

Johnson, Sabrina O

From: Jason Gorrie <jason@jmg-eng.com>
Sent: Wednesday, August 4, 2021 4:03 PM
To: SWD_Waste
Subject: Pasco County Class III Landfill - Remaining Useful Life
Attachments: 2020 Class III Remaining Life Estimate.pdf

Pasco County Utilities

Remaining Disposal Capacity and Site Life Calculations West Pasco Class III Landfill

Reporting Year 2020

April 2021



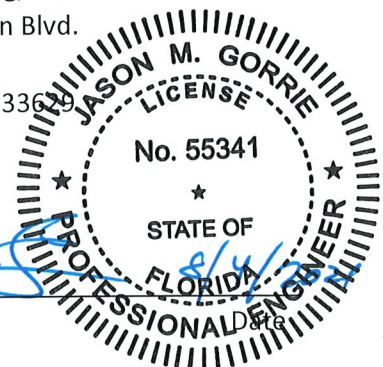
Prepared For:

Pasco County Utilities

Prepared By:

Jason Gorrie, P.E.
JMG Engineering, Inc.
3825 Henderson Blvd.
Suite 604
Tampa, Florida 33629


Signature



Purpose of Report

Rule 62-701.500(13)(c) of the Florida Administrative Code (FAC) requires landfill owners and operators to annually prepare an estimate of the remaining life and capacity (in cubic yards) of the existing, constructed landfill and an annual estimate of the life and capacity of other permitted areas not yet constructed. For the purposes of this report, the “existing, constructed landfill” is considered to be the currently active portions of the site designated as Class III (subcells 1, 2, 3, and 4 of 4). The Class I portions of the West Pasco Resource Recovery Facility Landfill are addressed in a separate Report.

Procedure

The currently permitted capacity of the Class III Landfill is considered to be 487,904 cubic yards. In order to estimate the current volume of waste in place in subcells 1, 2, 3, and 4 the Pasco County Engineering Services Department conducted a topographic survey of Class III landfill in January 2021. The topographic contours identified through the survey are included as **Attachment 1**.

Using the elevations reported on the topographic survey in conjunction with the known elevations of the liner system, it is possible to estimate the volume of waste in place in the landfill. Mathematically, the volume under a function is defined by the double integral:

$$\int_{x-\min}^{x-\max} \int_{y-\min}^{y-\max} f(x, y) dx dy$$

To determine the function $f(x, y)$ defining the shape of the landfill surfaces, JMG Engineering relied upon the volume calculation algorithms of the surface mapping software program Surfer® 13. The total volume of waste calculated to be currently in place in the Class III Landfill is approximately 225,293 cubic yards.

Given the permitted volumetric capacity of 487,904 cubic yards and subtracting the 225,293 cubic yards calculated from the 2021 survey to be currently in place, approximately 262,611 cubic yards of airspace remains available for disposal. Compacted construction and demolition debris waste has an approximate density of 1,200 pounds per cubic yard. Using the assumed density, the 262,611 remaining cubic yards can accommodate approximately 157,567 tons of construction and demolition debris.

As shown in Table 1, the Class III waste disposal rate has varied from year to year. However, because the tipping fee charged by Pasco County to use the Class III cells is considerably higher than that of nearby private Class III landfills, it is safe to assume that the annual waste placement rate will not differ significantly from approximately 4,000 tons/year (6,667 cubic yards/year). Using this as a future disposal rate along with an estimated 10% weekly cover rate (667 cubic yards/year) results in an estimated future airspace consumption rate of 7,333 cubic yards per year. Dividing the remaining airspace of 262,611 cubic yards by the estimated future consumption rate of 7,333 cubic yards per year results in an **estimated remaining life of 35 years**.

TABLE 1
Monthly Tonnage Summary for 2020

Month	West Pasco Class III (tons)
January	364
February	355
March	254
April	192
May	378
June	365
July	314
August	393
September	522
October	354
November	337
December	321
Total	4,149

Historical Tonnage Summary

2012	2,822
2013	3,206
2014	4,433
2015	4,125
2016	3,094
2017	3,227
2018	3,114
2019	3,896

Attachments

Attachment 1: Topographical Contours

Attachment 2: Grid Volume Report

Attachment 3: 2020 Waste Placement Records

ATTACHMENT 1
Landfill Contours

ATTACHMENT 2
Grid Volume Report

Grid Volume Computations

Thu Apr 22 19:58:19 2021

Upper Surface

Grid File Name:	D:\OneDrive - JMG Engineering\Pasco\Compliance Assistance (TO 1-21)\Landfill Useful Life\Class III\Class III points.grd
Grid Size:	100 rows x 44 columns
X Minimum:	1468333.876
X Maximum:	1468984.862
X Spacing:	15.139209302326
Y Minimum:	472635.923
Y Maximum:	474120.7205
Y Spacing:	14.997954545454
Z Minimum:	43.971206332225
Z Maximum:	74.503958978634

Lower Surface

Level Surface defined by $Z = 50$

Volumes

Z Scale Factor: 1

Total Volumes by:

Trapezoidal Rule:	5342720.1476175
Simpson's Rule:	5337123.9467144
Simpson's 3/8 Rule:	5332254.2317553

Cut & Fill Volumes

Positive Volume [Cut]:	6082915.8664439 (~225,293 cubic yards)
Negative Volume [Fill]:	740199.19993546
Net Volume [Cut-Fill]:	5342716.6665085

Areas

Planar Areas

Positive Planar Area [Cut]: 622498.35756397

Negative Planar Area [Fill]: 344084.02777107
Blanked Planar Area: 0
Total Planar Area: 966582.38533504

Surface Areas

Positive Surface Area [Cut]: 628955.77857875
Negative Surface Area [Fill]: 346539.88806072

ATTACHMENT 3
Waste Placement Records

**FLORIDA DEPARTMENT OF
Environmental Protection**

Ron DeSantis
Governor

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

Jeanette Nuñez
Lt. Governor

Noah Valenstein
Secretary

Electronic Submission Receipt

Solid Waste Quantity Report

Thank you for submitting a Solid Waste Quantity Report for the facility PASCO COUNTY RESOURCE RECOVERY with WACS ID 45799.

You have submitted your Solid Waste Quantity Report as required by Rule 62-701.500 F.A.C. which implements the requirements of the Florida Solid Waste Management Act, § 403.702-.7193 and 403.75-.769, Florida Statutes.

A copy of the report has been attached for your records. Should additional information be required, you will be contacted.

If you have any questions regarding your submission, please contact the Solid Waste Program Coordinator with the Solid Waste Program Office at (850) 245-8707 or send e-mail to SWPP@dep.state.fl.us.



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

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Electronic Submission

Solid Waste Quantity Report

You have submitted your Solid Waste Quantity Report as required by Rule 62-701.500 F.A.C. which implements the requirements of the Florida Solid Waste Management Act, § 403.702-.7193 and 403.75-.769, Florida Statutes.

Below is a copy of the information you submitted for your records.

Facility Information

Facility ID: 45799
Facility or Business Name: PASCO COUNTY RESOURCE RECOVERY
Address Line 1: 14230 HAYS RD
Address Line 2:
City/State/Zip Code: Spring Hill, FL 34610 7630
County: Pasco

Mailing Address

Company Name: PASCO COUNTY COMMISSIONERS
Address Line 1: COUNTY COURTHOUSE
Address Line 2: 8731 CITIZENS DRIVE
City/State/Zip Code: NEW PORT RICHEY, FL 34654 0

Site Supervisor

Name: JUSTIN ROESSLER
Phone Number: (727) 857-2780
Extension:
E-mail Address: jroessler@pascocountyfl.net

If you have any questions or concerns about the information contained in this report, please contact the Solid Waste Program Coordinator in the Solid Waste Program Office at (850) 245-8707 or send e-mail to SWPP@dep.state.fl.us.

Annual Report Summary

(all values in tons)

Facility Type	Class I Waste	Class III Waste	Ash Residue	Other Wastes
Class I Landfill	13664.11	0.0	86911.19	0.0
Class III Landfill	0.0	4149.17	0.0	0.0

County of Origin: PASCO

Class I Report Information (all values in tons)

Month/Year	Class I Waste	Class III Waste	Ash Residue	Other Wastes
1/2020	46.51	0.00	7859.24	0.00
2/2020	78.72	0.00	7396.71	0.00
3/2020	832.21	0.00	6131.77	0.00
4/2020	496.87	0.00	7918.16	0.00
5/2020	2702.76	0.00	7532.58	0.00
6/2020	5707.13	0.00	7228.25	0.00
7/2020	38.46	0.00	7467.56	0.00
8/2020	151.37	0.00	7128.44	0.00
9/2020	52.23	0.00	7460.15	0.00
10/2020	3460.50	0.00	5959.95	0.00
11/2020	30.18	0.00	7117.53	0.00
12/2020	67.17	0.00	7710.85	0.00
Total	13664.11	4149.17	86911.19	0.00

Additional information describing the **Other Waste** disposed of:

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County of Origin: PASCO

Class III Report Information (all values in tons)

Month/Year	Class I Waste	Class III Waste	Ash Residue	Other Wastes
1/2020	0.00	364.19	0.00	0.00
2/2020	0.00	354.95	0.00	0.00
3/2020	0.00	254.24	0.00	0.00
4/2020	0.00	191.64	0.00	0.00
5/2020	0.00	378.10	0.00	0.00
6/2020	0.00	364.62	0.00	0.00

7/2020	0.00	314.04	0.00	0.00
8/2020	0.00	393.40	0.00	0.00
9/2020	0.00	522.11	0.00	0.00
10/2020	0.00	353.75	0.00	0.00
11/2020	0.00	337.45	0.00	0.00
12/2020	0.00	320.68	0.00	0.00
Total	13664.11	4149.17	86911.19	0.00

Additional information describing the **Other Waste** disposed of:

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Report Submitted By

Name: Debbie Taylor
Phone Number: (813) 235-6196
Extension:
E-mail Address: dtaylor@pascocountyfl.net

All information submitted was certified true, accurate, and correct to the best of the knowledge of the person whose name appears above.