.40	10.27
12" lift, 2 passes		3.65	6.10	9.75
4 passes		3.78	6.25	10.03
300' haul, 6" lift, 2 passes		6.30	10.65	16.95
4 passes		6.45	10.85	17.30
12" lift, 2 passes		6.25	10.55	16.80
4 passes		6.35	10.70	17.05
105 HP dozer & roller compactor, 50' haul, 6" lift, 2 passes		1.96	2.54	4.50
4 passes		2.09	2.71	4.80
12" lift, 2 passes		1.87	2.41	4.28
4 passes		2	2.58	4.58
150' haul, 6" lift, 2 passes		3.73	4.90	8.63
4 passes		3.86	5.05	8.91
12" lift, 2 passes		3.64	4.77	8.41
4 passes		3.77	4.94	8.71
300' haul, 6" lift, 2 passes		6.85	9.05	15.90
4 passes		7	9.25	16.25
12" lift, 2 passes		6.75	8.95	15.70
4 passes		6.90	9.10	16
200 HP dozer & roller compactor, 150' haul, 6" lift, 2 passes		4.41	2.84	7.25
4 passes		4.54	3.01	7.55
12" lift, 2 passes		4.32	2.71	7.03
4 passes		4.45	2.88	7.33

G10 S

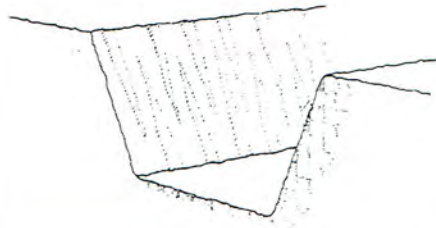
G1030

G1030

2600	
2650	
2700	
2750	
3000	
3050	
3100	
3150	
3200	
3250	
3300	
3350	
4200	
4250	
4300	
4350	
4800	
4850	
4900	
4950	
5000	
5050	
5100	
5150	
5400	
5450	
5500	
5550	
5600	
5650	
5700	
5750	
6000	
6050	
6100	
6150	

G10 Site Preparation

G1030 Site Earthwork



Trenching Systems are shown on a cost per linear foot basis. The systems include: excavation; backfill and removal of spoil; and compaction for various depths and trench bottom widths. The backfill has been reduced to accommodate a pipe of suitable diameter and bedding.

The slope for trench sides varies from none to 1:1.

The Expanded System Listing shows Trenching Systems that range from 2' to 12' in width. Depths range from 2' to 25'.

System Components	QUANTITY	UNIT	COST PER L.F.		
			EQUIP.	LABOR	TOTAL
SYSTEM G1030 805 1310					
TRENCHING COMMON EARTH, NO SLOPE, 2' WIDE, 2' DP, 3/8 C.Y. BUCKET					
Excavation, trench, hyd. backhoe, track mtd., 3/8 C.Y. bucket	.148	B.C.Y.	.40	1.11	
Backfill and load spoil, from stockpile	.153	L.C.Y.	.13	.34	
Compaction by vibrating plate, 6" lifts, 4 passes	.118	E.C.Y.	.03	.40	
Remove excess spoil, 8 C.Y. dump truck, 2 mile roundtrip	.040	L.C.Y.	.14	.18	
TOTAL			.70	2.03	

G1030 805		Trenching Common Earth	COST PER L.F.		
			EQUIP.	LABOR	TOT
1310	Trenching, common earth, no slope, 2' wide, 2' deep, 3/8 C.Y. bucket	Stormwater Pipe Trenching	.70	2.03	4.08
1320	3' deep, 3/8 C.Y. bucket		1.01	3.07	
1330	4' deep, 3/8 C.Y. bucket		1.31	4.08	
1340	6' deep, 3/8 C.Y. bucket		1.67	5.30	
1350	8' deep, 1/2 C.Y. bucket		2.23	7.05	
1360	10' deep, 1 C.Y. bucket		3.54	8.40	
1400	4' wide, 2' deep, 3/8 C.Y. bucket		1.59	4.05	
1410	3' deep, 3/8 C.Y. bucket		2.19	6.10	
1420	4' deep, 1/2 C.Y. bucket		2.53	6.85	
1430	6' deep, 1/2 C.Y. bucket		4.13	11	
1440	8' deep, 1/2 C.Y. bucket		6.75	14.25	
1450	10' deep, 1 C.Y. bucket		8.15	17.65	
1460	12' deep, 1 C.Y. bucket		10.55	22.50	
1470	15' deep, 1-1/2 C.Y. bucket		9.20	20	
1480	18' deep, 2-1/2 C.Y. bucket		13	28	
1520	6' wide, 6' deep, 5/8 C.Y. bucket w/trench box		8.65	16.40	
1530	8' deep, 3/4 C.Y. bucket		11.45	21.50	
1540	10' deep, 1 C.Y. bucket		11.45	22.50	
1550	12' deep, 1-1/2 C.Y. bucket		12.10	24	
1560	16' deep, 2-1/2 C.Y. bucket		16.70	30	
1570	20' deep, 3-1/2 C.Y. bucket		22	35.50	
1580	24' deep, 3-1/2 C.Y. bucket		26	43	
1640	8' wide, 12' deep, 1-1/2 C.Y. bucket w/trench box		16.85	30.50	
1650	15' deep, 1-1/2 C.Y. bucket		22	40	
1660	18' deep, 2-1/2 C.Y. bucket		24	40	
1680	24' deep, 3-1/2 C.Y. bucket		35.50	55.50	
1730	10' wide, 20' deep, 3-1/2 C.Y. bucket w/trench box		28.50	53	
1740	24' deep, 3-1/2 C.Y. bucket		42.50	63.50	
1800	1/2 to 1 slope, 2' wide, 2' deep, 3/8 C.Y. bucket		1.01	3.07	
1810	3' deep, 3/8 C.Y. bucket		1.68	5.35	
1820	4' deep, 3/8 C.Y. bucket		2.52	8.20	
1840	6' deep, 3/8 C.Y. bucket		4.04	13.30	
1860	8' deep, 1/2 C.Y. bucket		6.40	21	
1880	10' deep, 1 C.Y. bucket		12.20	29.50	

Storm Utility Drainage Piping

- Public Storm Utility Drainage Piping

Piping, Storm Drainage, Corrugated Metal	Crew	Daily Output	Labor-Hours	Unit	Material	2017 Bare Costs Labor	2017 Bare Costs Equipment	Total	Total Incl O&P
30" diameter, 14 ga.	B-13	130	.431	L.F.	27	18.55	5.20	50.75	63.50
36" diameter, 12 ga.		130	.431		31	18.55	5.20	54.75	68
48" diameter, 12 ga.		110	.509		46.50	22	6.10	74.60	91.50
60" diameter, 10 ga.	B-13B	78	.718		71.50	31	13.80	116.30	141
72" diameter, 10 ga.	"	60	.933		85.50	40	17.95	143.45	176
tees or elbows, 12" diameter, 16 ga.	B-14	30	1.600	Ea.	146	66.50	12.20	224.70	274
15" diameter, 16 ga.		25.04	1.917		181	79.50	14.65	275.15	335
18" diameter, 16 ga.		20	2.400		204	99.50	18.30	321.80	395
24" diameter, 14 ga.		16	3		296	124	23	443	540
30" diameter, 14 ga.		15	3.200		345	133	24.50	502.50	610
36" diameter, 14 ga.	B-13	15	3.733		500	161	45	706	845
48" diameter, 12 ga.		12	4.667		670	201	56	927	1,100
60" diameter, 10 ga.		10	5.600		1,050	241	67.50	1,358.50	1,600
72" diameter, 10 ga.		6	9.333		1,325	400	112	1,837	2,225
tees or tees, 12" diameter, 16 ga.	B-14	22.48	2.135		194	88.50	16.30	298.80	365
18" diameter, 16 ga.		15	3.200		285	133	24.50	442.50	545
24" diameter, 14 ga.		15	3.200		450	133	24.50	607.50	725
30" diameter, 14 ga.		14	3.429		580	142	26	748	885
36" diameter, 14 ga.	B-13	14	4		730	172	48	950	1,125
48" diameter, 12 ga.		12	4.667		1,050	201	56	1,307	1,550
60" diameter, 10 ga.		10	5.600		1,450	241	67.50	1,758.50	2,050
72" diameter, 10 ga.		6	9.333		1,850	400	112	2,362	2,775
end sections, 8" diameter	B-14	35	1.371		73	57	10.45	140.45	179
10" diameter		35	1.371		77	57	10.45	144.45	183
12" diameter		35	1.371		114	57	10.45	181.45	224
18" diameter		30	1.600		116	66.50	12.20	194.70	241
24" diameter	B-13	25	2.240		216	96.50	27	339.50	415
30" diameter		25	2.240		330	96.50	27	453.50	540
36" diameter		20	2.800		465	121	33.50	619.50	735
48" diameter		10	5.600		935	241	67.50	1,243.50	1,475
60" diameter	B-13B	5	11.200		1,625	480	215	2,320	2,775
72" diameter	"	4	14		1,950	605	269	2,824	3,375
Couplings, 12" diameter					10.60			10.60	11.65
18" diameter					15.20			15.20	16.70
24" diameter					22			22	24
30" diameter					26			26	29
36" diameter					31			31	34
48" diameter					46.50			46.50	51
60" diameter					59.50			59.50	65.50
72" diameter					72			72	79.50

0 Piping, Drainage & Sewage, Corrug. HDPE Type S

3, DRAINAGE & SEWAGE, CORRUGATED HDPE TYPE S

including excavation & backfill, bell & spigot

With gaskets, 4" diameter	B-20	425	.056	L.F.	.86	2.48		3.34	4.76
6" diameter		400	.060		2.08	2.64		4.72	6.35
8" diameter		380	.063		3.91	2.77		6.68	8.55
10" diameter		370	.065		5.60	2.85		8.45	10.55
12" diameter		340	.071		6.45	3.10		9.55	11.80
15" diameter		300	.080		8.10	3.51		11.61	14.30
18" diameter	B-21	275	.102		12.25	4.64	.50	17.39	21
24" diameter		250	.112		17.35	5.10	.55	23	27.50
30" diameter		200	.140		20.50	6.40	.69	27.59	33

Stormwater
Drainage Piping

7 Riprap

3 - Machined Riprap

0 Riprap and Rock Lining

AP AND ROCK LINING

andom, broken stone
achine placed for slope protection
3/8 to 1/4 C.Y. pieces, grouted
18" minimum thickness, not grouted
umped, 50 lb. average
100 lb. average
300 lb. average

Storwater riprap
(added to
Earthwork line
item)

Crew	Daily Output	Labor-Hours	Unit	Material	2017 Labor	Bare Costs Equipment	Total	Total Incl O&P
B-12G	62	.258	L.C.Y.	29.50	12.25	12.85	54.60	65
B-13	80	.700	S.Y.	63	30	8.40	101.40	124
"	53	1.057	"	18.60	45.50	12.70	76.80	104
B-11A	800	.020	Ton	26	.93	1.73	28.66	32.50
	700	.023		26	1.06	1.98	29.04	33
	600	.027		26	1.24	2.31	29.55	33.50

1 Shoring

13 - Timber Shoring

.10 Building Shoring

LDING SHORING

Shoring, existing building, with timber, no salvage allowance
On cribbing with 35 ton screw jacks, per box and jack
Masonry openings in walls, see Section 02 41 19.16

B-51	2.20	21.818	M.B.F.	865	880	99	1,844	2,400
"	3.60	13.333	Jack	65	540	60.50	665.50	960

16 - Sheet Piling

.10 Sheet Piling Systems

EET PILING SYSTEMS

Sheet piling, 50,000 psi steel, not incl. wales, 22 psf, left in place

B-40	10.81	5.920	Ton	1,450	305	350	2,105	2,450
	6	10.667		475	545	635	1,655	2,075
	12.95	4.942		1,450	253	294	1,997	2,325
	6.55	9.771		475	500	580	1,555	1,950
	19	3.368		1,450	172	200	1,822	2,100
	10.50	6.095		475	310	365	1,150	1,400
	21.20	3.019		1,450	154	180	1,784	2,050
	12.25	5.224		475	267	310	1,052	1,275
	983	.065	S.F.	16.85	3.33	3.87	24.05	28
	545	.117		5.30	6	7	18.30	23
	960	.067		21	3.41	3.97	28.38	33
	485	.132		6.90	6.75	7.85	21.50	27
	1000	.064		31	3.27	3.81	38.08	44
	553	.116		9.45	5.90	6.90	22.25	27
			Ton	284			284	310
				28.50			28.50	31
				1,075			1,075	1,175
				440			440	485
				145			145	159
				217			217	239
				1,900			1,900	2,075
				1,500			1,500	1,650
				2,175			2,175	2,400
				1,925			1,925	2,125
			Lb.	.75			.75	.83
				.81			.81	.89
				.97			.97	1.07
B-31	330	.121	S.F.	1.79	5.05	.60	7.44	10.35
	300	.133		1.84	5.55	.66	8.05	11.25

Withlacoochee River Electric - Average Billings

Locations	2014	2015	2016
EPSL-Office Scalehouse-Singletary	64.91	63.21	64.80
Resource Recovery Lift Station	24.18	26.07	26.05
Resource Recovery Scale House	177.29	176.17	207.23
Class III Maintenance Bldg.	489.37	774.64	847.38
Class III Scalehouse	275.26	251.27	225.73
Handcart Road - EPTS	954.12	758.17	823.08
Resource Recovery Well House	1,169.45	1,336.45	1,567.51
Leachate Tanks - SW1	147.22	170.51	180.62
Leachate Tanks - Ash Cell	137.17	75.69	81.01
Galen Wilson Blvd.	57.25	52.46	41.85
Auton Road - 4" Well	23.68	23.52	25.64
Hays Road - Lift Station - Class III	38.25	49.87	60.86
Hays Road - Lift Station - Class III	38.74	52.73	63.56
Auton Road - Leachate - Cell #5	-	-	0.00
MRF Building	336.06	271.04	0.00
MRF Trailer	93.93	42.55	25.64
A-2 Cell	24.52	26.28	26.37
Resource Recovery Compactors	49.03	0.00	0.00
Stormwater Pump SW2 (End: Dec 2009)	-	-	0.00
Stormwater Pump A3	-	-	0.00
RR- Tires	38.83	42.31	46.42
RR- Brush	40.52	46.05	54.52
A-4 Lift Station	158.31	210.09	144.20
Landfill Equipment Barn (Oct. 2010)	42.69	26.47	26.47
Storage Trailer CL I	23.85	25.64	25.64
Class 3 CDO	24.77	26.59	26.57
W Scale A2 (Hays Rd.)	281.99	287.69	316.52
Hays W Scale	133.06	151.28	162.78
East Pasco Compactor 2	174.85	163.75	179.39
East Pasco Compactor	248.06	249.46	229.26
DC Well - EPTS	75.37	75.04	74.88
Recycling Station - 14230 Hays Rd (Start: Nov 2014)	-	377.45	413.45
TOTAL	7,356.71	7,847.45	7,983.43
Highlighted cells (associated with West Pasco)Class I Landfill	2310.81	2361.32	2285.10

Closed East Pasco Landfill

leachate generated (gallons)	month	2015	2016	2017
	January-15	161,415		
	February-15	124,940		
	March-15	186,427		
	April-15	147,190		
	May-15	205,967		
	June-15	192,449		
	July-15	356,504		
	August-15	198,297		
	September-15	126,222		
	October-15	193,969		
	November-15	148,298		
	December-15	141,520		
	January-16	176,255		
	February-16	152,873		
	March-16	123,771		
	April-16	111,976		
	May-16	112,156		
	June-16	294,597		
	July-16	173,185		
	August-16	251,315		
	September-16	167,558		
	October-16	108,194		
	November-16	128,057		
	December-16	109,913		
	January-17	181,247		
	February-17	132,662		
	March-17	125,753		
	April-17	64,413		
	May-17	120,773		
	June-17	67,979		
	July-17	122,779		
	August-17	183,196		
	September-17	164,691		
	October-17	99,420		
	November-17	49,663		
	December-17	66,996		
	January-18	125,978		
	February-18	78,849		
	March-18	136,362		

Monthly Average = 149,072
 Extrapolated Annual Rate = 1,788,864.31

**PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING MARCH 31, 2018**

WEST PASCO CLASS I LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (Gallons) ASH CELLS	LEACHATE (Gallons) SW CELLS
Jan-2018	4.00	125,431	469,579
Feb-2018	2.00	81,379	640,938
Mar-2018	1.25	23,676	300,805
TOTAL	7.25	230,486	1,411,322

**PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING MARCH 31, 2018**

EAST PASCO CLASS I LANDFILL (WACS# 45797)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)					
		TANK 1	TANK 2	TANK 3	TANK 4	TANK 5	TOTAL
Jan-2018	3.60	34,719	42,369	36,451	0	12,439	125,978
Feb-2018	1.50	12,132	30,609	29,777	0	6,331	78,849
Mar-2018	0.75	37,221	37,067	49,549	0	12,525	136,362
TOTAL	5.85	84,072	110,045	115,777	0	31,295	341,189

**PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING MARCH 31, 2018**

WEST PASCO CLASS III LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)
Jan-2018	4.00	470,108
Feb-2018	1.50	407,058
Mar-2018	1.25	178,064
TOTAL	6.75	1,055,230

**PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING DECEMBER 31, 2017**

WEST PASCO CLASS I LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (Gallons) ASH CELLS	LEACHATE (Gallons) SW CELLS
Oct-2017	3.00	164,044	600,379
Nov-2017	3.25	153,612	432,043
Dec-2017	1.25	154,234	326,207
TOTAL	7.50	471,890	1,358,629

**PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING DECEMBER 31, 2017**

EAST PASCO CLASS I LANDFILL (WACS# 45797)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)				
		TANK 1	TANK 2	TANK 3	TANK 4	TANK 5
Oct-2017	2.45	37,513	43,389	12,417	0	6,101
Nov-2017	0.10	12,420	18,698	12,516	0	6,029
Dec-2017	1.00	24,173	18,883	17,602	0	6,338
TOTAL	3.55	74,106	80,970	42,535	0	18,468
						216,079

**PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING DECEMBER 31, 2017**

WEST PASCO CLASS III LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)
Oct-2017	2.75	501,835
Nov-2017	3.25	368,187
Dec-2017	1.25	279,340
TOTAL	7.25	1,149,362

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING SEPTEMBER 30, 2017

WEST PASCO CLASS I LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (Gallons) ASH CELLS	LEACHATE (Gallons) SW CELLS
Jul-2017	8.00	661,965	2,312,440
Aug-2017	15.75	884,712	2,794,739
Sep-2017	7.25	645,189	2,789,481
TOTAL	31.00	2,191,866	7,896,660

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING SEPTEMBER 30, 2017

EAST PASCO CLASS I LANDFILL (WACS# 45797)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)					
		TANK 1	TANK 2	TANK 3	TANK 4	TANK 5	TOTAL
Jul-2017	10.65	48,938	24,719	43,031	0	6,091	122,779
Aug-2017	9.50	54,604	48,842	61,441	0	18,309	183,196
Sep-2017	10.80	48,667	60,535	43,482	0	12,007	164,691
TOTAL	30.95	152,209	134,096	147,954	0	36,407	470,666

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING SEPTEMBER 30, 2017

WEST PASCO CLASS III LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)
Jul-2017	8.50	1,760,656
Aug-2017	16.25	2,965,721
Sep-2017	7.50	2,313,417
TOTAL	32.25	7,039,794

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING JUNE 30, 2017

WEST PASCO CLASS I LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (Gallons) ASH CELLS	LEACHATE (Gallons) SW CELLS
Apr-2017	0.00	93,518	0
May-2017	3.50	158,389	342,256
Jun-2017	15.25	571,508	1,386,565
TOTAL	18.75	823,415	1,728,821

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING JUNE 30, 2017

EAST PASCO CLASS I LANDFILL (WACS# 45797)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)					
		TANK 1	TANK 2	TANK 3	TANK 4	TANK 5	TOTAL
Apr-2017	0.00	22,290	17,904	18,269	0	5,950	64,413
May-2017	6.25	28,175	30,739	55,679	0	6,180	120,773
Jun-2017	11.30	36,823	6,228	18,734	0	6,194	67,979
TOTAL	17.55	87,288	54,871	92,682	0	18,324	253,165

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING JUNE 30, 2017

WEST PASCO CLASS III LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)
Apr-2017	0.00	79,727
May-2017	4.50	185,913
Jun-2017	14.75	1,313,467
TOTAL	19.25	1,579,107

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING MARCH 31, 2017

WEST PASCO CLASS I LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (Gallons) ASH CELLS	LEACHATE (Gallons) SW CELLS
Jan-2017	1.95	114,132	216,089
Feb-2017	2.00	70,108	165,676
Mar-2017	0.00	344,687	47,300
TOTAL	3.95	528,927	429,065

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING MARCH 31, 2017

EAST PASCO CLASS I LANDFILL (WACS# 45797)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)					
		TANK 1	TANK 2	TANK 3	TANK 4	TANK 5	TOTAL
Jan-2017	1.60	41,993	78,566	54,580	0	6,108	181,247
Feb-2017	1.05	23,307	36,120	61,017	0	12,218	132,662
Mar-2017	0.50	29,173	36,204	48,609	0	11,767	125,753
TOTAL	3.15	94,473	150,890	164,206	0	30,093	439,662

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING MARCH 31, 2017

WEST PASCO CLASS III LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)
Jan-2017	1.95	139,578
Feb-2017	2.00	162,642
Mar-2017	0.00	105,950
TOTAL	3.95	408,170

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING DECEMBER 31, 2016

WEST PASCO CLASS I LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (Gallons) ASH CELLS	LEACHATE (Gallons) SW CELLS
Oct-2016	0.40	676,784	476,057
Nov-2016	0.00	164,141	274,420
Dec-2016	0.00	91,606	191,820
TOTAL	0.40	932,531	942,297

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING DECEMBER 31, 2016

EAST PASCO CLASS I LANDFILL (WACS# 45797)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)					
		TANK 1	TANK 2	TANK 3	TANK 4	TANK 5	TOTAL
Oct-2016	4.10	41,352	18,537	42,223	0	6,082	108,194
Nov-2016	0.00	42,484	42,755	37,065	0	5,753	128,057
Dec-2016	1.25	36,011	36,837	24,861	0	12,204	109,913
TOTAL	5.35	119,847	98,129	104,149	0	24,039	346,164

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING DECEMBER 31, 2016

WEST PASCO CLASS III LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)
Oct-2016	0.40	350,333
Nov-2016	0.00	214,908
Dec-2016	0.00	142,385
TOTAL	0.40	707,626

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING SEPTEMBER 30, 2016

WEST PASCO CLASS I LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (Gallons) ASH CELLS	LEACHATE (Gallons) SW CELLS
Jul-2016	6.25	244,818	466,676
Aug-2016	12.10	371,955	2,250,229
Sep-2016	11.85	945,003	1,516,051
TOTAL	30.20	1,561,776	4,232,956

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING SEPTEMBER 30, 2016

EAST PASCO CLASS I LANDFILL (WACS# 45797)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)					
		TANK 1	TANK 2	TANK 3	TANK 4	TANK 5	TOTAL
Jul-2016	4.30	37,089	61,911	43,583	0	30,602	173,185
Aug-2016	6.15	43,571	103,420	73,211	0	31,113	251,315
Sep-2016	12.35	24,966	54,990	37,079	0	50,523	167,558
TOTAL	22.80	105,626	220,321	153,873	0	112,238	592,058

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING SEPTEMBER 30, 2016

WEST PASCO CLASS III LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)
Jul-2016	6.25	311,359
Aug-2016	12.10	2,101,839
Sep-2016	11.85	2,821,205
TOTAL	30.20	5,234,403

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING JUNE 30, 2016

WEST PASCO CLASS I LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (Gallons) ASH CELLS	LEACHATE (Gallons) SW CELLS
Apr-2016	2.81	232,594	363,020
May-2016	0.84	228,558	411,282
Jun-2016	5.93	224,593	459,543
TOTAL	9.58	685,745	1,233,845

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING JUNE 30, 2016

EAST PASCO CLASS I LANDFILL (WACS# 45797)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)				
		TANK 1	TANK 2	TANK 3	TANK 4	TANK 5
Apr-2016	1.50	39,866	41,309	30,801	0	0
May-2016	4.00	35,614	28,626	42,794	0	0
Jun-2016	7.95	43,578	78,259	100,024	6,271	66,465
TOTAL	13.45	119,058	148,194	173,619	6,271	71,587
						518,729

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING JUNE 30, 2016

WEST PASCO CLASS III LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)
Apr-2016	2.51	291,159
May-2016	0.84	164,441
Jun-2016	5.96	395,446
TOTAL	9.31	851,046

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING MARCH 31, 2016

WEST PASCO CLASS I LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (Gallons) ASH CELLS	LEACHATE (Gallons) SW CELLS
Jan-2016	3.27	1,138,688	352,868
Feb-2016	2.01	1,288,352	558,271
Mar-2016	2.14	708,105	373,705
TOTAL	7.42	3,135,145	1,284,844

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING MARCH 31, 2016

EAST PASCO CLASS I LANDFILL (WACS# 45797)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)					TOTAL
		TANK 1	TANK 2	TANK 3	TANK 4	TANK 5	
Jan-2016	7.35	41,880	53,612	68,331	0	12,432	176,255
Feb-2016	2.25	47,904	43,209	49,528	5,954	6,278	152,873
Mar-2016	2.60	38,122	37,436	35,825	0	12,388	123,771
TOTAL	12.20	127,906	134,257	153,684	5,954	31,098	452,899

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING MARCH 31, 2016

WEST PASCO CLASS III LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)
Jan-2016	3.27	347,801
Feb-2016	2.01	520,023
Mar-2016	2.14	278,502
TOTAL	7.42	1,146,326

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING DECEMBER 31, 2015

WEST PASCO CLASS I LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (Gallons) ASH CELLS	LEACHATE (Gallons) SW CELLS
Oct-2015	1.62	781,688	687,300
Nov-2015	1.00	562,995	323,348
Dec-2015	0.07	397,943	219,944
TOTAL	2.69	1,742,626	1,230,592

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING DECEMBER 31, 2015

EAST PASCO CLASS I LANDFILL (WACS# 45797)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)					
		TANK 1	TANK 2	TANK 3	TANK 4	TANK 5	TOTAL
Oct-2015	1.00	54,348	59,468	55,619	6,146	18,388	193,969
Nov-2015	4.00	43,367	36,590	43,614	0	24,727	148,298
Dec-2015	0.25	49,014	24,115	49,554	0	18,837	141,520
TOTAL	5.25	146,729	120,173	148,787	6,146	61,952	483,787

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING DECEMBER 31, 2015

WEST PASCO CLASS III LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)
Oct-2015	1.62	463,427
Nov-2015	1.00	242,800
Dec-2015	0.07	170,030
TOTAL	2.69	876,257

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING SEPTEMBER 30, 2015

WEST PASCO CLASS I LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (Gallons) ASH CELLS	LEACHATE (Gallons) SW CELLS
Jul-2015	15.16	1,574,045	2,106,828
Aug-2015	8.90	5,753,537	2,423,245
Sep-2015	5.55	1,480,896	1,176,624
TOTAL	29.61	8,808,478	5,706,697

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING SEPTEMBER 30, 2015

EAST PASCO CLASS I LANDFILL (WACS# 45797)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)					TOTAL
		TANK 1	TANK 2	TANK 3	TANK 4	TANK 5	
Jul-2015	7.50	48,396	78,151	146,331	5,837	77,789	356,504
Aug-2015	14.90	41,765	70,540	61,719	0	24,273	198,297
Sep-2015	4.55	47,022	35,914	36,998	0	6,288	126,222
TOTAL	26.95	137,183	184,605	245,048	5,837	108,350	681,023

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING SEPTEMBER 30, 2015

WEST PASCO CLASS III LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)
Jul-2015	15.16	1,205,141
Aug-2015	8.87	2,198,417
Sep-2015	5.55	1,011,690
TOTAL	29.58	4,415,248

**PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING JUNE 30, 2015**

WEST PASCO CLASS I LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (gallons) ASH CELLS	LEACHATE (gallons) SW CELLS
Apr-2015	1.70	721,786	419,988
May-2015	3.44	219,780	344,665
Jun-2015	3.10	281,508	389,431
TOTAL	8.24	1,223,074	1,154,084

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING JUNE 30, 2015

EAST PASCO CLASS I LANDFILL (WACS# 45797)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)					TOTAL
		TANK 1	TANK 2	TANK 3	TANK 4	TANK 5	
Apr-2015	4.50	43,082	31,314	30,525	0	42,269	147,190
May-2015	1.75	41,835	43,715	72,259	4,995	43,163	205,967
Jun-2015	4.45	42,758	49,120	73,751	2,108	24,712	192,449
TOTAL	10.70	127,675	124,149	176,535	7,103	110,144	545,606

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING JUNE 30, 2015

WEST PASCO CLASS III LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)
Apr-2015	1.70	220,836
May-2015	3.44	184,929
Jun-2015	3.10	236,182
TOTAL	8.24	641,947

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING MARCH 31, 2015

WEST PASCO CLASS I LANDFILL (WACS# 45799)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (Gallons) ASH CELLS	LEACHATE (Gallons) SW CELLS
Jan-2015	2.70	212,390	675,065
Feb-2015	4.23	23,887	844,666
Mar-2015	2.14	37,940	625,615
TOTAL	9.07	274,217	2,145,346

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING MARCH 31, 2015

EAST PASCO CLASS I LANDFILL (WACS# 45797)

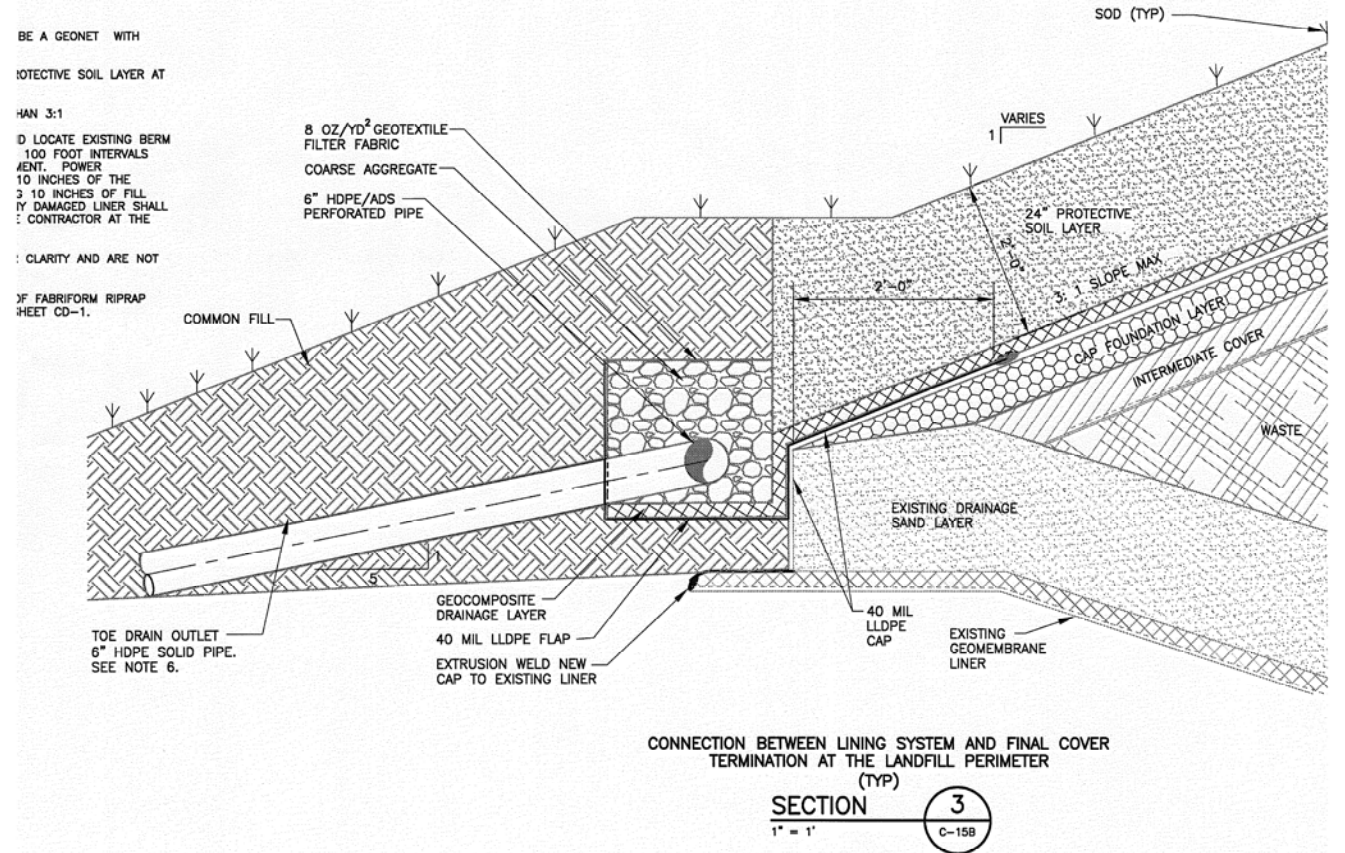
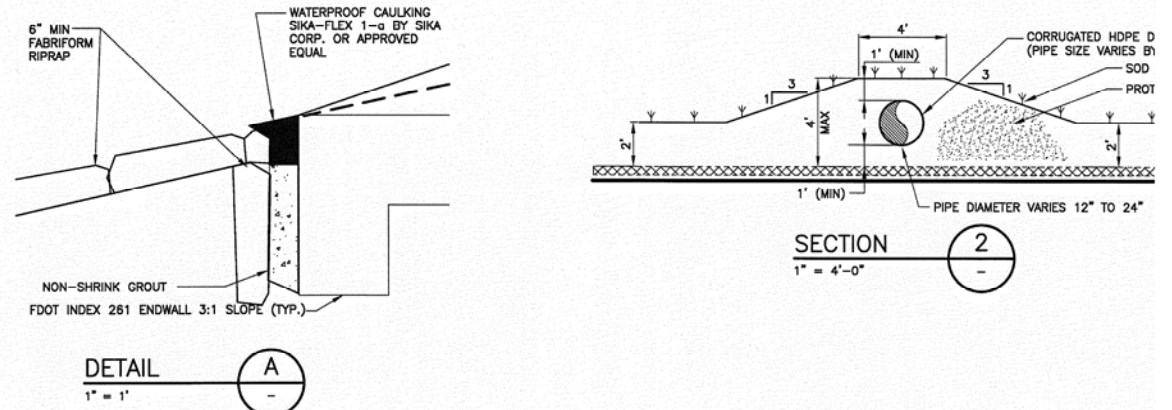
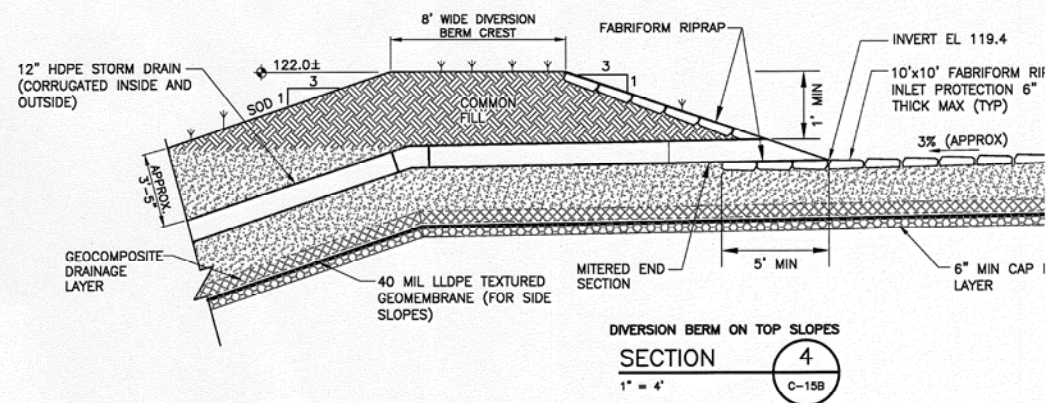
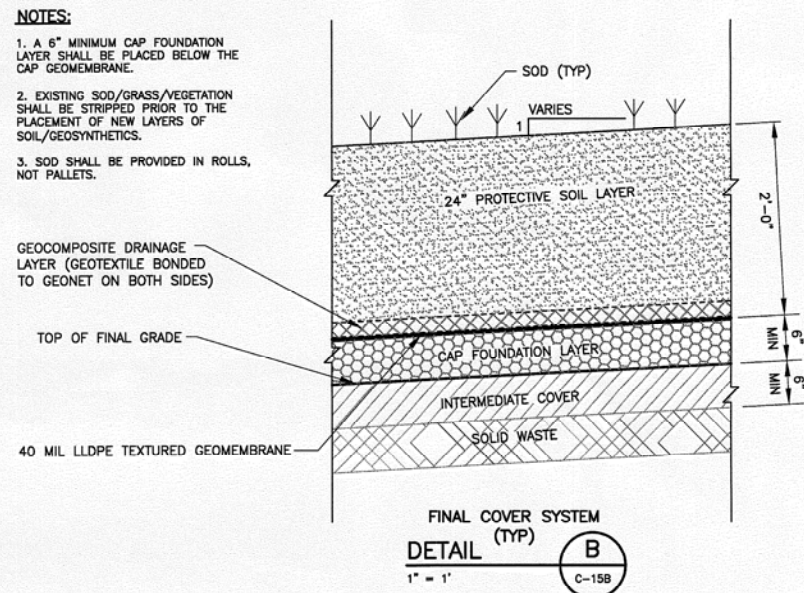
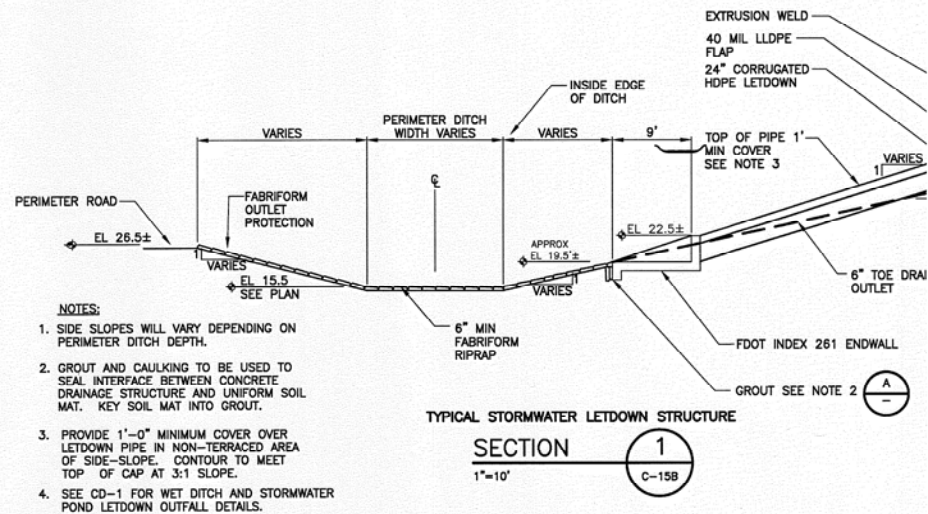
MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)				
		TANK 1	TANK 2	TANK 3	TANK 4	TANK 5
Jan-2015	2.75	49,748	43,674	49,861	0	18,132
Feb-2015	5.00	43,631	37,676	31,168	0	12,465
Mar-2015	2.00	49,516	50,516	62,969	0	23,427
TOTAL	9.75	142,894	131,866	143,998	0	54,024
						472,782

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
QUARTER ENDING MARCH 31, 2015

WEST PASCO CLASS III LANDFILL (WACS# 45920)

MONTH	MEASURED RAINFALL (INCHES)	LEACHATE (GALLONS)
Jan-2015	3.60	409,605
Feb-2015	3.73	469,849
Mar-2015	2.49	368,607
TOTAL	9.82	1,248,061

PART 5
COMPONENT DESIGN REFERENCES



Xref: [T] [TEXT] [] Images: []
Filename: L:\6104\46136\Bld\DETAILS\CD05Aatdt.dwg
Last saved by: MOHLEDP
Time: 11/4/2008 1:18:02 PM

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: A. SONOWANE
DRAWN BY: D. MOHLE
SHEET CHK'D BY: J. HOFFMAN
CROSS CHK'D BY: J. LADNER
APPROVED BY: A. SONOWANE
DATE: NOVEMBER 2008

CDM
Camp Dresser & McKee, Inc.
1715 North Westshore Blvd Suite 875
Tampa, FL 33607
Tel: (813) 281-2900
FL COA No. 68-0000020
consulting • engineering • construction • op

PASCO COUNTY, UTILITIES SERVICES BRANCH
PASCO COUNTY FLORIDA
WEST PASCO CLASS I LANDFILL
CELL A-4 CONSTRUCTION

CELL A-4 CLOSURE
DETAILS