## **APPRAISAL OF**

PROPERTY NAME:MELBOURNE LANDFILL AND RECYCLE CENTEROWNER/PERMITTEE:FLORIDA RECYCLERS OF BREVARD, LLCFDEP (WACS) ID NO.:18444FDEP DISTRICT:CENTRALCOUNTY:BREVARD

ESTIMATE OF MARKET VALUE OF THE MELBOURNE LANDFILL AND RECYCLE CENTER CONTAINING 45± GROSS ACRES LOCATED AT 3351 SARNO ROAD, IN THE CITY OF MELBOURNE, BREVARD COUNTY, FLORIDA

## PREPARED FOR

BREVARD COUNTY C/O MS. LUCY HAMELERS PUBLIC WORKS DEPARTMENT 2725 JUDGE FRAN JAMIESON WAY BLDG A-204 VIERA, FL 32940

DATE OF VALUATION: JUNE 17, 2020 DATE OF INSPECTION: JUNE 17, 2020 DATE OF REPORT: OCTOBER 9, 2020

#### PREPARED BY

## **PINEL & CARPENTER, INC.**

WALTER N. CARPENTER, JR., MAI, CRE PRESIDENT CERT GEN RZ 1231

&

KEVIN M. EATON STAFF APPRAISER CERT GEN RZ 3677

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WALTER N. CARPENTER, JR., MAI Cert. Gen. RZ1231 MARK G. CARPENTER, MAI Cert. Gen. RZ935

October 9, 2020

Brevard County c/o Ms. Lucy Hamelers Public Works Department Land Acquisition Supervisor 2725 Judge Fran Jamieson Way, Building A-204 Viera, FL 32940

RE: Property: Melbourne Landfill and Recycle Center Owner: Florida Recyclers of Brevard, LLC FDEP (WACS) ID: 18444 County: Brevard

Dear Ms. Hamelers:

Per your request, we have personally inspected and appraised the above referenced real estate property. The subject property is identified as the Melbourne Landfill and Recycle Center owned by Florida Recyclers of Brevard, Inc. The property totals 45± gross acres, with the 36± acres permitted as disposal area by Florida Department of Environmental Protection (FDEP). The real property is located along the south side of Sarno Road, approximately 4,700± feet east of W. Eau Gallie Boulevard and 2,600± feet west of N. Wickham Road within the city limits of Melbourne in Brevard County, Florida. The subject property is both legally and physically described in the attached real estate appraisal report.

The purpose of this appraisal report is to estimate the market value of the fee simple interest in the subject property real estate, as of the date of valuation, June 17, 2020, assuming the continued operation of the subject as a C & D landfill.

As of the date of valuation, the subject property consisted of an operating construction and demolition debris (C&D) landfill. As such, the components of market value consisted of the land and permanent improvements (real estate), as well as permit rights as an operating landfill under the General Use Permit for a Construction and Demolition Debris Facility, FDEP Facility ID (WACS) No. 18444, issued in 2014 by Florida Department of Environmental Protection (FDEP). This appraisal does not consider any value to certain machinery, earth-moving or excavating equipment that may have been a part of the landfill operation.

This is an Appraisal Report, which is intended to comply with the reporting requirements set forth under Standards Rule 2-2(a) of the Uniform Standards of Professional Appraisal Practice for an Appraisal Report. As such, it presents discussions of the data, reasoning, and analyses that were used in the appraisal process to develop the appraisers' opinion of value. Supporting documentation concerning the data, reasoning, and analyses is retained in the appraisers' file. The depth of discussion contained in this report is specific to the needs of the client and for the intended use stated above. The appraisers are not responsible for unauthorized use of this report. Melbourne Landfill and Recycle Center Brevard County October 9, 2020 Page Two

Currently, the landfill is restricted to a height of 40 feet above the natural elevation (24 feet) for a total height of 64 feet by the City of Melbourne under a conditional use (Ordinance No. 2010-53). According to the owner, a request to increase the height to 80 feet above natural elevation has been made to the city, but as of the date of valuation has not been granted. Therefore, our client has requested this valuation be completed based on the existing approved 40-foot height.

In accordance with a prior agreement between the client and the appraisers, this is appraisal report providing a narrative summary of the analysis and value conclusion. The report is for use by persons familiar with the subject, its market area, and real estate valuation procedures. It is intended to comply with the reporting requirements set forth under Standards Rule 2-2(a) of the Uniform Standards of Professional Appraisal Practice (USPAP) for an appraisal report.

This report is intended solely for the use by Brevard County as it pertains to internal decision making and potential acquisition of the subject property. The distribution to those other than the intended users identified in the appraisal report requires specific authorization from the appraisers. The appraisers are not responsible for unauthorized distribution of this report.

In addition to the inspection and research conducted by Pinel & Carpenter, Inc., this report was prepared with additional information consisting of diagrams, expert reports and summary data provided by the client. The owner of the property also provided historical financial information on the operation of the landfill. The additional information considered that is not included within this report is contained in the appraisers' work file.

The United States is in the midst of a national health pandemic caused by COVID-19 (coronavirus). In the short-term, financial markets and global economy have experienced significant volatility and turmoil. The Federal Reserve's response to the pandemic has been significant reductions to interest rates to combat the market uncertainty. The full impact to the real estate market is not yet fully understood.

Currently, there appears to be a high demand of mortgage refinancing due to historically low interest rates that may be a short-term phenomenon. Conversely, in an effort to avoid face-to-face contact which could fuel the spread of the virus, transaction volume will likely be temporarily minimal or halted.

Based on other areas of the world that have experienced the pandemic and have since trended positively in seeing a reduced number of new cases, there is optimism the current market disruption could be short-term.

Melbourne Landfill and Recycle Center Brevard County October 9, 2020 Page Three

The situation is unprecedented and there is no empirical evidence to support or extrapolate what the impact to market values may or may not be as a result of this pandemic. The following analysis relies on a prolonged marketing / exposure period relative to prior norms, to account for the uncertainty in the near term, with the assumption that the market will revert to prior conditions after the public health risk has been contained.

It is important to note that the definition of market value is predicated on certain components, including that buyers and sellers are typically motivated, are generally well-informed, are acting in their own best interests, and that the property has been exposed on the market for a reasonable length of time, among others.

The impact of uncertainty in a property's market area may be difficult to measure; risk affects both property owners and investors, sellers and buyers, and may be reflected in potentially changing capitalization rates, discount rates and prices. Transactions that occurred prior to an event which affects the current real estate market may not necessarily reflect the same market conditions as those occurring during or after. However, the availability of comparable sales and data that take place within the same conditions as the date of value, which the appraiser might take into consideration for a current valuation, may be limited in situations such as the current market, where a period of time has not yet passed which would allow market participants to determine the measurable impact such a rapidly evolving event has or will have on the fundamental appraisal principles of supply and demand, anticipation, change, substitution, contribution, externalities and balance which influence property values. Therefore, it is prudent to note that the values herein represent an opinion of the current market value of the subject property based upon historical data available as of the date of the appraisal report.

The global outbreak of the "novel coronavirus" known as COVID-19 was officially declared a pandemic by the World Health Organization (WHO). The reader is cautioned and reminded that the conclusions presented in this appraisal report apply only as of the effective date(s) indicated. The appraiser makes no representation as to the effect on the subject property of any unforeseen event, subsequent to the effective date of the appraisal.

Melbourne Landfill and Recycle Center Brevard County October 9, 2020 Page Four

Based upon the following appraisal report, certifications, property specific conditions, contingencies, and assumptions, as well as the general underlying assumptions and limiting conditions, it is our opinion and conclusion the market value of the fee simple interest in the subject property real estate, assuming a continued operation of the C & D landfill, as of June 17, 2020 was:

## TWO MILLION SEVEN HUNDRED THOUSAND DOLLARS

## \$2,700,000

Please refer to the attached appraisal report, including exhibits for documentation of the above-cited value estimates.

Respectfully submitted,

## PINEL & CARPENTER, INC.

C50 100 Date

Walter N. Carpenter, Jr., MAI, CRE President Cert Gen Appraiser RZ1231

Kevin M. Eaton Staff Appraiser Cert Gen Appraiser RZ3677

WNC/KME Attachments

## TABLE OF CONTENTS

PAGE

CERTIFICATE OF VALUE	1
GENERAL UNDERLYING ASSUMPTIONS AND LIMITING CONDITIONS	3
SUMMARY OF IMPORTANT CONCLUSIONS	6
AREA MAP	9
LOCATION MAP	
ТАХ МАР	11
AERIAL PHOTOGRAPH	
SUBJECT PHOTOGRAPHS	
PROPERTY DETERMINATION	
OWNERSHIP AND TITLE HISTORY	
DATE OF PROPERTY INSPECTION	
APPRAISERS	
PURPOSE OF APPRAISAL	
FUNCTION OF APPRAISAL	
LEGAL DESCRIPTION	
SCOPE OF APPRAISAL	
DEFINITION OF MARKET VALUE	
DEFINITION OF HIGHEST AND BEST USE	20
DEFINITION OF PROPERTY RIGHTS APPRAISED - FEE SIMPLE ESTATE	21
MARKET AREA	22
SITE DESCRIPTION	23
ZONING/LAND USE	27
REAL ESTATE ASSESSMENTS AND TAXES	27
HIGHEST AND BEST USE	27
VALUATION METHODOLOGY	29
INCOME APPROACH	
DISCOUNTED CASH FLOW ANALYSIS AT 18% DISCOUNT RATE	
DISCOUNTED CASH FLOW ANALYSIS AT 15% DISCOUNT RATE	
FINAL RECONCILIATION OF VALUE	

### ADDENDUM

"LANDFILL EVALUATION REPORT" JONES, EDMUNDS & ASSOCIATES, INC. CLOSURE COST ESTIMATING FORM FOR SOLID WASTE FACILITIES OWNERS RESPONSE LETTER TO CONSENT ORDER FROM FDEP TOPOGRAPHY MAP SOIL MAP WITH DESCRIPTIONS FLOOD PLAIN MAP QUALIFICATIONS OF APPRAISERS

## CERTIFICATE OF VALUE

We certify to the best of my knowledge and belief, that:

- 1. The statements of fact contained in this report are true and correct.
- 2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions and are my personal, unbiased, professional analyses, opinions, and conclusions.
- 3. We have no present or prospective interest in the property or bias with respect to the property that is the subject of this report, and we have no personal interest or bias with respect to the parties involved. Our engagement in this assignment was not contingent upon developing or reporting predetermined results.
- 4. We have not performed services, as appraisers, regarding the property that is the subject of this report within the three-year period immediately preceding acceptance of this assignment.
- 5. Our compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
- 6. Our analyses, opinions, or conclusions were developed, and this report has been prepared in conformity with the Uniform Standards of Professional Appraisal Practice, and the provisions of Chapter 475, Part II, Florida Statutes.
- 7. We have made a personal inspection of the property that is the subject of this report.
- 8. No persons other than those named within the Certificate provided significant real property appraisal assistance to the persons signing this certification.
- 9. We understand that this appraisal is to be used for internal decision making by the client for possible acquisition of the subject property.
- 10. The reported analyses, opinions, and conclusions were developed, and this report has been prepared in conformity with the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute.
- 11. We have not revealed the findings or results of this appraisal to anyone other than the client and will not do so until so authorized by the client, or until required by due process of law, or until we are released from this obligation by having publicly testified as to such findings.

MELBOURNE LANDFILL AND RECYCLE CENTER FLORIDA RECYCLERS OF BREVARD, LLC BREVARD

## CERTIFICATE OF VALUE (Contd.)

- 12. Regardless of any stated limiting condition or assumption, we acknowledge that this appraisal report and all maps, data, summaries, charts and other exhibits collected or prepared under this agreement shall become the property of the client without restriction or limitation on their use.
- 13. Statements supplemental to this certification required by membership or candidacy in a professional appraisal organization, are described on an addendum to this certificate and, by reference, are made a part hereof.

As of the date of this report, Kevin M. Eaton has completed the Standards and Ethics Education Requirements for Candidates of the Appraisal Institute.

As of the date of this report, Walter N. Carpenter, Jr., has completed the Standards and Ethics Education Requirement of the Appraiser Institute for Associate Members.

That as of the date of this report, Walter N. Carpenter, Jr., MAI, CRE, and Kevin M. Eaton have completed the requirements of the Continuing Education Program for the State of Florida.

That, Walter N. Carpenter, Jr., MAI, CRE, State-Certified General Real Estate Appraiser and Kevin M. Eaton, State-Certified General Real Estate Appraiser have the knowledge and experience on the type of property appraised in this geographic area to meet the USPAP competency requirements.

Others within the office provided assistance to the persons signing this report. This assistance included sales research and analysis and subject research and analysis. However, the analyses and value conclusions presented within this report are our own opinion.

Based upon our independent appraisal and the exercise of our professional judgment, our opinion of the market value of the fee simple interest in the subject property real estate, assuming the continued operation of the subject C & D landfill as of June 17, 2020, was **\$2,700,000** 

020 Walter N. Carpenter, Jr., MAI, CRE Date President Cert Gen Appraiser RZ1281

Kevin M. Eaton

Kevin M. Eaton Staff Appraiser Cert Gen Appraiser RZ3677

## **GENERAL UNDERLYING ASSUMPTIONS AND LIMITING CONDITIONS**

This appraisal report has been made with the following general assumptions:

- 1. No responsibility is assumed for the legal description or for matters including legal or title considerations. Title to the property is assumed to be good and marketable unless otherwise stated.
- 2. The property is appraised as if free and clear of any or all liens or encumbrances unless otherwise stated.
- 3. Responsible ownership and competent property management are assumed.
- 4. The information furnished by others is believed to be reliable. However, no warranty is given for its accuracy.
- 5. All engineering is assumed to be correct. Any diagrams or illustrative material in this report are included only to assist the reader in visualizing the property. If new information or documentation is available after the valuation date, it will subject this appraisal to review, possible modification and/or updating.
- 6. It is assumed that there are no hidden or unapparent conditions of the property, subsoil, or structures that render it more or less valuable unless stated within the appraisal report. No responsibility is assumed for such conditions or for arranging for engineering studies that may be required to discover them.
- 7. The appraisers were not provided with a soil/subsoil analysis of the subject property. Since the discovery of any abnormal soil or subsoil conditions is beyond my area of expertise, I have assumed the site will support the existing improvements. Any indications to the contrary will subject this appraisal to review and possible modification.
- 8. It is assumed that there is full compliance with all applicable federal, state, and local environmental regulations and laws unless noncompliance is stated, defined, and considered in the appraisal report.
- 9. It is assumed that all applicable zoning and use regulations and restrictions have been complied with, unless nonconformity has been stated, defined, and considered in the appraisal report.
- 10. It is assumed that all required licenses, permits, certificates of occupancy, consents, or other legislative or administrative authority from any local, state, or national government or private entity or organization have been or can be obtained or renewed for any use on which the value estimates contained in this report are based.
- 11. Any sketch or diagrams in this report may show approximate dimensions and is included to assist the reader in visualizing the property. Maps and exhibits found in this report are provided for reader reference purposes only. No guarantee as to accuracy is expressed or implied unless otherwise stated in this report.
- 12. It is assumed that the utilization of the land is within the boundaries or property lines of the property described and that there is no encroachment or trespass unless noted in the report.

## GENERAL UNDERLYING ASSUMPTIONS AND LIMITING CONDITIONS (Contd.)

- 13. The appraisers are not qualified to detect hazardous waste and/or toxic materials. Any comment by the appraiser(s) that might suggest the possibility of the presence of such substances should not be taken as confirmation of the presence of hazardous waste and/or toxic materials. Such determination would require investigation by a qualified expert in the field of environmental assessment. The presence of substances such as asbestos, urea-formaldehyde foam insulation, or other potentially hazardous materials may affect the value of the property. The appraisers' value estimate is predicated on the assumption that there is no such material on or in the property that would cause a loss in value unless otherwise stated in this report. No responsibility is assumed for any environmental conditions or for any expertise or engineering knowledge required to discover them. The appraisers' descriptions and resulting comments are the result of the routine observations made during the appraisal process.
- 14. Sales data and information regarding sales, if any, were abstracted from public records, from sales services, and from other sources. This information is assumed to be accurate and correct.
- 15. Any flood zone information provided within this report was based upon a review of the National Flood Insurance Maps. We assume no responsibility for their accuracy.

This appraisal report has been made with the following general limiting conditions:

- 1. The distribution, if any, of the total valuation in this report between land and improvements applies only under the stated program of utilization. The separate allocations for land and buildings must not be used in conjunction with any other appraisal and are invalid if so used.
- 2. Possession of this report, or a copy thereof, does not carry with it the right of publication. It may not be used for any purpose by any person other than the party to whom it is addressed without the written consent of the appraiser, and in any event only with proper written qualification and only in its entirety.
- 3. The appraiser herein by reason of this appraisal is not required to give further information consultation, testimony, or be in attendance in court with reference to the property in question unless arrangements have been previously made.
- 4. Neither all nor any part of the contents of this report (especially any conclusions as to value, the identity of the appraiser(s), or the firm with which the appraiser(s) is connected) shall be disseminated to the public through advertising, public relations, news, sales, or other media without the prior written consent and approval of the appraiser.

## **PROPERTY SPECIFIC ASSUMPTIONS AND LIMITING CONDITIONS**

 As of the date of value, a Consent Order from FDEP regarding several possible violations were open pending resolution. Based on our review of the correspondence between the owner and FDEP, the property owners permit history; we are currently unable to quantify/consider these open violations as part of the current valuation of the landfill. If new information or documentation is available after the valuation date, may subject this appraisal to review and possible modification.

MELBOURNE LANDFILL AND RECYCLE CENTER FLORIDA RECYCLERS OF BREVARD, LLC BREVARD
SUMMARY OF IMPORTANT CONCLUSIONS
Melbourne Landfill and Recycle Center
Construction and Demolition Debris (C & D)
14888
05-0133456-010-SO-22

LOCATION: The subject property has access from the south side of Sarno Road, approx.4,700± feet east of W. Eau Gallie Blvd and 2,600± feet west of N. Wickham Road, in the City of Melbourne, Brevard County, Florida, 32934. The access is from a 100´± strip with the main parcel lying approx. 500 feet south of Sarno Road. The physical address of the property is 3351 Sarno Road, Melbourne, FL 32934

PROPERTY OWNERSHIP:

PROPERTY NAME:

PROPERTY NAME:

LANDFILL TYPE:

FDEP (WACS) FACILITY ID NO:

GENERAL USE PERMIT NO:

PROPERTY

**FDEP** 

COUNTY:

OWNER/PERMITTEE:

WNERSHIP: Based on the Public Records for Brevard County, Florida, the subject property consists of two tax parcels which are identified by Brevard County Property Appraiser as Tax I.D. Nos. 27-36-24-507 & 27-36-24-508. The ownership as of the date of valuation was as follows:

> FLORIDA RECYCLERS OF BREVARD, INC. 3351 Sarno Road Melbourne, FL 32934

DATE OF	
VALUATION:	June 17, 2020

DATE OF INSPECTION: June 17, 2020

PROPERTY RIGHTS

APPRAISED: Fee Simple Estate

SITE

DESCRIPTION: The subject property consists of 45± gross acres, of which 36± acres are permitted as the disposal area by FDEP. The site is a flag shaped with 100± feet of frontage along the south side of Sarno Road.

#### SUMMARY OF IMPORTANT CONCLUSIONS (Contd.)

IMPROVEMENTS: The subject property building improvements consists of a single wide manufactured home that serves as the onsite office. Additionally, there is an open pole barn that is used for storage of bagged mulch.

#### SITE

- IMPROVEMENTS: Site improvements include asphalt driveway/parking area, weight station, concrete walkways and concrete curbs.
- ZONING: C-M-1, Light Industrial District with a condition use, by the City of Melbourne, FL.

FUTURE LAND USE:

ID USE: Industrial by the City of Melbourne.

## HIGHEST AND BEST USE:

<u>"As Vacant"</u> – Industrial uses that would maximize the highest return to the land based on current demand.

<u>"As Improved"</u> – The existing, continued use as an operating C & D landfill facility, subject to the 40-foot height restriction above the natural elevation imposed by the City of Melbourne.

#### 8

#### SUMMARY OF IMPORTANT CONCLUSIONS (Cont'd)

MARKET VALUE INDICATION:

Cost ApproachN/ASales Comparison ApproachN/AIncome Approach\$2,3

N/A \$2,331,000 to \$2,766,000<sup>1</sup>

<sup>1</sup>Utilizing the discounted cash flow analysis or yield capitulation technique within the Income Approach to value; the value range above represents the net present value for the subject property after making reasonable assumptions based on the historical operation of the landfill.

RECONCILIATION & FINAL ESTIMATE OF VALUE:

The final estimate of market value for the subject property, assuming a continued operation of the landfill as of the date of valuation, as of June 17, 2020, is **\$2,700,000** 

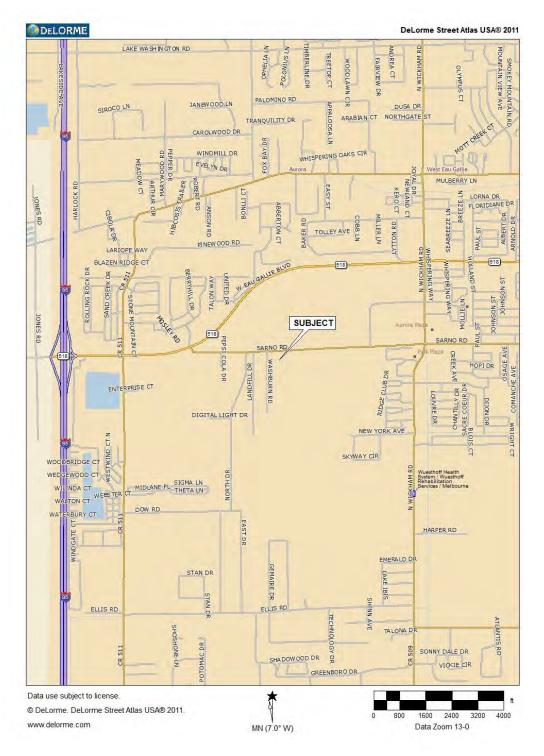
MELBOURNE LANDFILL AND RECYCLE CENTER FLORIDA RECYCLERS OF BREVARD, LLC BREVARD

## AREA MAP



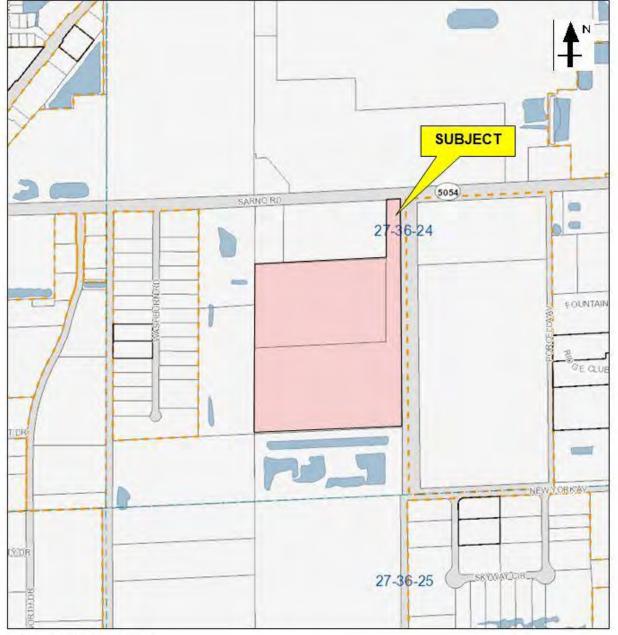
MELBOURNE LANDFILL AND RECYCLE CENTER FLORIDA RECYCLERS OF BREVARD, LLC BREVARD

## LOCATION MAP



MELBOURNE LANDFILL AND RECYCLE CENTER FLORIDA RECYCLERS OF BREVARD, LLC BREVARD

#### TAX MAP



Approximate Representation Source: Brevard County Property Appraiser

MELBOURNE LANDFILL AND RECYCLE CENTER FLORIDA RECYCLERS OF BREVARD, LLC BREVARD

## **AERIAL PHOTOGRAPH**



Approximate Representation Source: Brevard County Property Appraiser

MELBOURNE LANDFILL AND RECYCLE CENTER FLORIDA RECYCLERS OF BREVARD, LLC BREVARD

SUBJECT PHOTOGRAPHS



View looking south from Sarno Road, down Cortez Street, at the entrance to the subject landfill.



View of looking west from the entrance to the subject landfill along the south side of Sarno Road.

MELBOURNE LANDFILL AND RECYCLE CENTER FLORIDA RECYCLERS OF BREVARD, LLC BREVARD

SUBJECT PHOTOGRAPHS (CONTD.)



View of looking east from the entrance to the subject landfill along the south side of Sarno Road.



View of looking south at the manufactured building serving as the onsite office and adjoining weight station.

MELBOURNE LANDFILL AND RECYCLE CENTER FLORIDA RECYCLERS OF BREVARD, LLC BREVARD

## SUBJECT PHOTOGRAPHS (CONTD.)



View of the pole barn, which houses the bagged mulch products for sale.



View looking west at the organic material sorting, processing and storage area.

MELBOURNE LANDFILL AND RECYCLE CENTER FLORIDA RECYCLERS OF BREVARD, LLC BREVARD

## SUBJECT PHOTOGRAPHS (CONTD.)



View of look at the organic material dump location.



View looking south at the working face of the landfill, Brevard County's Sarno Landfill is in the background.

## **PROPERTY DETERMINATION**

The subject property analyzed within this report consists of  $45\pm$  gross acres improved with a construction and demolition debris (C & D) landfill, under the ownership of Florida Recyclers of Brevard, Inc. The subject property is located within the city limits of Melbourne, Brevard County, Florida, approximately  $4,700\pm$  feet east of W. Eau Gallie Blvd and  $2,600\pm$  feet west of N. Wickham Road. The property's physical address is 3351 Sarno Road, Melbourne, FL 32934.

## **OWNERSHIP AND TITLE HISTORY**

As of the date of valuation, Florida Recyclers of Brevard, Inc. owned the subject property. According to Brevard County Public Records, Florida Recyclers of Brevard, Inc. acquired ownership in the subject property from Joseph J. Weisenfeld Trustee, on March 31<sup>st</sup>, 1998, via a Trustee's Deed, recorded in O.R. Book 3926, Page 3814. The documentary stamps on the recorded deed indicate a purchase price of \$474,300. Subsequent to the last deed of transfer, there was a Corrective Trustee's Deed between both parties on March 13<sup>th</sup>, 2001.

## DATE OF PROPERTY INSPECTION

June 17, 2020, Walter N. Carpenter and Kevin M. Eaton (of Pinel & Carpenter, Inc.) performed an inspection of the subject property. At the time of the inspection, Mr. David Smith, provided information as to the property and a walking tour of the various areas of the landfill and recycling operations.

## APPRAISERS

Walter N. Carpenter, Jr., MAI, CRE President Cert Gen RZ1231

Kevin M. Eaton Staff Appraiser Cert Gen RZ3677

## PURPOSE OF APPRAISAL

The purpose of this appraisal report is to estimate the market value of the fee simple interest in the subject property real estate, as of the date of valuation, June 17, 2020 assuming the continued operation of the subject as a C & D landfill, subject to the City of Melbourne maximum height restriction.

PROPERTY NAME:MELBOURNE LANDFILL AND RECYCLE CENTEROWNER/PERMITTEE:FLORIDA RECYCLERS OF BREVARD, LLCCOUNTY:BREVARD

## FUNCTION OF APPRAISAL

The function of this report is to establish the market value of the subject real estate to assist the client internal decision making and possible acquisition of the property.

## LEGAL DESCRIPTION

The legal description for the subject landfill was obtained from the Settlement Agreement dated October 25, 2010, recorded on December 30<sup>th</sup>, 2010, recorded in O.R. Book 6307, Page 2651 in Public Records of Brevard County, Florida, as follows:

A portion of lands described in Official Records Book 4306, Page 0969 and all of lands described in Official Records Book 4087, Page 1036 and Official Records Book 4310, Page 3384, inclusive of the Public Records of Brevard County, Florida, lying in the Southwest ¼ of Section 24, Township 27 South, Range 36 East, Brevard County, Florida, being more particularly described as follows:

Commence at the Northeast corner of the said Southwest ¼ of Section 24 and run S87°18'10"W along the north line of said Southwest ¼ and the South right-ofway of Sarno Road a distance of 53.06 feet to the Point of Beginning; thence S00°01'53"W, along the west right-of-way line of Crane Creek Drainage District Canal No. L-16, a distance of 2,014.93 feet; thence S87°20'37"W, a distance of 1,269.26 feet to the west line of the East ½ of the Southwest ¼ of said Section 24; thence N00°09'41"E along said west line, a distance of 1,497.76 feet; thence leaving said west line run N87°18'10"E, a distance 1,165.79 feet; thence N00°01'53"E, a distance of 516.43 feet to a point on the said north line of the Southwest ¼ of the Section 24 and the south right-of-way line of Sarno Road; thence N87°18'10"E along the north line of said Southwest ¼ and said south right-of-way line, a distance of 100.11 feet to the Point of Beginning.

Containing 44.72 acres of land more or less (referred to herein as the "Landfill Property"). PROPERTY NAME: MELBOURI OWNER/PERMITTEE: FLORIDA R COUNTY: BREVARD

MELBOURNE LANDFILL AND RECYCLE CENTER FLORIDA RECYCLERS OF BREVARD, LLC BREVARD

## SCOPE OF APPRAISAL

This appraisal report consists of an analysis of the subject property and the methodology used to arrive at an estimate of value. This type of property is generally developed and operated as an owner/operator business. The Cost and Sales Comparison Approaches to value were not utilized due to the age and specialized operation of the subject property as well as a lack of sales of landfill properties considered similar to the subject. Therefore, only the Income Approach to value was utilized in this analysis, due to the unique nature of the improvements and their use.

The scope of appraisal is the process of collecting, confirming, and reporting the data utilized to value the subject property. In this case, the subject property consists of a  $45\pm$  gross acre site, of which  $36\pm$  acres of land is the permitted disposal area improved with a construction and demolition debris landfill facility. According to Florida Department of Environmental Protection records, the subject landfill has been in existence since 1998, originally permitted as a C & D landfill but was subsequently re-permitted as a Class III landfill until 2014.

In 2014, the property was re-permitted as a construction and demolition debris facility. The general use permit is good for ten years and is set to expire on June 1<sup>st</sup>, 2024. FDEP requires the owner to use an escrow account for financial assurance of the closure costs of the facility.

In the process of completing this appraisal, we have consulted with other experts, as well as reviewed studies/reports, as well as historical financial and operational data provided by the client and the owner. The scope of the appraisal also included, but was not limited to subject and data inspections, a general and market area analysis, evaluation of the property's physical attributes, a review of planning/zoning issues, determining utility availability, highest and best use analyses, and the valuations.

# Based upon our investigation and historical usage, the estimated remaining capacity in the landfill would allow continued use until approximately the year 2029, given the recycling operations in place.

Typically, in order to estimate the value of the real property, three standard approaches are generally considered. However, in order to value the subject property real estate as part of an operating landfill, the only approach deemed appropriate for this assignment was the Income approach to value.

Again, this is an appraisal report, with summary discussions of the data, analyses, and conclusions. Supporting documentation is retained in the files of Pinel & Carpenter, Inc. Additionally, documentation from the various expert reports supporting the data considered in arriving to the option of value indicated by the Income Approach to value are referenced herein and made apart hereof, with additional supporting data contained within the appraisers work file.

## **DEFINITION OF MARKET VALUE**

The current definition of market value can be stated as follows:

The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently, knowledgably and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

- 1) Buyer and seller are typically motivated;
- 2) Both parties are well informed or well advised, and each acting in what he or she considers his or her own best interest;
- 3) A reasonable time is allowed for exposure in the open market;
- 4) Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto; and
- 5) The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.

Source: The Interagency Appraisal and Evaluation Guidelines, Federal Register, Volume 75, No. 237, December 10, 2010.

## **DEFINITION OF HIGHEST AND BEST USE**

Highest and best use may be defined as:

The reasonably probable and legal use of vacant land or an improved property that is legally permissible, physically possible, appropriately supported, financially feasible, and that results in the highest value.

The definition immediately above applies specifically to the highest and best use of land. It is to be recognized that in cases where a site has existing improvements on it, the highest and best use may very well be determined to be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use.

Source: <u>The Appraisal of Real Estate</u>, Fourteenth Edition, by the Appraisal Institute, 2013, Page 333.

#### **DEFINITION OF PROPERTY RIGHTS APPRAISED - FEE SIMPLE ESTATE**

Property rights appraised are those of the unencumbered fee simple interest of ownership. According to *The Dictionary of Real Estate Appraisal*, Fifth Edition, 2010, by the Appraisal Institute,

Fee simple estate - Absolute ownership unencumbered by any other interest or estate, subject only to the limitations imposed by the governmental powers of taxation, eminent domain, police power, and escheat.

MELBOURNE LANDFILL AND RECYCLE CENTER FLORIDA RECYCLERS OF BREVARD, LLC BREVARD

## MARKET AREA

The subject property is located, approximately 4,700± feet east of W. Eau Gallie Blvd (County Road 518) and 2,600± feet west of N. Wickham Road, within the city limits of Melbourne, Brevard County, Florida. The subject market area is defined by the land use patterns and road system, as of the date of valuation. Based on the physical characteristics and land uses surrounding the subject property, which consisted primarily of industrial tracts to the west and south, the county's landfill, undeveloped uplands to the east, and commercial and residential development to the east and north. Immediately adjacent to the subject property's east and southern boundaries is Brevard County's Class III landfill known as the Sarno Landfill. The immediate area is defined as the Sarno Road corridor between W. Eau Gallie Blvd to the west and N Wickham Road to the east.

The majority of the described market area was generally a mix of industrial uses in the immediate area, with commercial and residential uses characterized as established communities and infill in nature. Overall, the market area was approximately 80% to 90% built-up with limited development activity as of the date of valuation. As indicated, commercial endeavors to the west along W. Eau Gallie Blvd and east along N Wickham Rd were the most prominent uses within the market area, consisting of commercial tracts. Residential development is largely of established subdivisions built in the mid 1950's.

#### <u>Access</u>

Accessibility throughout the described market area was considered good, with interchange access to Interstate 95 to the west via W. Eau Gallie Blvd, a four-lane, median divided highway and N. Wickham Road, a four-laned north-south connector roadway. Immediate access to the subject property is via Sarno Road, a two-lane asphalt paved local roadway stretching between those two roads.

#### **Conclusion**

In conclusion, the subject market area was considered generally infill in character with a significant amount development surrounding. Development was expected to remain oriented towards industrial / commercial uses in speculation of more intense land uses as development expanded along the major roadways in the area.

## SITE DESCRIPTION

## <u>General</u>

As of the date of valuation, the existing use of the subject real property consisted of a construction and demolition debris (C&D) landfill with accessory site improvements. The subject site represents a flag-shaped tract of land, comprised of two tax parcels containing 45± gross acres, with about 36± acres permitted as disposal area. (see subject exhibits in *Addendum*). The main site dimensions are approximately 1,270 feet by 1,500 feet.

The subject as a landfill has been in operation for twenty-two years, most recently repermitted as a C & D landfill in July 2014. The subject has upward trending total revenue with an established location in a growing market.

## <u>Access</u>

The subject property is a flag-shaped tract of land, with the "pole" portion of the property providing 100± feet of access along the south side of Sarno Road. This "pole" portion of the property extends north/south approximately 500 feet to the main portion of the property encompassing the landfill operation.

## Topography/Drainage

Due to the landfill operation, the topography of the subject land had been altered. Generally, the natural elevation of the surrounding area lies at approximately  $24\pm$  feet above mean sea level. The exception to this consists of the land and adjacent operation of the County owned Sarno Landfill, immediately to the west and south of the subject.

The actual landfill disposal area is surrounded on all sides by existing stormwater retention areas and the county's landfill. Drainage in the area of subject property flows naturally in a northwesterly direction towards Sarno Road as the elevation of the site drops to its natural topography.

## Flood Hazard Data

As per a copy of the Flood Insurance Rate Map, Community Panel No. 12009C0581G, effective March 17, 2014 (a copy of which is included in the *Addendum*), the entirety of the subject property is located outside of the 100-year flood zone.

MELBOURNE LANDFILL AND RECYCLE CENTER FLORIDA RECYCLERS OF BREVARD, LLC BREVARD

## Soil Characteristics

As of the date of valuation, the majority of the subject site consisted of an operating (22 years) landfill. However, in its natural state, the Soil Survey of Brevard County, a copy of which is displayed in the *Addendum* along with the respective, corresponding soil codes, identifies three primary soil types for the subject property. The soils include Anclote sand, Eau Gallie sand, and Myakka sand, depressional. The majority of the subject property consists of the very poorly drained soils.

## Environmental Hazards

As indicated, as of the date of valuation, the majority of the subject site consisted of an historically operated landfill that includes the potential for groundwater contamination.

#### <u>Utilities</u>

Electric and telephone service were available to the subject property as of the date of valuation. However, water and sewage disposal were provided by on-site well and septic tank systems.

#### *Easements*

As best determined by public records, the property is encumbered by a power line easement and a public utility (water) easement. The power line easement is a 10-foot F.P.L (Florida Power and Light) easement recorded in O.R. Book 4698, Page 0694, Public Records of Brevard County, Florida. The public utility water easement is recorded in O.R. Book 4977, Page 3070, Public Records of Brevard County, Florida.

#### *Improvements*

Building improvements on the property consist of a single-wide manufactured building which serves as the onsite management office adjacent to the weight station and a pole barn which houses the bagged mulch products. According to Public Records of Brevard County, the manufactured structure was built in 1986. Site improvements consisted of asphalt paving, concrete walkways, wood decking and fencing. Other ancillary site improvements consisted of items utilized in the landfill operation.

MELBOURNE LANDFILL AND RECYCLE CENTER FLORIDA RECYCLERS OF BREVARD, LLC BREVARD

#### FDEP Permit History

Melbourne Landfill and Recycling Center (AKA Florida Recyclers of Brevard, Inc.) was originally permitted in 1998 as a C&D disposal facility. From 2000 to 2014, the facility had been permitted as a Class III landfill but always operated as a C&D disposal facility. Throughout that time, almost all of the waste received had been yard trash and construction and demolition debris. On March 24, 2014, a Construction and Demolition Debris (C&D) Disposal Permit Application was submitted to limit the operations at the facility to construction and demolition debris recycling & disposal and yard trash processing. The facility is required to monitor for landfill gas migration and water quality monitoring. Below is the summary chart of the permit history of the subject landfill.

Permit Type	Permit Facility Number	Permit Project	Facility Type	Issued Date	Expiration Date	Comments	
Operation	133456	001	C&D	6/8/1998	5/11/2003	20 acres of disposal area for C&D	
Construction	133456	002	LF III	11/12/1999	9/15/2004	40 acres of disposal area for Class III	
Operation	133456	003	LF III	11/12/1999	9/15/2004	40 acres of disposal area for Class III	
Construction	133456	004	MRF	11/12/1999	9/15/2004	Applied for Material Recovery Facility (MRF)	
Operation	133456	005	MRF	11/12/1999	9/15/2004	Applied for MRF	
Renewal	133456	006	Class III	3/17/2005	1/7/2010	To operate Class III	
Renewal	133456	007	MRF	3/17/2005	1/7/2010	To operate MRF	
Renewal	133456	008	Class III	10/8/2010	8/12/2015	To operate Class III	
Renewal	133456	009	MRF	10/8/2010	8/12/2015	To operate MRF	
Operation	133456	010	C&D	7/28 /2014	6/1/2024	<ul> <li>Change to C&amp;D Landfill.</li> <li>Accept only C&amp;D.</li> <li>5-yrs LTC requirement.</li> <li>Class III GWMP &amp; top cap requirements</li> </ul>	
Operation	133456	011	C&D	5/22/2015	05/22/2020	Variance from 403 Escrow Account Requirements – processed by Division of Waste Management.	
Operation	133456	012	C&D		6/1/2024	Incorporates relevant actions from Item 6 of Consent Order 16-1272 into the permit. The permit is issued in its entirety.	

## Discussion of Subject Landfill Height and Capacity

The final (maximum) elevation of the Melbourne Landfill and Recycling Center per FDEP shall not exceed 80 feet above natural elevation or 104 feet; however, as previously discussed, the City of Melbourne's conditional use (Ordinance No. 2010-53) restricts the landfill height to 40 feet above natural elevation or 64 feet maximum height.

Based on the conditional use permit maximum height of 64 feet, JEA's estimated the total airspace capacity of the subject landfill, as calculated using CAD, to be 1,620,000 cubic yards. A topographical survey was conducted on the subject landfill, dated June 21, 2019, which estimated the airspace capacity used up to be 1,049,585 cubic yards.

## Discussion of the Landfill Operation of the Subject Property

The subject landfill known as Melbourne Landfill and Recycling Center AKA Florida Recyclers of Brevard, Inc. which is the entity tied to the FDEP general use permit and ownership of the land is held under. After our discussion with the owner and reviewing the financial statements provided by the owner; the property is operated as two distinct yet connected businesses.

Florida Recyclers of Brevard, LLC is the landfill operations entity which facilitates the acceptance, processing and disposal of all waste received at the landfill. The waste includes yard trash, construction, and demolition debris. All the income associated with landfill revenue derived from tipping fees is run through this entity. Additional, income and expenses associated with the gridding of material was observed on the P & L statements, however, since this operation appears to breakeven and serves to primarily reduce the overall amount of waste that makes its way in to the landfill thereby extending the life of the landfill.

Simply Organic Lawn and Garden Center, LLC is the separate business entity which facilitates the recycling and ultimately the sale of soils, mulch and other organic material.

After our discussion with the owner, a review of the operation of the landfill, and financial statements, we have only considered the income and expenses associated with the landfill operations entity or Florida Recyclers of Brevard, LLC in our analysis.

MELBOURNE LANDFILL AND RECYCLE CENTER FLORIDA RECYCLERS OF BREVARD, LLC BREVARD

## ZONING/LAND USE

The subject property is zoned C-M-1, Light Industrial with a conditional use, by the City of Melbourne. Light Industrial District are intended to apply to an area located in close proximity to rail, air or major roadway facilities and which can serve intensive commercial uses and light manufacturing, warehousing, distribution, wholesaling and other industrial functions of the city and the region. Restrictions herein are intended to minimize adverse influences of the industrial activities on nearby non-industrial areas and to eliminate unnecessary industrial traffic through non-industrial areas.

The future land use of the subject property is Industrial, which is generally consistent with the surrounding immediate area. The industrial land use category may be considered for sites accessible to airport facilities, rail facilities, and/or major thoroughfares such as I-95. Uses allowed include: manufacturing, assembling and distribution activities; warehousing and storage activities; general commercial activities; and other similar land uses.

## REAL ESTATE ASSESSMENTS AND TAXES

The property was subject to real estate assessments and taxes by Brevard County and, the subject property did not qualify for tax exemptions. A summary of the real estate assessments and taxes in 2019 for the subject property as follows:

Parcel ID #	Assessed Value	Exemption Amount	Total Assessed Value	Millage Rate	Gross Taxes
27-36-24-00-507	\$950,210	\$0	\$950,210	18.8194	\$17,882.39
27-36-24-00-508	\$676,790	\$0	\$676,790	18.8194	\$12,736.78

## HIGHEST AND BEST USE

In order to estimate the highest and best use of the subject property, I have considered those uses, which are physically possible, legally permissible, financially feasible, and maximally productive (see *Addendum* for definition).

## <u>"As Vacant"</u>

The subject site is flag-shaped, consisting of two tax parcels, when combined total  $45\pm$  gross acres. Access is provided by a 100-foot wide strip of land that extends  $500'\pm$  north/south from the south side of Sarno Road to the subject's landfill. Based on the available data, the easterly portion of the subject site is located within a 100-year flood zone and the drainage and soil conditions appear to be poor. Finally, public services are available to the subject site. Thus, physically, the site's access, location adjacent to the County's landfill and the poor drainage and soil conditions limit the redevelopment potential of the subject property.

As noted, the subject property is zoned C-M-1, Light Industrial with a conditional use (Ordinance No. 2010-53), by the City of Melbourne. This zoning classification is

#### MELBOURNE LANDFILL AND RECYCLE CENTER FLORIDA RECYCLERS OF BREVARD, LLC BREVARD

designated for industrial uses for the subject property such as light manufacturing, warehousing, distribution, wholesaling and other industrial functions of the city and the region.

The Industrial future land use designation is consistent with the subject's current zoning. This designation would allow a portion of the subject property to be developed with a more intense use.

Thus, considering the physical characteristics of the subject property, as well as the zoning and future land use designations, the most likely legal and physical use of the subject property would be for a continued industrial use, a passive recreational use, a conservation use, or an assemblage with an adjacent property owner.

The financially feasible use of the subject property is that use which produces a positive return to the land. As noted, the subject's market area is predominantly industrial and with the greater surrounding area being commercial and residential development. In our opinion the physical constraints of being located directly adjacent to the county's landfill, limits potential uses to industrial, conservation, passive recreation, or assemblage.

## "As Improved"

As of the date of valuation, the subject site was improved with a construction and demolition debris landfill. Site improvements associated with the landfill included a manufactured home that also served as the office for the C & D landfill operation, interior access roads, and a retention pond. Ancillary site improvements included the items necessary for the operation of the landfill.

As of the date of inspection, the site improvements were operational and in average condition as of the valuation date. The existing improvements were considered a legal use and a value contribution to the land as an operating landfill. Thus, the highest and best use of the subject property, "as improved", was for the continued use as a C & D landfill operation, including a proper closure as required under FDEP Regulations.

Furthermore, subsequent to a proper closure, we would anticipate limited uses for the subject land based on the unstable soil conditions due to the fill, the potential for ground water contamination and environmental concerns due to the landfill, as well as the long-term care for the property after closure.

PROPERTY NAME:MELBOURNE LANDFILL AND RECYCLE CENTEROWNER/PERMITTEE:FLORIDA RECYCLERS OF BREVARD, LLCCOUNTY:BREVARD

## VALUATION METHODOLOGY

Real estate appraisal practice ordinarily requires the use of three basic approaches to value. These approaches are commonly referred to as the Cost, Sales Comparison, and Income approaches, providing the basis for arriving at a final value estimate. Each approach is briefly discussed, including an explanation of the relevance of each approach to this valuation assignment.

<u>The Cost Approach</u> is the sum of the land value and the depreciated cost new of the improvements. The Cost Approach is based on the principle of substitution, which holds that an informed purchaser would pay no more for the subject property than it would cost him to produce a substitute property with the same utility and without undue delay.

<u>The Sales Comparison Approach</u>, or Market Approach, is a valuation method whereby the subject property is compared with other properties that have recently sold. Data is gathered from similar use properties and comparisons are made to demonstrate a probable unit price at which the subject property would be sold if offered on the market. The Sales Comparison Approach is also based on the principle of substitution, which holds that an informed purchaser would pay no more for the subject property than it would cost to buy a comparable property with the same utility and without undue delay.

<u>The Income Approach</u> is based on the premise that a prudent investor would pay no more for the subject property than another investment property with similar risk and return characteristics. Since the value of an investment can be considered equal to the present worth of anticipated future benefits (dollar income or amenities), this approach first estimates the net income that the property is capable of producing and then applies the appropriate capitalization or discounting to this income at market-derived rates which reflects the risk and return characteristics of the investment.

Typically, there are three approaches utilized in the valuation of real property being the Cost Approach, Sales Comparison Approach, and the Income Approach. This property is an existing C & D landfill facility, which is considered a *special-purpose property* and seldom is traded on the open market. The lack of comparable, current market rent and comparable expense data for landfills could make the Income Approach unreliable. However, we were provided with tax returns and financial statements for the past several years, operational data from FDEP and expert engineering report on the subject that we could analyze and compare to industry standards to arrive to a value Melbourne Landfill and Recycle Center. Therefore, we utilized the Income Approach to value to determine the value of the subject property.

#### **Reconciliation**

The final step in the appraisal process is known as the Reconciliation, wherein the approaches to value are reconciled judgmentally to achieve a final estimate of market value for the subject property. In this case, to value the subject property as a landfill operation, only the income approach, more specifically, a discounted cash flow analysis (yield capitalization) to value the subject landfill has been utilized and reconciled into an estimate of market value.

After the closure of the landfill operation, the subject site will be available for an alternative or residual use. As discussed in the *Highest and Best Use* section to this report, an alternative use would be for possible passive recreation or an assemblage with adjoining properties for possible open space requirements. In either case, the subject landfill will have little or no development potential and it will continue to be monitored for environmental concerns.

MELBOURNE LANDFILL AND RECYCLE CENTER FLORIDA RECYCLERS OF BREVARD, LLC BREVARD

## INCOME APPROACH

The Income Approach to value converts the anticipated future benefits of property ownership to an estimate of present value. The Income Approach typically is the most reliable for income-producing properties because it reflects the investment demands and strategies of potential purchasers. This approach to value assumes a positive relationship between a property's current market value and the expected net cash flow that the property will provide, and a reciprocal relationship between a property's current market value and the relative risk involved in achieving the expected cash flow.

Investment properties, such as the subject, are typically valued in relation to their ability to produce income. Therefore, an analysis of the property in terms of its ability to provide a sufficient net annual return on invested capital is an important means of valuing an asset.

Two common techniques of converting net income into value are direct capitalization and discounted cash flow analysis (yield capitalization). In direct capitalization, net operating income is divided by an overall rate extracted directly from market sales to indicate a value. In the discounted cash flow analysis, anticipated future net income streams and a reversionary value, if any, are discounted to an estimated present value.

In order to value the subject property's anticipated economic benefits i.e. future cash flow associated with the continued operation the subject property as a C & D landfill; the discounted cash flow analysis technique has been utilized as the most appropriate capitalization technique selected.

Based on our experience with similar facilities and discussion with market participates, landfill properties are seldom, if ever, leased. When properties are leased, the lease arrangement is often a financing tool, not a market-driven agreement. Seldom will an appraiser find an adequate number of truly leased properties on which to base the Income Approach. Further, landfills facilities are rarely, if ever, sold; however, this does not mean that the Income Approach cannot be applied. The framework of the Income Approach thus must parallel the way industry participants view the real estate, the operation of a landfill and value of the remaining capacity of the landfill. The real estate, remaining capacity within the landfill, site improvements, equipment and operational permit, like all other assets, is considered in the context of its contributed earnings.

In this appraisal, the return to the real estate will be derived from the historical income, expenses and operation of the landfill. The gross sales are affected by the location and the quality of improvements, while the operating expenses are affected by the management and condition of improvements. Therefore, the property's financial operation becomes a proxy for estimating the property's underlying value of the real estate.

#### MELBOURNE LANDFILL AND RECYCLE CENTER FLORIDA RECYCLERS OF BREVARD, LLC BREVARD

In order to apply the Income Approach to a landfill operation, the appraiser must accomplish the following items:

- 1) Project the potential gross income;
- 2) Estimate the appropriate expenses to arrive at a net operating income;
- 3) Apply the appropriate discount rate to the net operating income stream over the holding period; and
- 4) Deduct the cost of closure, if any, after the property reaches capacity.

#### Gross Potential Income

In the application of the Income Approach, the first step is to estimate the subject's gross potential income. Typically, C&D landfills such as the subject property generate income by receiving construction and demolition debris material and charging a tipping fee. This fee is based on a price per ton or a price per cubic yard (uncompacted). The following table illustrates the tipping fees of other C&D landfill operations throughout the Central Florida area, as of the date of valuation.

2019 Tipping Fees Charged by C & D Facilities by County						
County	C & D Tipping Fee	Ton to CY conversion factor	\$ per CY			
Brevard	\$23.66	3.2999	\$7.17			
Orange	\$26.50	3.2999	\$8.03			
Lake	\$27.50	3.2999	\$8.33			
Volusia	\$28.00	3.2999	\$8.49			
Indian River	\$31.80	3.2999	\$9.64			
St. Lucie	\$32.00	3.2999	\$9.70			
Seminole	\$33.17	3.2999	\$10.05			
Polk	\$38.05	3.2999	\$11.53			
Marion	\$42.00	3.2999	\$12.73			
Martin	\$42.00	3.2999	\$12.73			

The subject property is a privately owned C&D landfill and as of 2020, the operator charged a tipping fee of \$23.66 per ton of uncompacted construction and demolition debris or \$7.17 per cubic yard after applying Brevard County's conversation factor of 3.2999. The landfills surveyed provided a range for tipping fees between \$7.17 and \$12.73 per uncompacted cubic yard. Public or government owned landfills set tipping fees on an annual basis. While private operators are able to set their own tipping fees, however they typically charge the same fees as the public facilities in order to stay competitive. Brevard County's tipping fee for C & D debris has remained level or unchanged for the past six years (2014-2020). By direct comparison to surrounding counties, Solid Waste Management's survey of municipal landfills reports that Brevard

County's tipping fees for C & D debris is the lowest reported rate charged. The appraisers anticipate that Brevard County will begin to raise its rates in the coming years.

For this analysis, we have also reviewed the income for the subject operation via financial statements as well as 2018 tax returns for Florida Recyclers of Brevard, LLC., the operating company for the Melbourne Landfill and Recycle Center. The following table provides the actual gross income of the C & D operation for the subject's landfill over the past five years:

Melbourne Landfill and Recycle Center – Historical C & D Income						
Year C & D Income						
2014	\$ 536,926					
2015	\$ 583,129					
2016	\$ 685,288					
2017	\$ 834,945					
2018	\$1,074,798					

As shown above, the C & D income increased over the latest three-year period by 23%, or an average of 7% per year. The revenue increases were primarily attributable to volume of C&D debris material received in that given year. Considering the historical growth of the C & D income observed and the expected increase to Brevard County's rates, we have applied a 6 percent increase to the scheduled tipping fees every three years in the discounted cash flow model.

Based on the available data for this analysis, our review of the subject's historical FDEP quantity annual reports and Jones, Edmunds and Associates, Inc. (JEA) Landfill Evaluation report prepared in June 2018; we have estimated the average acceptance rate of all waste received at subject property to be 50,000 tons per year. Furthermore, the recycling operations on-site reduces the amount of material that ultimately ends up in the landfill. These operations were observed to make minimal if any profit but contribute to extending the life and therefore profitability of the landfill. The total amount of uncompacted waste material that is ultimately landfilled averages 29,900 tons per year, or 60% of all the overall C & D debris or waste material that is received at the subject property.

In order to use the estimated averages stated above in our analysis, we needed to convert the average uncompacted tons reportedly landfilled each year to compacted cubic yards as a means to calculate the airspace capacity use of the landfill per year. After considering a survey of C&D landfills in Florida of Volume to Weight ratios and Brevard County's conversation factor, conversation factors range between 0.24 to 0.303 (1 ton divided by 0.24 or .303) or 3.2999 to 4.1667 cubic yards per uncompacted ton. However, this calculation does not account for the compaction of landfilled material. After consideration of compaction methods for C & D landfills, we have concluded to a compaction factor to be between 2 and 2.7. Using the calculations above, the factor used to convert annual

tons of landfilled material to compacted cubic yards used on an annual basis range between 0.60 ( $0.303 \times 2$ ) and 0.65 ( $0.24 \times 2.7$ ).

Applying those factors to the average tons landfilled per year or 29,900 tons, equates to a range of 46,000 (29,900 / 0.65) to 49,833 (29,900 / .60) of compacted cubic yards of airspace used per year. Therefore, considering previously estimated range and JEA's analysis of the historical cubic yards of airspace used per year, we have reconciled the average airspace capacity used on an annual basis to be 46,300 cubic yards.

As previously stated, JEA estimated the total airspace capacity of the subject landfill, based on the conditional use permit height of 64 feet, to be 1,620,000 cubic yards (CY). JEA also estimated that as of March 17, 2017, approximately 970,000 cubic yards (CY) of waste is in-place or airspace used at the subject landfill. We also considered a topographical survey conducted on the subject landfill, dated June 21, 2019, which estimated that the airspace capacity used totaled 1,049,585 cubic yards (CY). Therefore, considering the stated waste in-place or used airspace capacity estimated, we have reconciled, that the reasonable airspace capacity used as of the date of value to be 1,100,000 cubic yards (CY). After subtracting the total cubic yards of capacity (1,620,000 CY), from the estimated remaining capacity for the subject landfill (1,100,000 CY), provides a total of 520,000 cubic yards of remaining airspace, to be used in our discounted cash flow analysis.

Based on the estimated average airspace capacity usage rate of 46,300 cubic yards per year, the subject landfill has a remaining estimated life span of approximately 10 years while allowing for a portion of the remaining capacity to be used for top cap or closure spacing.

## Expenses

The typical operating expenses generated by a construction and demolition debris landfill include but are not limited to property taxes, insurance, utilities, labor, and equipment maintenance and repair. Other operating expenses include maintenance and repair on the building improvements and site equipment, as well as professional fees for legal, accounting, and management.

For this analysis, operating expenses for the subject landfill for the Years 2014 through 2018 were provided and reviewed. The following table provides the actual expenses and the percentage of gross revenue for the five years, as follows:

Melbourne Landfill and Recycle Center – Landfill Expenses						
Year	C & D Expenses Percentage of C & D Incor					
2014	\$309,730	24%				
2015	\$542,234	39%				
2016	\$511,018	36%				
2017	\$565,339	38%				
2018	\$573,968	32%				

MELBOURNE LANDFILL AND RECYCLE CENTER FLORIDA RECYCLERS OF BREVARD, LLC BREVARD

Based on the above C & D expenses reported, the five-year average was \$500,458, or 35.13% of the reported gross income. Thus, by comparison to industry averages, the gross expenses, as a percentage of gross revenue, appear to be on the low end of the range. Discussions with managers and property owners of landfills throughout the Florida area, provided typical operating expense ratios ranging between 45% and 55% of gross revenue. However, considering this information but primarily based on the subject data available, we have estimated operating expenses for the subject landfill at 35% of the C & D income.

## Discount Rate

A discount rate is the annualized yield or rate of return on revenue that is generated by an investment over a period of ownership. This rate typically measures the risk and return characteristics of an investment by converting future payments into a present value. The method for estimating the discount rate for the subject property is to compare the rates of investments with similar risk as the subject property. However, it is noted that construction and demolition debris landfills have discount rates that are typically higher than most income producing real estate properties due to the inherent high risk and liability at the close of the operation.

Our review of articles from the Appraisal Institute indicates a typical historical discount rate range for an operating landfill between 20% and 30%. However, considering the historical operation of the subject landfill and its remaining economic life as of the date of valuation, for this analysis, we have utilized discount rates of 18% and 15% to provide an estimated value range for the subject landfill.

## Present Valuation Analysis – Landfill Operation

As discussed, a net operating income for the subject landfill operation was derived based on an analysis of the provided operating income and expenses. Thus, based on the estimated operating period for the subject landfill of 10 years, a present value of the projected net operating income stream over this holding period provides a present value range between \$3,460,000 (R) to \$3,890,000 (R).

#### Costs of Closure

For a landfill operation, at the end of its operation, the cost of closure must be deducted. As previously discuss, the owner (Florida Recyclers of Brevard County, Inc.) was required to fund and make annual deposits in a Trust Fund as proof of financial assurance for the cost to close the landfill. We have reviewed "Closure Cost Estimating Form for Solid Waste Facilities" submitted to FDEP by the owner on February 26, 2020 for 2020 fiscal period. FDEP subsequently approved the closure cost estimates for the subject landfill totaling \$2,721,389 for closing cost and \$396,938 for long-term care cost over a five-year period. Therefore, we have included in our analysis, the total cost of closure of \$3,118,327 (\$2,721,389 + \$396,938). A copy of owner submitted "Closure Cost Estimating Form for Solid Waste Facilities" is within the appraisers' work file.

#### Conclusion of Market Value – Income Approach

As indicated, the present value for the subject landfill's projected net operating income stream over the anticipated remaining life of 10 years equals a range of 3,460,000 (R) to 3,890,000 (R). For the final calculations within the Income Approach, the net cost of closure after considering the existing (as of the valuation date) trust balance (917,573) together with the estimated annual contribution to be made during the discounted 10 year cash flow is estimated at (1,072,687), needs to be deducted. Therefore, considering the total cost of closure of 3,118,327, as detailed above, and deducting the total trust balance of 1,990,260 (917,573 + 1,072,687), equates to 1,128,067 of net closure cost to be deducted from the present value of the cash flows. Thus, based on the data available, a market value estimate for the subject property C & D landfill, via the Income Approach, as of June 17, 2020 was as follows, see the following discounted cash flow charts.

## **DISCOUNTED CASH FLOW ANALYSIS AT 18% DISCOUNT RATE**

TOTAL AIRSPACE CAPACITY	1,620,000 CY (40' CUP MAX or 64' NGVD)
ESTIMATED AIRSPACE CAPACITY USED	<u>1,100,000</u> CY (As of DOV)
ESTIMATED REMAINING CAPCITY LEFT	520,000 CY (As of DOV)
*TONS RECEIVED PER YR. AVERAGE TONS LANDFILLED PER YR. *AVERAGE ANNUAL CUBIC YARDS USAGE *RATE PER TON	<ul> <li>50,000 based on five year average of total tons received then 5% increase every three years</li> <li>29,900 based on five year average of total tons landfilled</li> <li>46,300 based on historical airspace capacity used</li> <li>\$23.66 is based on Brevard County's 2019-20 rate for C &amp; D material, then increases 6% every three years</li> </ul>

# Molbourne Landfill & Recycle Center (AKA Florida Recyclers of Brevard LLC)

Melbourne Landfill & Recycle Center (A		-	revard, LLC)									
DISCOUNTED USAGE / REMAINING LIF	EANAL	YSIS										
ENDING PERIOD		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
YEAR		11	2	3	4	5	6	7	8	9	10	TOTALS
C & D Income	\$	1,183,000 \$	1,183,000 \$	1,329,219 \$	1,329,219 \$	1,329,219 \$	1,493,510 \$	1,493,510 \$	1,493,510 \$	1,678,108 \$	1,678,108	
Average Annual Tons Received*	•	50,000	50,000	53,000	53,000	53,000	56,180	56,180	56,180	59,551	59,551	
Rate Per Ton*	\$	23.66 \$	23.66 \$	25.08 \$	25.08 \$	25.08 \$	26.58 \$	26.58 \$	26.58 \$	28.18 \$	28.18	
Remaining Airspace Capacity Cubic Yards		520,000	473700	427400	381100	334800	288500	242200	195900	149600	103300	
Average Annual Airspace Used Cubic Yards*		46,300	46,300	46,300	46,300	46,300	46,300	46,300	46,300	46,300	46,300	
REMAINING CAPACITY / LIFE		473,700	427,400	381,100	334,800	288,500	242,200	195,900	149,600	103,300	57,000	
Gross Revenue	\$	1,183,000 \$	1,183,000 \$	1,329,219 \$	1,329,219 \$	1,329,219 \$	1,493,510 \$	1,493,510 \$	1,493,510 \$	1,678,108 \$	1,678,108	
Less: Expenses Operating Expenses (based on % of GR)		414,050	414,050	465,227	465,227	465,227	522,729	522,729	522,729	587,338	587,338	
Total Expenses		(\$414,050)	(\$414,050)	(\$465,227)	(\$465,227)	(\$465,227)	(\$522,729)	(\$522,729)	(\$522,729)	(\$587,338)	(\$587,338)	
% of Gross Revenue		35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	
Net Revenue	\$	768,950 \$	768,950 \$	863,992 \$	863,992 \$	863,992 \$	970,782 \$	970,782 \$	970,782 \$	1,090,770 \$	1,090,770 \$	9,223,762
Annual Closure Trust Fund Reserve		100,000	100,000	103,169	103,169	103,169	109,740	109,740	109,740	117,124	117,124 \$	1,072,976
Net Revenue After Closure Fund Deposit	\$	668,950 \$	668,950 \$	760,823 \$	760,823 \$	760,823 \$	861,041 \$	861,041 \$	861,041 \$	973,646 \$	973,646 <b>\$</b>	8,150,786
Discount Rate @ 18.0%		0.8475	0.7182	0.6086	0.5158	0.4371	0.3704	0.3139	0.2660	0.2255	0.1911	
Present Value of Sales Revenue		\$566,907	\$480,429	\$463,061	\$392,424	\$332,563	\$318,957	\$270,302	\$229,070	\$219,514	\$186,029	\$3,459,257
TRUST ACCOUNT BALANCE (01/22/2020)			\$	917,573								
Plus: Scheduled Deposits in DCF				1,072,976								
Total Trust Fund Amount			\$ \$	1,990,549								
Less: Closure Costs (2020)			\$	2,721,389								
Long Term Cap Cost (2020) for 5 yrs.			\$	396,938								
Total Closure Costs			\$	3,118,327								
Net Cost to Close			\$	(1,127,778)								
Present Value of the Cash Flows				\$3,459,257								
Less: Net Cost to Close			\$	(1,127,778)								
Net Present Value, "Permitted Land C Rounded to:	Operatin	ig as a Land Fill"		\$2,331,478 \$2,331,000								

## DISCOUNTED CASH FLOW ANALYSIS AT 15% DISCOUNT RATE

TOTAL AIRSPACE CAPACITY ESTIMATED AIRSPACE CAPACITY USED	1,620,000 CY (40' CUP MAX or 64' NGVD) 1,100,000 CY (As of DOV)
ESTIMATED REMAINING CAPCITY LEFT	520,000 CY (As of DOV)
*TONS RECEIVED PER YR. AVERAGE TONS LANDFILLED PER YR. *AVERAGE ANNUAL CUBIC YARDS USAGE *RATE PER TON	<ul> <li>50,000 based on five year average of total tons received then 5% increase every three years</li> <li>29,900 based on five year average of total tons landfilled</li> <li>46,300 based on historical airspace capacity used</li> <li>\$23.66 initial rate \$23.66 is based on Brevard County's 2019-20 rate for C &amp; D material, then increases 6% every three years</li> </ul>

#### Melbourne Landfill & Recycle Center (AKA Florida Recyclers of Brevard, LLC) DISCOUNTED USAGE / REMAINING LIFE ANALYSIS

ENDING PERIOD		2020	2021	2022	2023	2024	2025	2026	2027	
YEAR		1	2	3	4	5	6	7	8	
C & D Income	\$	1,183,000 \$	1,183,000 \$	1,328,407 \$	1,328,407 \$	1,328,407 \$	1,492,599 \$	1,492,599 \$	1,492,599 \$	
Annual Tons Received*		50,000	50,000	53,000	53,000	53,000	56,180	56,180	56,180	
Rate Per Ton*	\$	23.66 \$	23.66 \$	25.06 \$	25.06 \$	25.06 \$	26.57 \$	26.57 \$	26.57 \$	
Remaining Airspace Capacity Cubic Yards		520,000	473700	427400	381100	334800	288500	242200	195900	
Average Annual Airspace Used Cubic Yards*		46,300	46,300	46,300	46,300	46,300	46,300	46,300	46,300	
REMAINING CAPACITY / LIFE		473,700	427,400	381,100	334,800	288,500	242,200	195,900	149,600	
Gross Revenue	\$	1,183,000 \$	1,183,000 \$	1,328,407 \$	1,328,407 \$	1,328,407 \$	1,492,599 \$	1,492,599 \$	1,492,599 \$	
Less: Expenses Operating Expenses (based on % of GR)		414,050	414,050	464,943	464,943	464,943	522,410	522,410	522,410	
Total Expenses % of Gross Revenue		(\$414,050) 35.00%	(\$414,050) 35.00%	(\$464,943) 35.00%	(\$464,943) 35.00%	(\$464,943) 35.00%	(\$522,410) 35.00%	(\$522,410) 35.00%	(\$522,410) 35.00%	
Net Revenue	\$	768,950 \$	768,950 \$	863,465 \$	863,465 \$	863,465 \$	970,189 \$	970,189 \$	970,189 \$	
Annual Closure Trust Fund Reserve		100,000	100,000	103,136	103,136	103,136	109,704	109,704	109,704	
Net Revenue After Closure Fund Deposit	\$	668,950 \$	668,950 \$	760,329 \$	760,329 \$	760,329 \$	860,485 \$	860,485 \$	860,485 \$	
Discount Rate @ 15.0%		0.8696	0.7561	0.6575	0.5718	0.4972	0.4323	0.3759	0.3269	
Present Value of Sales Revenue		\$581,696	\$505,822	\$499,928	\$434,720	\$378,018	\$372,011	\$323,488	\$281,294	
TRUST ACCOUNT BALANCE (01/22/2020) Plus: Scheduled Deposits in DCF Total Trust Fund Amount			\$ \$	917,573 \$1,072,687 1,990,260						
Less: Closure Costs (2020) Long Term Cap Cost (2020) for 5 yrs. Total Closure Costs			\$ \$ \$	2,721,389 <u>396,938</u> 3,118,327						
Net Cost to Close			\$	(1,128,067)						
Present Value of the Cash Flows				\$3,894,087						
Less: Net Cost to Close			\$	(1,128,067)						
Net Present Value, "Permitted Land O Rounded to:	peratin	ig as a Land Fill"		\$2,766,020 \$2,766,000						

2028 9		2029 10	TOTALS
	\$	1,677,084	TUTALS
1,677,084	φ	1,077,004	
59,551		59,551	
28.16	\$	28.16	
149600		103300	
46,300		46,300	
103,300		57,000	
1,677,084	\$	1,677,084	
586,979		586,979	
(\$586,979)		(\$586,979)	
35.00%		35.00%	
1,090,104	\$	1,090,104	\$ 9,219,071
117,083		117,083	\$ 1,072,687
973,021	\$	973,021	\$ 8,146,383
0.2843		0.2472	
\$276,593		\$240,516	\$3,894,087

## FINAL RECONCILIATION OF VALUE

In reconciling the market value for the subject landfill, assuming a continued operation as of the date of valuation, all three approaches to value were considered. The value estimates are summarized as follows:

Cost Approach	N/A
Sales Comparison Approach	N/A
Income Approach	\$2,331,000 to \$2,766,000 <sup>1</sup>

<sup>1</sup>Utilizing the discounted cash flow analysis or yield capitulation technique within the Income Approach to value; the value range above represents the net present value for the subject property after making reasonable assumptions based on the historical operation of the landfill operation.

As previously discussed, only the Income Approach to value was considered in the valuation of the subject landfill, each approach is independent of the other, and, thus, appropriately weighted in the final value estimate. As discussed, utilizing the Income Approach recognizes the value of an operating C & D landfill.

Thus, in conclusion, the final estimate of market value for the subject property, assuming a continued operation of the C & D landfill as of the date of valuation, as of June 17, 2020 was:

## TWO MILLION SEVEN HUNDRED THOUSAND DOLLARS

## \$2,700,000

## ADDENDUM

"LANDFILL EVALUATION REPORT", JONES EDMUNDS & ASSOCIATES, INC. CLOSURE COST ESTIMATING FORM FOR SOLID WASTE FACILITIES OWNERS RESPONSE LETTER TO CONSENT ORDER FROM FDEP TOPOGRAPHY MAP SOIL MAP WITH DESCRIPTIONS FLOOD PLAIN MAP

QUALIFICATIONS OF APPRAISERS

"LANDFILL EVALUATION REPORT", JONES EDMUNDS & ASSOCIATES, INC.





# MELBOURNE LANDFILL AND RECYCLING CENTER (AKA FLORIDA RECYCLERS OF BREVARD, LLC) LANDFILL EVALUATION

Brevard County Solid Waste Management Department | June 2018

## MELBOURNE LANDFILL AND RECYCLING CENTER (AKA FLORIDA RECYCLERS OF BREVARD, LLC) WACS ID 18444

LANDFILL EVALUATION TASK ORDER 17-01

#### **Prepared for:**

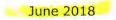
Brevard County Solid Waste Management Department 2275 Judge Fran Jamieson Way, Bldg. A Suite 118 Viera, Florida 32940

#### Prepared by:

Jones Edmunds & Associates, Inc. 730 NE Waldo Road Gainesville, Florida 32641

Certificate of Engineering Authorization #1841

Jones Edmunds Project No.: 08705-048-01



# **TABLE OF CONTENTS**

EXEC	UTIV	E SUMMARY	
1	INTE	ODUCTION	
2	BACI	(GROUND	
3	SOLI	D WASTE OPERATIONS	2
4	FINA	NCIAL ASSURANCE AND CONSENT ORDER REVIEW	
5	STO	RMWATER PERMITTING REVIEW	
5.1	Sto	rmwater Permit Document Review	5
5.2	ER	P General Observations	7
6	WAT	ER QUALITY AND LANDFILL GAS MONITORING DATA REVIEW .	
6.1		ckground	
6.2	Gro	oundwater Monitoring Network	8
6	5.2.1	Groundwater Monitoring Wells	8
6	.2.2	Surface Water Data Review	10
6	.2.3	Gas Monitoring Probes	10
6	.2.4	Monitoring Data General Observations	
7	VOLU	JME AND LIFESPAN ANALYSES	11
7.1	Bad	ckground ,	11
7.2	Vol	ume Analysis	12
7	.2.1	Florida Recyclers Melbourne Landfill	12
7	.2.2	Expansion Option	13
8	GENI	ERAL OBSERVATIONS AND RECOMMENDATIONS	14
8.1	Su	nmary	14
8.2	Red	commendations	16
9	SUPP	PLEMENTAL INFORMATION	17

# **LIST OF TABLES**

Table 1	Closure and Long-Term Care Cost Estimate Comparison5
Table 2	ERP History for the Sarno Road Industrial Complex5
Table 3	Florida Recyclers Facility – Estimate of Remaining Life Based on
	Current Landfill Rates13
Table 4	Valley Fill Construction Option – Volume and Lifespan Analysis
Table 5	Estimated Construction Costs17

# LIST OF FIGURES

- Figure 1 Overall Area Plan
- Figure 2 Site Plan
- Figure 3 ERP 133455-001 Project Plan
- Figure 4 ERP 133455-002 Project Plan
- Figure 5 ERP Design Contours Compared to LiDAR Elevation
- Figure 6 Flood Hazard Map
- Figure 7 ERP 133455-004 Project Plan Not Permitted

## **EXECUTIVE SUMMARY**

The Brevard County Solid Waste Management Department (SWMD) contracted with Jones Edmunds to evaluate the regulatory, economic, and environmental liability of the privately owned and operated Melbourne Landfill and Recycling Center (aka Florida Recyclers of Brevard, LLC). This private facility is adjacent to the County's Sarno Road Class III Landfill and the Sarno Road Transfer Station as shown in Figure 1, Overall Area Plan. The site is permitted by the Florida Department of Environmental Protection (FDEP) as a Construction & Demolition (C&D) debris recycling and disposal and yard trash processing facility.

The goals of this preliminary engineering evaluation are to review the existing design and regulatory conditions of the Florida Recyclers facility and to identify the risks and benefits related to operation of the facility and any further expansion. Jones Edmunds reviewed and evaluated the following:

- Solid Waste Permitting History
- Overall Facility Operations
- Financial Assurance Documentation
- FDEP Environmental Resource Permit (ERP) History
- Permitted Stormwater Management System
- Historical Water Quality and Gas Monitoring Data
- Current Volume and Lifespan Analysis of the Facility
- Valley Fill Expansion Option

This evaluation is based on publically available data and information, and Jones Edmunds used the FDEP Oculus Database and FDEP Water Permitting Portal to obtain historical documentation. This evaluation does not consider permitting documentation that may be maintained by the St. Johns River Water Management District (SJRWMD) for the facility. Jones Edmunds also reviewed the City of Melbourne Conditional Use Permit (CUP) granted for the Sarno Road Class III Landfill and the 2017 aerial topographic survey performed by Pickett and Associates provided by the County. Jones Edmunds understands that the Florida Recyclers facility is also regulated by a City of Melbourne CUP, but a copy of the permit was not available at the time of this review.

The Florida Recyclers of Brevard, LLC is recorded as the owner of two parcels of property<sup>1</sup>, approximately 45 acres total, with about 36 acres permitted as disposal area. The facility started operations in 1998 as an unlined C&D debris disposal facility. In 1999, the facility converted to a Class III landfill; and in 2014, the facility filed a permit application requesting classification as a C&D debris and recycling facility. FDEP granted the facility a 10-year operation permit as a C&D facility, but required the site continue to monitor groundwater, surface water, and landfill gas in accordance with Class III landfill guidelines. The 2014 change in designation from a Class III landfill to a C&D debris disposal facility resulted in the facility being required to stop using an escrow account for financial assurance and to pursue to an alternate method. In March 2017 FDEP issued the facility a

<sup>&</sup>lt;sup>1</sup> Parcel Nos. 27-36-24-00-507 (25.05 acres) and 27-36-24-00-508 (19.7 acres).

Consent Order for failure to provide proof of an alternate financial assurance mechanism (i.e. a trust fund). According to a verbal discussion with FDEP, the site has an approved Trust Fund in place.

The sequence of ERPs for this facility on FDEP databases is incomplete, particularly with regard to property ownership and easements. A complete timeline of the site's stormwater permitting history could not be developed. The February 2000 ERP application included a proposed wetland mitigation plan for parcels purchased for the expansion of the landfill to its current footprint. **Jones Edmunds found documentation confirming the completion of the wetland mitigation activities in August 2001.** 

Jones Edmunds compared the 2017 inflated costs against the closure and long-term-care cost estimates for the 2017 Sarno Road Class III Landfill costs, on a cost-per-acre basis. **In our opinion, the cost per acre for closure is low, based on our experience with recent significant increases in construction costs.** In addition, the closure cost estimate is based on a clay-soil final closure system.

The operation permit states that the facility accepts on average 200 tons per day. Based on Solid Waste Quantity Reports submitted over the last 4 years, the site has landfilled approximately 105 tons per day. The facility's primary incoming waste stream is new construction debris and vegetative waste.

Several down-gradient groundwater monitoring wells and shallow surficial wells appear impacted by the facility. The sources of the elevated groundwater monitoring parameters may be attributed to the type of materials processed at the facility and modest management of sediment and erosion control at the site. There is no evidence of landfill gas migration at the site.

Our estimate of the remaining lifespan of the 34-acre landfill using Florida Recyclers current landfilling rates is approximately 35 years to its permitted buildout elevation of 104 feet. However, the facility appears to be limited by a City ordinance restricting the buildout elevation to 40 feet above natural grade. Based on this limitation, **the estimated lifespan to a buildout elevation 64 feet is 14 years**.

To obtain additional airspace, Jones Edmunds explored the option of constructing a valley fill expansion to merge the facility with the Sarno Road Class III Landfill. The proposed expansion area would require a 60-mil minimum high-density polyethylene (HDPE) bottom liner and geosynthetic clay liner (GCL) system and a primary leachate collection and removal system. The estimated construction cost of this additional capacity is approximately \$300,000 per acre – refer to Section 9, Supplemental Information, for cost information. Assuming Sarno's current landfilling rates, the County could expect to gain approximately 4 to 9 years of additional disposal capacity from the valley fill option. The valley fill airspace, plus remaining capacity at the Florida Recyclers facility, could provide about 8 to 20 years of additional capacity at the Sarno current landfilling rate.

In general, the stormwater system appears to be adequate for the permitted design of the existing facility. The as-built construction should be confirmed. If permitted design conditions change (e.g., valley fill design), the stormwater system and groundwater monitoring network will need to be modified.

**Based on our review, the facility appears to be operating in a manner consistent with its permit and applicable regulatory guidelines.** Based on our evaluation, the following items were identified and should be given further consideration:

- Jones Edmunds could not confirm that the stormwater system is constructed as designed and permitted.
- The obstacles that the County may face in obtaining a height variance as described in the City of Melbourne CUP for the Sarno Road Landfill are unclear. It would be prudent to review a copy of Florida Recyclers facility's CUP to determine whether a height variance is possible and whether any restrictions have been placed on the facility with regard to dates of closure, or additional operational conditions.
- In Jones Edmunds' experience, unlined disposal facilities exhibit higher environmental risk. The environmental liability of this facility is unclear.
- Evidence of groundwater contamination exists at this facility. The source and long-term risk posed by this evidence may require further evaluation.
- If the County were to pursue the valley fill expansion option, the cost benefit results of constructing the expansion area (including requirements for a bottom liner, leachate collection system, stormwater redesign) compared to the additional capacity obtained for Class III waste disposal may be unfavorable if limited by City restrictions.
- The property could be valuable if the County wanted to pursue the continued operation of the facility as primarily a recycling and yard waste processing center.

## **1 INTRODUCTION**

The Brevard County Solid Waste Management Department (SWMD) contracted with Jones Edmunds to evaluate the regulatory, economic, and environmental status of the privately owned and operated Melbourne Landfill and Recycling Center (aka Florida Recyclers of Brevard, LLC). This privately owned facility is at 3351 Sarno Road, Melbourne, Florida, adjacent to the County's Sarno Road Class III Landfill and the Sarno Road Transfer Station as shown in Figure 1, Overall Area Plan, and Figure 2, Site Plan. The site is permitted by the Florida Department of Environmental Protection (FDEP) as a Construction & Demolition (C&D) debris recycling and disposal and yard trash processing facility.

Considering its proximity to the Sarno Road Class III Landfill and Transfer Station, SWMD is performing due diligence with this preliminary evaluation of the facility to determine the risks and benefits related to operating the facility and any future expansions.

The goals of the evaluation were to review the existing design and regulatory conditions of the Florida Recyclers facility and to identify potential benefits and items of concern or risks to the County related to its continued operation and potential expansion and incorporation into the Sarno Road Class III Landfill. Jones Edmunds reviewed and evaluated the following:

- The permitting history and general operations data.
- The financial assurance documentation.
- The last 5 years of groundwater and landfill gas monitoring data.
- The stormwater management system and permit history.
- The volume and lifespan analyses for the existing site and for possible expansion/merger with the Sarno Road Class III Landfill.

This evaluation did not include a site visit, field investigations, or an evaluation of costs to operate the facility. This evaluation is not intended to provide a real estate value of the property. Jones Edmunds' evaluation was based on publicly available data and information. The information in this report presents our general findings and recommendations.

# 2 BACKGROUND

Florida Recyclers of Brevard, LLC is recorded as the owner of two parcels of property<sup>2</sup> that make up the facility for a total area of approximately 45 acres, with about 36 acres permitted as disposal area. The facility started operations in 1998.

Jones Edmunds reviewed publicly available information from FDEP's Oculus (Electronic Document Management System) database. In accordance with our review of these documents, the permitting and regulatory history of the site is as follows:

- 1998: 20-acre unlined C&D debris disposal facility permitted.
- 1999: Landfill expansion to 36 acres (unlined) and site converted to Class III Landfill.

<sup>&</sup>lt;sup>2</sup> Parcel Nos. 27-36-24-00-507 (25.05 acres) and 27-36-24-00-508 (19.7 acres).

- 1999: Site applied for a Materials Recovery Facility permit (FDEP Permit No. SO 05-0133456-005 MRF).
- 2005: Permit renewed (FDEP Permit No. SO 05-0133456-006 Class III and -007 MRF).
- 2010: Permit renewed (FDEP Permit No. SO 05-0133456-008 Class III and -009 MRF).
- 2014: Intermediate permit modification and renewal application (FDEP Permit No. SO 05-0133456-010); permit modification requested to go back to a C&D debris and recycling facility; 10-year permit issued (expires June 1, 2024).
- May 2015: Order granting Variance issued by FDEP to allow for continued use of escrow account while seeking an alternative financial assurance mechanism for closure. Variance allowed for 12 months to secure an alternative financial mechanism.
- August 2015: Gas monitoring and reporting requirements were revised by FDEP to meet rule requirements.
- June 2016: Request by Owner to extend the Order granting Variance denied.
- March 2017: Consent Order OGC File No.: 16-1272 issued.
- April 2017: Permit modified to incorporate relevant actions from the Consent Order.

Florida Recyclers currently operates the facility under a 10-year operation permit for a C&D debris disposal landfill and recycling facility. At the time of application, Florida Recyclers paid one installment of the permit renewal fee; the 2<sup>nd</sup> installment payment of \$2,500 is due by May 31, 2019.

The site's stormwater is managed is accordance with FDEP ERP No. 05-10333455-002-EI.

In addition to its permitted disposal/recycling/yard processing operations, the facility also operates the Simply Organic Lawn and Garden Center at the site. According to their website<sup>3</sup> they are a full-service lawn and garden center that provides organic mulches, soils, and fertilizers that are processed and sold on site.

## **3 SOLID WASTE OPERATIONS**

The Florida Recyclers of Brevard, LLC disposal facility was initially designed and permitted as an unlined C&D debris disposal facility in 1998. Upon conversion to a Class III landfill in 1999, FDEP required that the facility perform water quality and landfill gas monitoring in accordance with Class III landfill requirements in effect at that time. In 1999, bottom liners and leachate collection systems were not required for Class III landfills. The requirements have since changed and these are now required for new or expanded Class III landfills.

In accordance with Rule 62-701, FAC, Class III and C&D debris is defined as follows:

62-701.200(14) "Class III waste" means yard trash, construction and demolition debris, processed tires, asbestos, carpet, cardboard, paper, glass, plastic, furniture other than appliances, or other materials approved by the Department, that are not expected to produce leachate that poses a threat to public health or the environment.

<sup>&</sup>lt;sup>3</sup> www.simplyorganiclawnandgardencenter.com

62-701.200(24) "Construction and demolition debris" means discarded materials generally considered to be not water soluble and non-hazardous in nature, including but not limited to steel, glass, brick, concrete, asphalt material, pipe, gypsum wallboard, and lumber, from the construction or destruction of a structure as part of a construction or demolition project or from the renovation of a structure, including such debris from construction of structures at a site remote from the construction or demolition project site.

In 2014, the permittee requested to convert back to a C&D debris disposal facility because the site did not receive Class III waste and the incoming waste stream was primarily from new construction sites and vegetative waste. The solid waste operation permit was modified, but FDEP continued to require the permittee to monitor groundwater, surface water, and landfill gas per Class III landfill guidelines (as described in Section 6.0). FDEP also required that the facility's closure design be in accordance with Class III closure requirements (closure with a barrier layer, 24-inches of protective cover soil, and vegetation). The Operating Permit expires on June 1, 2024.

According to the permit drawings, the approximate natural grade on the site is at elevation 25 feet NGVD 29. The bottom of waste is at approximately elevation 24.4 feet. The setback requirements of 100 feet from the property boundary for Class III landfills was reduced to 50 feet because of the adjacent Sarno Road Class III Landfill and Sarno Road Transfer Station. The majority of the waste appears to be landfilled on the south portion of the site, and there are piles of mulched material placed on the north half of the site. Based on the current recycling and processing operations at the site, it is unclear if the entire permitted footprint area has landfilled waste.

Waste is monitored and recorded at the facility scale house. The site's 2014 Operation Plan states that recyclable materials from construction waste and vegetative waste are recycled and that non-recyclable construction debris is landfilled. The site does not currently accept CCA pressure-treated wood for disposal. However, CCA-treated wood was likely accepted for disposal in the past before FDEP's prohibition regarding disposal of this waste in unlined landfills. The 2014 Operation Plan noted that "any CCA pressure-treated wood (telephone poles) currently stored on site will be removed within 6 months from permit issuance." The facility is also authorized to process yard trash. Residential yard waste is processed into landscaping mulch and topsoil.

The facility has 10 groundwater monitoring wells and one surface water sampling point; monitoring and sampling are performed semi-annually. The facility also monitors landfill gas migration quarterly at the perimeter landfill gas probes and within structures on the property.

The Operating Permit states the facility accepts on average 200 tons per day. Based on our review of tonnage data over the last 4 years, the site has accepted on average of about 105 tons per day.

# **4 FINANCIAL ASSURANCE AND CONSENT ORDER REVIEW**

The permittee previously maintained an escrow account for the closure financial assurance of the site. FDEP rules originally allowed this for private- and government-owned facilities. However, due to rule changes and changes in the facility's designation from a C&D facility to Class III to C&D, an escrow account is no longer a viable option for privately owned C&D facilities.

In 2014, FDEP approved the Florida Recyclers of Brevard's intermediate permit modification and renewal application that requested the designation of the facility be changed from a Class III landfill to a C&D debris disposal facility. This change meant that their escrow account no longer met the requirements of Chapter 403.707(9)(c), FAC, which states that escrow accounts may not be used as a mechanism to provide financial assurance for closure of a C&D facility. The facility Operating Permit (issued July 28, 2014) required that Florida Recyclers replace the escrow account with an alternative, acceptable financial assurance mechanism. In accordance with our review, the following legal actions were initiated between Florida Recyclers and FDEP:

- Application for Variance, October 20, 2014: Florida Recyclers requested a 2-year variance for continued use of the funded escrow account to prevent economic hardship while searching for an alternate mechanism.
- Variance Request Granted, May 22, 2015: FDEP approved Florida Recyclers application for variance (OGC File No. 14-0657) for a period of 12 months (expiration date – May 22, 2016).
- FDEP Notice Letter, September 16, 2015: FDEP determined that the 2014 escrow account balance was underfunded by approximately \$5,000 and requested that a deposit be made to adequately fund the closure account within 30 days.
- FDEP Warning Letter, June 10, 2016: FDEP issued a letter stating that Florida Recyclers failed to meet the May 22, 2016 deadline for providing an alternate financial mechanism and was in violation of Rules 62-701.730 and 62-701.630, FAC.
- Variance Extension Request Denied, June 17, 2016: FDEP denied Florida Recyclers' request to extend the time allotment granted by the 2015 variance up to 24 months.
   FDEP deemed a new application for variance would be required to request additional time.
- Consent Order Issued, March 29, 2017: FDEP issued Consent Order (OGC No. 16-1272) against Florida Recyclers for failing to provide an alternate financial assurance mechanism. The solid waste permit was then modified to include relevant actions of the Consent Order into the permit.

The issued Consent Order required the facility to initiate a Trust Fund as proof of financial assurance and to make annual payments of \$100,000 (plus any and all applicable trustee fees and expenses) to the Fund by January 5 beginning in 2018. Among other conditions, the facility is required to submit an updated Closure and Long-Term-Care Cost Estimate every 5 years in accordance with the applicable conditions of Rule 62-701.630, FAC. The cost estimate is due in 2019. Based on a verbal conversation with FDEP a Trust Fund has been established as an alternate funding mechanism.

The most recently submitted closure cost estimate from Florida Recyclers was approved by FDEP in April 2017 – estimated \$2.62 million for closure of 35.31 acres, and estimated

\$382,000 over 5 years for long-term care of 44.72 acres. Jones Edmunds compared the facility's 2017 inflated costs against the closure and long-term-care cost estimates for the Sarno Road Landfill most recently submitted in 2017, on a cost-per-acre basis. Table 1 provides the comparison figures.

Table 1	Closure and Long-Term Care Cost Estimate Comparison						
		Closure Cost Estimate (\$/acre)	Annual Long-Term- Care Cost (\$/acre)				
Florida Re	cyclers Facility (2017)	\$74,100	\$1,700				
Sarno Roa	d Class III Landfill (2017)	\$188,000	\$2,000				

The permitted closure design plan for the facility provides two final cover system options, which are the installation of a geosynthetic clay liner cap or a 36-inch soil closure (18 inches of clay and 18 inches of soil). The closure cost estimate accounts for a clay-soil cover but not a geosynthetic clay liner closure cap. **Based on our experience and with recent significant increases in construction costs, it is our opinion that the cost per acre for closure is insufficient. Therefore, it is probable that the Trust Fund is underfunded.** 

## **5 STORMWATER PERMITTING REVIEW**

Jones Edmunds reviewed the facility's stormwater management system and permits, as found on the Florida Water Permitting Portal (<u>http://flwaterpermits.com/</u>). In general, the information provided on the website appears incomplete, particularly with regard to property ownership and easements. Jones Edmunds did not contact FDEP to clarify the questions that arose during our review. The focus of our review was on the stormwater system; the stormwater system design appears adequate for the final landfill design.

## **5.1 STORMWATER PERMIT DOCUMENT REVIEW**

The facility site name is the "Florida Recyclers of Brevard." However, the Florida Water Permitting Portal shows it as the "Sarno Road Industrial Complex" and that website links to the FDEP Nexus portal, which lists the Environmental Resource Permit (ERP) documents related to the expansion and modification of the landfill as listed in Table 2.

Table 2	ERP History for the	P History for the Sarno Road Industrial Complex			
Permit Number	Facility Name	Date	Expiration Date	Description	
0133455- 001SI	Florida Recyclers of Brevard, Inc.	12/11/1997		Permit for Cell 1,	
0133455- 002EI	Florida Recyclers of Brevard, Inc.	02/08/2000	01/07/2005	Permit for Cell 1 expansion and a we detention pond.	
0133455- 004EI	Florida Recyclers of Brevard/Sarno Road Industrial Complex	08/21/2007	08/20/2012	Permit Application for Sarno Industrial Subdivision on parcel north of the landfill.	

5

The 0133455-001SI permit was for the original site and stormwater system, as shown in Figure 3 (Parcel 27-36-24-00-507). Jones Edmunds reviewed the design drawings and calculations submitted in the application package. The original design for the 25.05-acre parcel was for the front entrance and a 20-acre landfill (Cell 1) as shown in Figure 3. Stormwater treatment was provided by a "retention" area on the west, south, and east sides of the cell. The drawings refer to a retention pond, but the calculations refer to a wet detention pond. Typically, retention ponds are dry and rely on percolation to recover the treatment volume. Wet detention ponds are typically excavated 8 to 12 feet into the groundwater table to create a permanent pool of water. The wet detention pond at this facility has a mean depth of 2.82 feet; significantly less than the typical depth. Wet detention ponds have an engineered control structure to "detain" the treatment volume and slowly release it over time.

The 0133455-002EI permit allowed the landfill to expand to the current footprint and included the construction of a perimeter wet detention pond (labeled as a "retention" pond on the design drawings). The plans provided with the ERP application show new wet detention ponds on the north, northwest, east, and south sides of the landfill, and the grading indicates the "retention" pond on the southwest side remained unchanged. Figure 4 shows the ERP application design drawing for the full buildout georeferenced to an aerial.

Jones Edmunds evaluated the stormwater system described in the 0133455-002EI permit as the current condition for the landfill. We reviewed and compared the following:

- The design drawings and calculations submitted in the application package for 0133455-002EI.
- The wetland delineation and mitigation described in the application package for 0133455-002EI.
- The current aerial and the current digital elevation model (DEM) from LIDAR for Brevard County.
- The FEMA special flood hazard areas as provided online through the FEMA Map Service Center.

The design was for a 36-acre landfill cell (44.46-acre site), surrounded by interconnected wet detention ponds, with a direct discharge to the L-16 Canal. The curve number for the landfill cell is 80, which is equivalent to a grass field in good condition. This curve number is within the typical range for a landfill that will be closed with a soil and grass cover. The wet detention pond was designed to provide:

- 3.54 acre-feet (ac-ft) of water quality treatment volume.
- ▲ 4.08 ac-ft or permanent pool volume.
- A control structure with a 5-inch circular bleed-down orifice at elevation 22.50 feet National Geodetic Vertical Datum (ft NGVD) (the seasonal high water table [SHWT]), and a 4.5-foot rectangular weir with an invert of 23.26 ft NGVD.
- A pond bottom elevation at 17.0 ft NGVD.
- A mean pond depth of 2.82 feet.

Based on our review of the aerial, the stormwater system appears roughly the same size as designed. The design is adequate for a final cover of grass in good condition, with 8 to 12 inches of permeable soil. The as-built documentation was completed by Timothy C. Jelus, PE, of Jelus Engineering, Inc., and was submitted to FDEP on August 24, 2001.

The permit application for ERP 0133455-002EI also included a discussion of wetland mitigation. Figures 3 and 4 show the Cell 1 expansion with the wetland that was impacted by the construction of the Cell. FDEP issued a letter to William Kerr, of BKI, Inc., dated June 25, 2001, which stated that the preservation acquisition mitigation requirements for permit 133455-002 had been satisfied; and that the conditions of the permit modification 133455-003 had been fulfilled. The letter goes on to provide authorization for the escrow agent to release the security funds. Jones Emdunds was able to locate the permit modification conditions file 133455-003. This documentation confirms satisfactory completion of the mitigation requirement for the facility.

Jones Edmunds also compared the current aerial and Brevard County light detection and ranging (LiDAR) data to the permitted design drawings, see Figure 5. The LiDAR data is displayed as a range of colors with each color corresponding to a specific elevation. If the landfill was constructed according to the plans, the colors would align with the contours. The facility's current operation is primarily recycling and yard waste processing. The side slopes are not uniform or at the design elevation. It is very important to note that an ERP is based on the design of the final grades of the closed landfill. Therefore, noting that the current landfill grades are not the same as the ERP does not indicate that the landfill operation is violating their permit. Rather, it indicates that work needs to be done to achieve the final grade that was permitted in the ERP. **In general, the stormwater system has the same top-of-bank footprint as depicted in the permitted design cannot be determined without survey.** 

The landfill site is not within a flood hazard area. Figure 6 shows the Federal Emergency Management Agency (FEMA)-approved Flood Insurance Rate Map for the area. The area shaded in brown indicates the special flood hazard area. The landfill is outside of the designated flood hazard area.

In 2007, Florida Recyclers applied to FDEP to modify their permit, 0133455-004EI, to construct the "Sarno Road Industrial Complex" on the parcel to the north of the landfill (see Figure 7). The permit application discussed expanding the landfill's stormwater treatment ponds to provide treatment for the proposed development and mitigating the impact to a wetland on the parcel. FDEP did not issue the permit. In 2010, the west side of the parcel to the north of the facility, which includes wetlands, was deeded to the City of Melbourne; and in 2012, the east side of the parcel to the north of the facility was sold to Liberty Investments of Brevard, LLC.

## **5.2 ERP GENERAL OBSERVATIONS**

In general, the stormwater system appears adequate for the design. If the permitted design conditions were to change (such as using steeper slopes or a more impervious cover such as a geomembrane), the stormwater management system would need to be modified and repermitted.

The ERP application and drawings did not include a detailed sediment and erosion control plan. Although the site is primarily operating as a recycling and yard waste processing facility, sediment control is generally recommended. Jones Edmunds expects that the stormwater system will have accumulated sediment from the landfill operations and will need some excavation to restore the design elevations.

# 6 WATER QUALITY AND LANDFILL GAS MONITORING DATA REVIEW

## 6.1 BACKGROUND

The groundwater monitoring network at the Florida Recyclers facility consists of 10 groundwater compliance wells installed in the surficial aquifer, one surface water monitoring point, and 10 landfill gas monitoring probes. The water quality monitoring and reporting are subject to the Class III landfill requirements, Rule 62-701.510, FAC. Groundwater and surface water quality monitoring is conducted semi-annually; samples are analyzed for field and laboratory parameters as defined in Appendix 3 of the current solid waste operations permit.

Based on a technical report dated May 2015, prepared by Universal Engineering Sciences for Florida Recyclers, there is a containment wall (running north south) adjacent to the drainage canal between the facility access road and the scale house as a means of keeping potential contaminates within the landfill. The report states that the wall is constructed of relatively impermeable clay and approximately 2 feet wide by 4 feet deep. The report did not provide the length of the wall. However, in 2010 FDEP questioned the existence of the wall since no as-builts or evidence of a sealed slurry wall/confining layer was provided. FDEP stated even if the purported "clay layer" were a "confining clay" it would not be much good as the well screenings crossed it; therefore, whatever is in their ground water or surface water pond could seep into the L-16 canal.

A technical report was due in August 2017. We are unable to locate that report on the FDEP Oculus site.

## **6.2 GROUNDWATER MONITORING NETWORK**

The compliance groundwater monitoring wells are along the perimeter of the landfill and are identified as MW-2, MW-4R, MW-5R, MW-6R, MW-7, MW-8, MW-9R, MW-10, MW-11, and MW-12. The total well depths range from 14.8 to 16.6 feet below land surface with 10-foot screen intervals. Wells MW-9R, MW-10, and MW-11 are up-gradient. Groundwater flow at the site is generally south to southeast although flow appears to vary over time.

## 6.2.1 GROUNDWATER MONITORING WELLS

Jones Edmunds reviewed the last 5-years' groundwater monitoring data for the facility. We also reviewed the background groundwater monitoring well MW-16S at the adjacent Sarno Road Class III Landfill (WACS ID 16255), and used that data as the control for comparison. The Sarno Class III Landfill well MW-16 is also installed in the shallow surficial aquifer with a total well depth of 15.5 feet below land surface with a 10-foot screen interval.

The groundwater monitoring results for the past 5 years for all wells at the facility were statistically compared to the past 5 years of data for the Sarno Class III Landfill background well MW-16S using calculated control ranges. Any parameters with a result reported above the laboratory detection limit at the facility were included in the comparison. For the parameters included, any result reported as below the laboratory detection limit was replaced with half the detection limit for statistical calculation purposes. An average 5-year concentration for each selected parameter was calculated for MW-16S along with an outer control limit (the average plus three times the standard deviation). The 5-year average result for each well and selected parameters at the facility were compared to the associated outer control limit for MW-16S. Summary tables are included in Attachment A. The tables summarize results reported above groundwater protection standards for the past 5 years at the Florida Recyclers and Sarno Road Class III Landfill background well MW-16S. The following results were noted:

- Melbourne Landfill wells MW-2, MW-4R, MW-5R, and MW-6R have multiple indicator and metals parameters with results that are statistically different than those reported for background well MW-16S.
- Sodium in wells MW-7 through MW-12 is statistically higher than that reported in MW-16S; however, the concentrations are relatively low level (by a factor of 10) compared to MW-2, MW-4R, MW-5R, and MW-6R.
- Although Chromium results are for wells MW-2 and MW-7 through MW-12 appear to be outside the control range, this is an artifact of the calculation. Chromium was actually below the laboratory detection limit for the entire report period in these wells. However, the detection limit for the Melbourne wells was 4.5 micrograms per liter (µg/L) and the detection limit for MW-16S was 2.5 µg/L, resulting in a false positive bias for samples with a high number of non-detects. Results for Zinc have the same false positive bias.
- The only volatile organic carbons (VOCs) reported above detection limits for the facility during the past 5 years were a single report of low-level 1,2-Dibromo-3-Chloropropane in MW-10 plus random low-level Acetone and Chloromethane in multiple wells. Acetone and Chloromethane are common laboratory cross-contaminants.
- Sulfate and Aluminum are not sampled at the Sarno Class III landfill, and results for the facility wells are compared to groundwater standards only.

In addition to the control range comparison, historical linear-regression trend analysis graphs were also prepared. The following trends were noted:

- Increasing Conductivity, Total Dissolved Solids (TDS), Ammonia-Nitrogen, Chloride, and Sodium in MW-2, MW-4R, MW-5R, and MW-6R.
- Decreasing Chloride, Sulfate, and Sodium in MW-8, MW-10, and MW-11. Sulfate is also decreasing in MW-7 and MW-9. Decreasing Total Dissolved Solids in MW-8, MW-9, MW-10, and MW-11.
- Increasing Arsenic in MW-2, MW-4R, and MW-5R.
- Increasing Barium in MW-2, MW-4R, MW-5R, and MW-6R.
- Decreasing Iron in MW-2, MW-4R, MW-6R, MW-8, MW-11, and MW-12. Increasing Iron in MW-5R.
- Increasing Nickel in MW-5R.

- Increasing Vanadium in MW-2, MW-4R, and MW-5R. Decreasing Vanadium in MW-8, MW-9, MW-10MW-11, and MW-12.
  - Decreasing Zinc in MW-10 and MW-11.

## 6.2.2 SURFACE WATER DATA REVIEW

A review of surface water results at the Melbourne Landfill (sampling site SW-1) indicate elevated Conductivity, Ammonia, Chemical Oxygen Demand (COD), Total Phosphorus, Sulfate, Total Dissolved Solids, Total Hardness, Total Kjeldahl Nitrogen, Total Organic Carbon, Antimony, Arsenic, Chromium, Copper, and Iron. Sources for these parameters may be attributed to the type of materials being landfilled and/or processed at the facility such as:

- Drywall/Sheetrock: Calcium Sulfate (Gypsum) Conductivity, Total Dissolved Solids, Total Hardness, Sulfate.
- CCA-Treated Lumber: Arsenic, Chromium, Copper.
- Yard Waste/Mulch: Ammonia, COD, Total Phosphorus, Total Kjeldahl Nitrogen, Total Organic Carbon.

## 6.2.3 GAS MONITORING PROBES

Gas monitoring at the Florida Recyclers facility is conducted quarterly per the requirements of the July 28, 2014 site permit and the Monitoring Plan Implementation Schedule of Chapter 62-160, FAC. Eleven gas monitoring probes (GMPs) are installed along the perimeter of the landfill. The probes are sampled quarterly to determine if excessive methane gas concentrations exist within the soils outside of the landfill. In addition, ambient air is sampled within building structures adjacent to the landfill (i.e., scale house office, etc.) for the presence of methane.

The most recent gas sampling event was conducted in February 2018 by Universal Engineering Sciences, Inc. Based on the First Quarter 2018 Quarterly Gas Monitoring Event report, dated February 23, 2018, no methane gas was detected to have concentrations greater than the detection limit of the sampling instrument. The detection limit of the gas sampling instrument is 1 percent.

The lower explosive limit (LEL) for methane gas is 5 percent or 50,000 parts per million (ppm). The FDEP Solid Waste Department and Rule 62-701, FAC, guidelines for a combustible gas exceedance is 25 percent of the LEL, or 12,500 ppm. Since December 2015, all quarterly gas monitoring results are reported as % LEL methane, and no gas exceedances were measured.

From August 2004 to September 2015, the quarterly monitoring results were measured and reported as ppm methane units, and in all cases no monitoring point samples exceeded 12,500 ppm methane.

## 6.2.4 MONITORING DATA GENERAL OBSERVATIONS

The facility's shallow surficial wells MW-2, MW-4R, MW-5R, and MW-6R have elevated levels of Conductivity, Chloride, Sodium, Sulfate, TDS, and Barium compared to background well MW-16S at the Sarno Landfill. TDS was consistently above the Safe Drinking Water Standard (SDWS) of 500 milligrams per liter (mg/L) in all four down-gradient Melbourne

wells, and Ammonia-Nitrogen, Chloride, and Sodium were repeatedly reported above their respective groundwater protection standards during the past 5 years. In addition, Conductivity, TDS, Ammonia-Nitrogen, Chloride, Sodium, and Barium are all increasing in wells MW-2, MW-4R, MW-5R, and MW-6R. Increasing Arsenic was also reported in MW-2, MW-4R, and MW-5R, and reported concentrations have repeatedly been greater than the Primary Drinking Water Standard (PDWS) of 10 µg/L.

Groundwater in the down-gradient wells appears to be impacted by the landfill. The source is likely the type of materials being landfilled and/or processed at the Melbourne facility including yard waste, mulch, compost materials, and construction debris such as drywall and CCA-treated lumber. A review of surface water results at the Melbourne Landfill indicate elevated levels of Conductivity, Ammonia-Nitrogen, COD, Total Phosphorus, Sulfate, TDS, Total Hardness, Total Kjeldahl Nitrogen, Total Organic Carbon, Antimony, Arsenic, Chromium, Copper, and Iron. These parameters are also consistent with erosional run-off from materials in the landfill.

Groundwater impacts, in a pattern similar to that noted for the Florida Recyclers' facility, were noted in the two Sarno Class III Landfill shallow-surficial wells, MW-24S and MW-25S, just down-gradient of the Florida Recyclers' property boundary.

# 7 VOLUME AND LIFESPAN ANALYSES

As part of this preliminary engineering evaluation, Jones Edmunds performed volume and lifespan analyses for the existing site and for the possible expansion/merger with the Sarno Road Class III Landfill. The following sections discuss the City of Melbourne buildout constraints, volume analyses, and a possible option of merging the two facilities and designing a valley fill.

## 7.1 BACKGROUND

On November 12, 2009, the City of Melbourne approved Brevard County's application for a CUP (CU-2009-06) and City Ordinance (Ordinance No. 2009-41) for a 9.5-acre expansion of the Sarno Road Class III Landfill up to a height of 40 feet above grade. The Florida Recyclers facility also has a similar CUP; however, Jones Edmunds was not able to obtain a copy of the document.

If the County were to acquire the Florida Recyclers facility and expand the Sarno Landfill footprint, the County would be required to submit a CUP application with a revised site plan to the City Engineering Department and Planning and Economic Development Department in accordance with City Ordinance No. 2009-41, Condition 2.a. Since City land development regulations limit the height of any structure or material or debris pile to less than 40 feet, the County will also have to make a request for a variance to exceed the height restriction.

According to the Ordinance, the County is expected to close the Sarno Road Class III Landfill by December 31, 2020, unless the County applies for and receives approval of a new proposed closure date by the City. The results of Sarno's 2017 capacity analysis submitted to FDEP indicates that landfill closure is expected by September 2024. This lifespan estimate included the approximately 9.5-acre footprint of the Pond A expansion area and a final landfill elevation of 104 ft NGVD.

## 7.2 VOLUME ANALYSIS

#### 7.2.1 FLORIDA RECYCLERS MELBOURNE LANDFILL

The Florida Recyclers facility is permitted to a buildout elevation of 104 ft NGVD; however, the site's CUP from the City of Melbourne limits the full buildout to a maximum of 40 feet above grade or about an elevation 64 ft NGVD. Jones Edmunds performed two remaining volume analyses for the Florida Recyclers facility: one assuming full buildout to elevation 104 feet and one to elevation 64 feet based on the CUP. The volumes were calculated using AutoCAD Civil 3D 2016 software and based on the following:

- Topographic survey dated March 17, 2017, performed by Pickett & Associates Inc.
- Permitted Final Closure (up to 104 feet elevation), Melbourne Landfill and Recycling Center top-of-waste surface (final cover surface lowered 3 feet to account for final cover), dated March 2014.
- Conceptual Final Closure (up to 64 feet elevation), Melbourne Landfill and Recycling Center top-of waste surface (final cover surface lowered 3 feet to account for final cover).

Florida Recyclers performs recycling and yard waste processing operations within the footprint of the facility. Several areas identified as mulch or recycling material stockpiles are not representative of permanent waste disposal and were removed from the survey data. Currently, landfilling operations are isolated to the south edge of the facility; the current Operation Permit states that on average the facility accepts about 200 tons per day or 830 cubic yards per year (CY/yr) (assuming 500 pounds per cubic yard [lb/CY] waste density).

The estimate of the remaining life of the facility, summarized in Table 3. Given the information available, Jones Edmunds performed the lifespan calculation using an average of the annual volumetric disposal rate, in CY/yr, over the last 4 years.

As of March 17, 2017, Jones Edmunds estimates that approximately 970,000 cubic yards (CY) of waste is in-place at the facility. We assumed that this waste is primarily new construction debris or vegetative waste. In March 2013, a topographic survey report<sup>4</sup> determined that approximately 786,000 CY of waste was in-place. From 2013 to 2017, approximately 185,000 CY of design capacity was consumed, which equates to about 46,300 CY/yr over 4 years.

<sup>&</sup>lt;sup>4</sup> Prepared by William Mott Land Surveying.

Curre	nt Landfill Rate	S			
Buildout Elevations	Total Design Capacity (CY)	Estimated Used Capacity (CY)	Estimated Remaining Capacity (CY)	Annual Waste Rate: (CY/yr)	Lifespan (yr)
	Annual W	/aste Rate: Fl	Recyclers		
104 feet Permitted	2,600,000 (1)	970,000	1,618,000 (3)	46,300	35
64 feet CUP Restriction	1,620,000 (2)	970,000	650,000	46,300	14
	Annual W	aste Rate: Sa	rno Landfill		
104 feet Permitted	2,600,000 (1)	970,000	1,618,000 (3)	150,000	11
64 feet CUP Restriction	1,620,000 (2)	970,000	650,000	150,000	4.3

## Table 3 Florida Recyclers Facility – Estimate of Remaining Life Based on Current Landfill Rates

Notes:

1. Total design capacity to permitted buildout elevation of 104 feet NGVD from March 1999 FDEP Permit application.

2. Estimated remaining volume from CAD.

3. Estimate of remaining capacity as of March 2017.

#### 7.2.2 EXPANSION OPTION

The Sarno Road Class III Landfill and the Florida Recyclers facility limits-of-waste boundaries are approximately 300 feet apart. If the County were to acquire the facility from Florida Recyclers of Brevard, Inc., there is a potential to merge the footprint of the two facilities by filling the airspace between the two disposal areas, i.e., valley fill. By pursuing the option of valley fill construction, an approximate 6.6 acres of additional disposal area footprint is gained or up to 1,330,000 CY of capacity (assuming 104-foot final buildout elevation).

Valley fill designs are not unusual, but they do present several challenges during the design and construction phases. Assuming the expanded area would be permitted as a Class III disposal facility, the following regulations would apply:

- Rules 62-701.400(3)(g) and 62-701.430(1)(c), FAC a bottom liner system (60-mil minimum HDPE bottom liner and GCL) and a primary leachate collection and removal system would be required.
- Rule 62-701.340(3)(c), FAC limits of waste shall be set back 100 feet from the property boundary, measured from the toe of the proposed final cover slope to the landfill property boundary.

Jones Edmunds performed a volume analysis of the conceptual valley fill design, using two conceptual closure surfaces with buildout elevations of 104 feet and 64 feet. These two surfaces were created to represent design closure grades required to blend the final closure surfaces listed below over the valley fill area:

1. Permitted Final Closure (up to elevation 104 feet) Florida Recyclers facility top-of-waste surface (final cover surface lowered 3 feet to account for final cover), dated March 2014.

2. Permitted Final Closure (up to elevation 104 feet) Sarno Road Class III Landfill top-ofwaste surface (final cover surface lowered 3 feet to account for final cover), dated August 2016.

Table 4 shows the total conceptual design capacity and life span of the valley fill based on an airspace consumption rate matching the Sarno Road Class III Landfill (about 150,000 CY/yr). Table 4 also shows the total life span of the valley fill airspace plus the remaining capacity of the facility at the Sarno Road Class III Landfill consumption rate.

Table 4	Valley Fill Co	II Construction Option – Volume and Lifespan Analysis				
Buildout Elevations		Conceptual Design Capacity (CY)	Annual Waste Rate (CY/yr)	Lifespan (yr)		
		Valley Fill Lifespar	1			
104 feet Per	mitted	1,330,000	150,000	9		
64 feet CUP Restriction		537,000	150,000	4		
	Vall	ey Fill plus Florida Recyc	lers Facility			
104 feet Permitted		2,950,000	150,000	20		
64 feet CUP	Restriction	1,200,000	150,000	8		

If the County were to pursue this expansion option, the regulatory and design requirements need to be further evaluated to determine the feasibility and cost benefit of a valley fill expansion. The estimated construction cost of this additional capacity is approximately \$300,000 per acre – refer to Section 9, Supplemental Information, for cost estimates.

# 8 GENERAL OBSERVATIONS AND RECOMMENDATIONS

## 8.1 SUMMARY

Based on our review and evaluation of publicly available information, it appears that this facility is operating in a manner consistent with their permit and following regulatory guidelines. General findings related to the data review are as follows:

- Facility Operation:
  - The site operates primarily as a C&D recycling and yard waste processing facility. Disposed waste is primarily recycling residual from these operations (i.e., new construction material, vegetative waste).
  - Approximately 40 percent of the permitted volume has been consumed since 1999. The in-place waste density is unknown.
- Financial Assurance Review:
  - The site was issued a Consent Order (OGC File No. 16-1272) requiring the permittee to establish a Trust Fund as an alternative mechanism for financial assurance. It appears this was completed by the Owner.
  - Based on the approved closure cost estimate submitted to FDEP in 2017, the Trust Fund is likely underfunded when compared to recent higher closure costs at similar facilities.

- Stormwater System Evaluation:
  - In general, the stormwater system appears to be adequately designed for the permitted design of the existing facility.
  - If permitted design conditions change, such as steeper slopes or a more impervious cover (i.e., geomembrane) is permitted, the stormwater system will need to be modified.
  - The ERP application and drawings did not include a detailed sediment and erosion control plan. Jones Edmunds expects that the stormwater system will have accumulated sediment result from landfilling operations and will require excavation to restore design elevations.
- Stormwater Permitting Review:
  - The sequence of ERPs publicly available on FDEP databases for this facility is incomplete.
  - A complete timeline of the site's stormwater permitting history could not be developed based on the documents available on FDEP's Oculus website.
  - Wetland Mitigation:
    - The February 2000 ERP application discussed wetland mitigation and included a proposed mitigation plan for the expansion area. Jones Edmunds found documentation of acceptance of a final mitigation plan and documentation of satisfactory completion of the mitigation requirement.
- Groundwater and Gas Monitoring Network Evaluation:
  - The existing groundwater monitoring and landfill gas monitoring system at the facility meets regualtions and is monitored semi-annually following Class III landfill monitoring regulations.
- Environmental Monitoring Data Review:
  - Several down-gradient groundwater monitoring wells and shallow surficial wells appear to be impacted by the facility. The sources of the elevated groundwater monitoring parameters may be attributed to the type of materials processed at the facility and poor management of active face areas.
  - The facility has no evidence of groundwater assessment plans in effect.
  - Gas migration is not evident at the facility. No combustible gas exceedances have been measured outside of the limits of waste on the property boundary since August 2004. Data before August 2004 was not reviewed.
- Volume Analysis and Lifespan Evaluation:
  - Florida Recyclers facility:
  - The remaining lifespan of the 34-acre landfill for the volume of waste currently landfilled at the Florida Recyclers facility ranges from 14 years at a buildout to elevation 64 feet to 35 years at the permitted buildout elevation of 104 feet.

- The remaining lifespan of the 34-acre landfill based on the volume of waste currently landfilled at the Sarno Road Landfill ranges from 4 years at a buildout elevation of 64 feet to 11 years at the permitted buildout elevation of 104 feet.
- Valley Fill Option:
  - The estimated lifespan of the conceptual 6.6-acre valley fill option based on the volume of waste currently landfilled at the Sarno Road Landfill ranges from 4 years at a buildout elevation of 64 feet to 9 years at a buildout to the permitted elevation of 104 feet.
  - The estimated lifespan of the valley fill option plus the remaining capacity of the Florida Recyclers facility based on the volume of waste currently landfilled at the Sarno Road Landfill ranges from 8 years at a buildout to elevation 64 feet to 20 years at a buildout to the permitted elevation of 104 feet
- Landfill Expansion Construction Requirements:
  - Assuming the expansion area would be a permitted Class III disposal facility in accordance with Chapter 62-701.400(3)(g), FAC, a bottom liner system (60-mil minimum HDPE bottom liner and GCL) and a primary leachate collection and removal system are required.
- Major Construction Permit Modification:
  - The expansion project would require a major redesign and permit modification. The expansion challenges will be the design and construction of the liner and leachate collection system over the existing unlined landfills and likely significant stormwater modifications.
  - If a height variance is not granted by the City, the new expansion area would be limited to an approximately 64-foot buildout elevation and limited lifespan.

Major concerns related to the data review are as follows:

- In Jones Edmunds' experience, unlined disposal facilities exhibit higher environmental risk. The environmental liability of this facility is unclear.
- There is evidence of groundwater contamination at this facility. The source and longterm risk posed by this evidence of contamination may require further evaluation.
- It is unclear what obstacles the County may face in obtaining a height variance as described in the City of Melbourne CUP for the Sarno Road Landfill. The City's 40-foot height limitation could reduce the permitted landfill capacity by approximately 40 percent.
- If the County were to pursue the valley fill expansion option, the cost benefit results of constructing the expansion area compared to the additional capacity obtained for Class III waste disposal may be unfavorable.

## 8.2 RECOMMENDATIONS

 Since we could not locate final as-built drawings of the stormwater system in the FDEP files, Jones Edmunds recommends that the as-built certification be requested or a detailed survey be performed to determine adequacy of system.

- Jones Edmunds recommends that Brevard County request documentation of adequacy of the Trust Fund for closure costs.
- Jones Edmunds recommends that Brevard County obtain the City Ordinance granted for the Florida Recyclers facility and confirm with the City of Melbourne the current procedures in place for obtaining a height variance.

# 9 SUPPLEMENTAL INFORMATION

The following supplemental information provides additional cost information to supplement Section 7.2.2 regarding liner development costs associated with the capacities presented in Table 4. Table 5 presents approximate development costs based on an estimated \$300,000 per acre for lining the valley and unfilled portions of the Florida Recyclers landfill. This table also provides the relative development cost for the additional capacity in terms of cost per cubic yard of disposal capacity.

The Valley Fill Lifespan calculations assume that both the Sarno Class III and Florida Recyclers cells have been filled to capacity, and the area to be lined, associated cost, and cost per disposal capacity are presented for build-out elevations of 64 feet NGVD and 104 feet NGVD. The 64-foot option requires 13 acres to be lined at an estimated cost of \$3.9 million with relatively high development cost of \$7.30 per cubic yard; whereas, the 104-foot option more than doubles capacity and requires 20 acres to be lined at an estimated cost of \$6.0 million and development cost of \$4.51 per cubic yard.

Alternatively, Class III waste may be placed over the entire Florida Recyclers landfill if a liner is first placed over the existing waste. The existing 34-acre landfill has about 970,000 cubic yards of solid waste in place and a remaining 650,000 cubic yards up to a height of 64 feet NGVD and 1.6 million cubic yards up to 104 feet NGVD. We estimated the construction cost to be \$300,000 per acre. Lining the Valley Fill and over the entire Florida Recyclers facility requires 44 acres and a cost of \$13.2 million for build-out to 64 feet NGVD and a cost of \$11.00 per cubic yard. The 104-foot build-out requires 48 acres of liner at a cost of \$14.4 million and a development cost of \$4.88 per cubic yard.

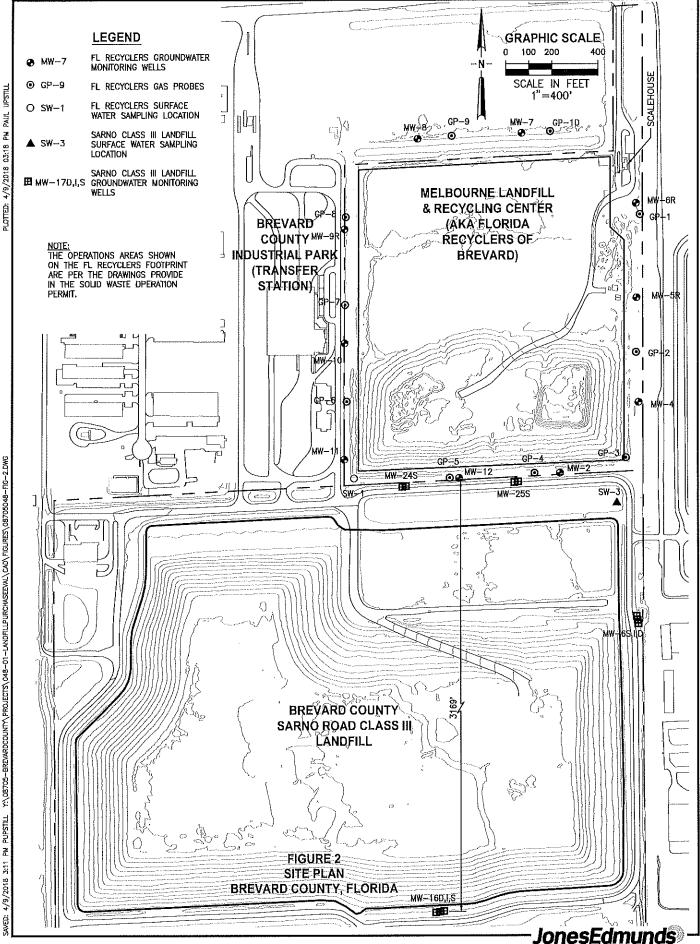
#### Table 5 Estimated Construction Costs

Buildout Elevations	Conceptual Design Capacity (CY)	Liner acreage (AC)	Development Cost (\$)	Cost per CY (\$/CY)
	Valley F	ill Lifespan		
64 feet CUP Restriction	537,000	13	\$3.9M	\$7.30
104 feet Permitted	1,330,000	20	\$6.0M	\$4.51
	Valley Fill plus Flo	rida Recyclers Fa	cility	
64 feet CUP Restriction	1,200,000	44	\$13.2M	\$11.00
104 feet Permitted	2,950,000	48	\$14.4M	\$4.88



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SAVED: 4/4/2018 8:28 AM PUPSTILL Y:\08705-BREVARDCOUNTY\_PROJECTS\048-01-LANDFILLPURCHASEEVAL/CAD\FIGURES\08705048-FIG-1.DWG



UPSTILL

Y:\O8705-BREVARDCOUNTY\PROJECTS\048-01-LANDFILLPURCHASEEVAL\CAD\FIGURES\08705048-FIG-2.DWG TTILLSUNG MU

# ERP 133455-001 Project Plan

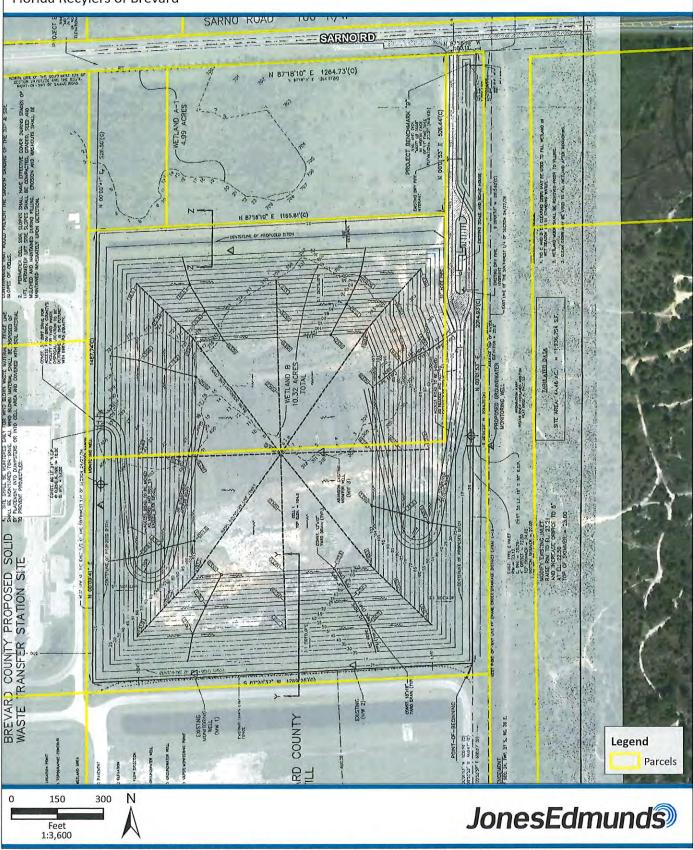
Florida Recylers of Brevard



For Informational Purposes Only Q:\08705\_Brevard\048-01\_Landfill\_Purchase\_Evaluation\mxd\Final\Fig3\_133455-001\_ProjectPlan.mxd SNyquist 4/9/2018

## ERP 133455-002 Project Plan

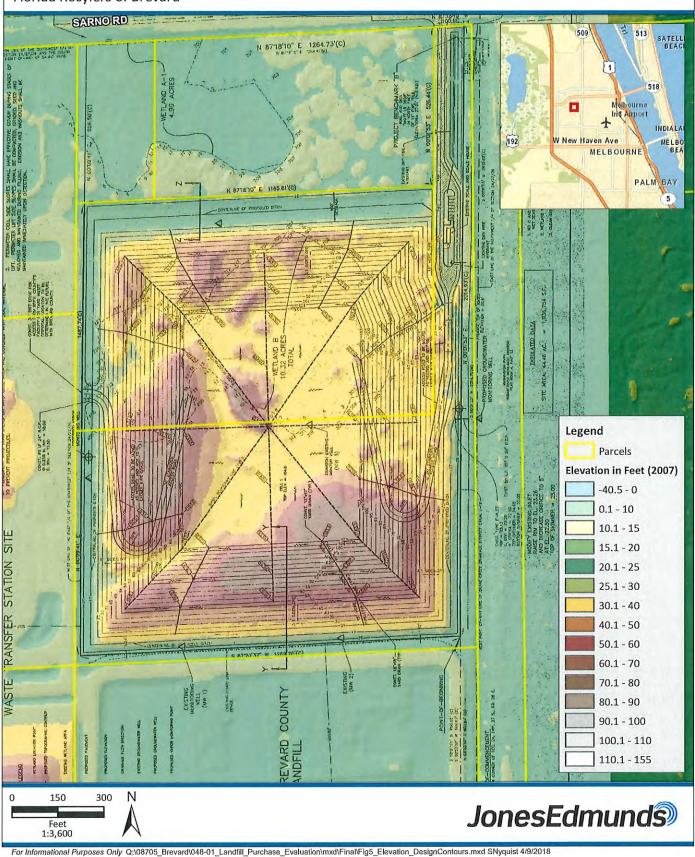
Florida Recylers of Brevard



For Informational Purposes Only Q:\08705\_Brevard\048-01\_Landfill\_Purchase\_Evaluation\mxd\Final\Fig4\_133455-002\_ProjectPlan.mxd SNyquist 4/9/2018

### **ERP Design Contours Compared to LIDAR Elevation**

Florida Recylers of Brevard



1

Flood Hazard Map

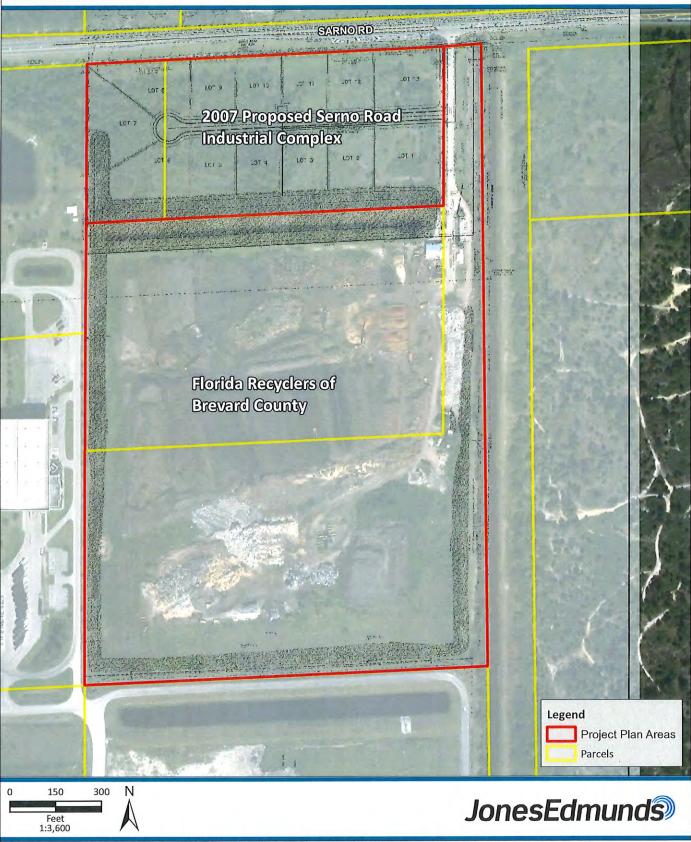
Florida Recylers of Brevard



For Informational Purposes Only Q:\08705\_Brevard\048-01\_Landfill\_Purchase\_Evaluation\mxd\Final\Fig6\_FloodHazard.mxd SNyquist 4/9/2018

# ERP 133455-004 Project Plan - Not Permitted

Florida Recylers of Brevard



For Informational Purposes Only Q:\08705\_Brevard\048-01\_Landfill\_Purchase\_Evaluation\mxd\Final\Fig7\_133455-004\_ProjectPlan\_NotPermitted.mxd SNyquist 4/9/2018

Attachment A Groundwater Tables Summary Table of Groundwater Data 5-Year Average

PARAMETER	SAMPLING DATE	CONDUCTIVITY (FIELD)	pH (FIELD)	AMMONIA NITROGEN	CHLORIDE	NITRATE	SULFATE	TOTAL DISSOLVED SOLIDS	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CHROMIUM	COBALT	COPPER
STANDARD		E	6.5-8.5 S.U.**	2.8 mg/L***	250 mg/L**	10 mg/L*	250 mg/L**	500 mg/L**	200 µg/L	9 hg/L*	10 µg/L*	2000 µg/L*	4 µg/L*	5 HOV.	100 µg/L*	140µg/L***	1000 µg/L**
UNITS		uS/cm	s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	hg/L	1/6rl	Hg/L	hg/L	TALL	hg/L	hg/L	10/L	10/L
Sarno Shallow Surfle	Sarno Shallow Surficial Background Well																
S31-WM	5 YR AVERAGE	675.3	6.49	02.0	7.0	23	34.6	431.2	Not Sampled	0.36	2.38	36.25	0.29	0.29	1.25	2.38	1.44
	std dev	87.7	0.19	0.25	2.0	2,62	9.5	39.3		0.19	0.40	6.55	0.11	0.11	0.00	0.40	0.59
	3x std dev	263	0.56	0.76	5.9	7.86	28.4	118		0.57	1.19	19.7	0.33	0.33	0.00	1.19	1.76
	upper range	838	7.05	1.06	12.9	10.17	63.0	549		0.93	3.56	55.9	0.62	0.62	1.25	3.56	3.19
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1																	
Melbourne Surficial	Melbourne Surficial Compliance Wells																
MW-2	5 YR AVERAGE	1370	7.03	2.29	150.0	0.089	62.1	865	42.2	0.76	6,55	71.94	0.53	15.0	2.25	1.05	1.10
MW-4R	5 YR AVERAGE	1780	6.97	5.77	198.9	0.041	129.5	1240	196.6	0.82	8.07	147.54	0.53	0.51	4.03	1.05	1.10
MW-5R	5 YR AVERAGE	2427	6.74	13,15	443.6	0.196	75.0	1830	37.8	0.76	6:39	130.16	0.54	0.51	4,89	1.24	1.10
MW-6R	5 YR AVERAGE	1801	6.77	8.53	206.7	0.202	69.77	1318	44.6	0.76	3.05	138.38	0.52	0.51	4.05	1.30	4.85
7-WM	5 YR AVERAGE	713	6.88	0.08	15.8	0.029	4.30	327	340.6	0.76	6.21	21.45	0.52	0.51	225	1.05	1.10
MW-8	5 YR AVERAGE	647	6.71	0.17	18.4	0.029	3.49	298	223.9	0.76	3.05	12,50	0.47	0.51	2.25	1.05	1.10
MW-9R	5 YR AVERAGE	111	11.7	0.34	37.4	0.029	38.10	452	115.4	0.76	3.05	34.07	0.52	0.51	2,25	1.05	7.09
MW-10	5 YR AVERAGE	833	7,00	1.08	29.5	0.026	21.13	457	59.1	0.76	3.05	41,49	0.47	0.51	2.25	1.05	1.65
11-WM	5 YR AVERAGE	744	7.27	0.30	21.0	0.026	55.14	461	331.9	0.76	3.05	24,82	0.47	0.51	2,25	1.05	1.45
MW-12	5 YR AVERAGE	654	70.7	1.79	44.0	0.031	25,22	511	133.4	0.76	3.37	30.74	0.52	0.51	2.25	1.05	5.41

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT MELBOURNE LANDFILL AND RECYCLING CENTER COMPARED TO SHALLOW SURFICIAL BACKGROUND AT SARNO LANDFILL MAY 2013 THROUGH OCTOBER 2017

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT MELBOURNE LANDFILL AND RECYCLING CENTER COMPARED TO SHALLOW SURFICIAL BACKGROUND AT SARNO LANDFILL MAY 2013 THROUGH OCTOBER 2017

PARAMETER	SAMPLING DATE	IRON	LEAD	MERCURY	NICKEL	SELENIUM	SILVER	NUIDOS	THALLIUM	VANADIUM	ZINC
STANDARD UNITS		зоо µg/L**	15 µg/L* иа/L	המער 2 hg/L*	100 µg/L*	ממ/ך 20 MB/ך-	100 µg/L**	160 mg/L* ma/L	2 µ0/L*	49 µg/L	па/г 2000 hg/г
no Shallow Surfici	Sarno Shallow Surficial Background Well										5
MW-16S	5 YR AVERAGE	436.69	2.32	0.05	1.63	4.35	1,25	8.93	0.28	10.71	4,75
	std dev	722	0.59	00.0	1.19	1.88	0.00	4.53	0.08	3.86	0.79
	3x std dev	2167	1.76	0,00	3.56	5.64	0.00	13,60	0.24	11.59	2.37
	upper range	2603	4.07	0.05	5.18	66.6	1.25	22.53	15.0	22.30	7.12
Melbourne Surficial Compliance Wells	compliance Wells										
MW-2	5 YR AVERAGE	493.9	0.80	0.0224	2.64	3,25	0.15	6'08	0.29	7.26	8.0
MW-4R	5 YR AVERAGE	680.8	0.80	0.0158	3.42	3.25	0.15	114.3	62.0	8.10	8.0
MW-5R	5 YR AVERAGE	6270	0.80	0.0162	5.06	3,25	0.15	165.9	0.29	7.80	8.0
MW-6R	5 YR AVERAGE	582.4	0.80	0.0115	3.96	3.25	0.15	8.62	0.29	5.77	8.0
7-WW	5 YR AVERAGE	4453	0.80	0.0115	1.60	3.25	0.15	13.9	0.29	5.48	8.0
8-WW	5 YR AVERAGE	2497	0.80	0.0115	1.60	3.25	0.15	17.0	0.29	2.86	11.38
MW-9R	5 YR AVERAGE	2005	0.80	0.0115	1.60	3.25	0.15	22.5	0.29	2,48	8.0
01-WW	S YR AVERAGE	12792	0.80	0.0115	1.60	3.25	0.15	25.8	0.29	1,75	24.21
LT-WM	5 YR AVERAGE	2225	0.80	0.0115	1.60	3,25	0,15	18.1	0.29	1.72	63.47
MW-12	5 YR AVERAGE	1150	0.80	0.0133	1.88	3.25	0.15	24.7	0.29	3.20	19.44

LEGEND Yellow = Outside 3 Std Deviations of Background Average Boxed = Outside Applicable Groundwater Standard

# Table of Groundwater Data5 Years Compiled

PARMIETER SAMPLING DATE STANDARD UNITS Samo Shallow Surficial Background Well MW-16S 6442013	and the second second		and a state of the		Contraction of the Index		TOTAL										
IDARD urts allow Surticial Background Wel <sup>1</sup> 4-16S 5442013	(FIELD)	pH (FIELD)	NITROGEN	CHLORIDE	NITROGEN	SULFATE	DISSOLVED	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CHROMIUM	COBALT	COPPER	IRON
allow Surficial Background Well	(1) uS/cm	6.5-8.5 S.U.** S.U.	2.8 mg/L***	250 mg/L**	10 mg/L*	250 mg/L** mg/L	500 mg/L**	200 µg/L**	5 µg/t•	10 µg/L*	2000 µg/L*	4 µg/L*	5 µg/L*	100 HB/L-	140µg/L***	1000 µg/L**	300 µg/L**
										6		- St.	1 5 5	1	1	J Ž	Mir
	647	6.21	0.083	80	7.9	E CE	435		0.95	40	Y UF	2020	300	1 26			
MW-16S 11/25/2013	473	6.36	0.01	9.6	5.9	26.5	329		0.25	25	33.5	0.25	0.25	1.25	25	d K	8.08
	748	6.79	0.18	9.2	0.9	45	472		0.25	25	45.3	0.25	0.25	125	50	1.25	454
MW-16S 12/11/2014	627	6.37	0.24	7.8	0.32	e.	437		0.54	25	27.8	0.25	0.25	125	2.5	1.25	117
	720	6.64	0.28	6.4		4	422		0.25	2.5	40.1	0.25	0.25	1.25	2.5	1.25	368
MW-16S 12/9/2015	663	6.32	0.17	5.4	3.4	4	443		0.25	2.5	39.6	0.25	0.25	1.25	2.5	1.25	146
MW-16S 5/19/2016	787	6.67	0.45	5,4	1.3	3	470		0.25	25	42.8	0.25	0.25	1.25	2.5	1.25	390
	685	6.65	0.26	5.1	1.2	4	433		0.76	2.5	35.2	0.25	0.25	1.25	2.5	1.25	82.3
	769	6.43	0.92	4.8	0.0125	4	435		0.58	25	32.8	0.25	0.25	1.25	2.5	1.25	2450
MW-16S 12/18/2017	654	6.47	0.37	6.5	1,2	A	436		0.25	1.25	25	0,60	0.6	1.25	1.25	3.1	44.8
AVERAGE	675.3	6.49	0.30	7.0	2.3	34.6	431.2	Not Sampled	0.36	2.38	36.25	0.29	0.29	1.25	2.38	1,44	436.69
sid dev	1.78	0,19	0.25	0.7	2.62	3.6	39.3		0.19	0.40	6.55	0.11	0.11	00'0	0.40	0.59	722
upper made	838	7.05	1.06	12.9	10.17	40.53	849		200	356	1.81	570	200	0.00	1.19	1.75	2167
Melbourne Compliance Wells - Shallow Surficial	urficial	Î															
MW-2 5/17/2013	1900	6.99	4.7	300	0.026	35	1200	ž	0.55	3.05	0.08	0.47	0.65	205	1.05	3	1 10
MW-2 10/9/2013	1587	6.7	2.7	190	0.026	88	086	34	0.55	3.05	5.06	1.04	0.55	2.25	1.05	1	RR7
MW-2 4/9/2014	1083	6.69	3.3	160	0.026	7.4	710	34	0.55	3,05	47.5	0.47	0.55	2.25	1,05	5	1220
	1480	6.4	0.71	180	0.13	52	1100	34	0.65	12	76.1	0.47	0,55	2.25	1.05	1.1	354
	970	7.31	2.7	100	0.026	26	600	34	0.55	6.79	30.6	0,47	0.55	2.25	1.05	1,1	1230
	1246	7.14	0.4	140	0.026	88	880	34	0.55	3,05	105	0.47	0.55	2.25	1.05	11	241
	1916	7.65	3.3	100	0.026	7.4	540	72.3	0.55	3.05	53.3	0.47	0.45	2.25	1.05	11	115
	1085	7.0	1.4	110	0.46	220	1100	77.6	1.25	16.4	104	0.47	D.45	2.25	1.05	11	118
MW-2 4/19/2017	0111	7.55 6 84	516	06	0.026	N K	620	z 2	125	3:05	49.9	0.47	0.45	2.25	1.05	5	108
W	1370	7.03	2,29	150,0	0,089	62.1	865	42.2	0.75	6.55	71.94	0.53	0,51	2.25	1.05	11	493.9
MW-4R 5/17/2013	2800	6,8	6.4	450	0,026	2.7	1800	36	0.55	3.05	163	0.47	0.55	512	1.05	5	479
	1472	6.96	14	120	0.026	120	970	34	0.55	3.05	99.4	1.08	0.55	2.25	1.05	1.5	517
MW-4R 4/9/2014	1582	6.73	5.2	120	0.026	210	1100	34	0.55	3,05	107	0.47	0.55	2.25	1.05	4	325
MW-4R 10/9/2014	1319	6.66	1.6	120	0.18	130	860	299	0.55	7.42	133	0,47	0.55	2.25	1.05	1.1	278
	2142	7.21	14	230	0.026	230	1500	564	0.55	11.3	155	0.47	0.55	5.12	1.05	2	1300
	1642	7.27	4.7	200	0.026	140	1300	229	1.18	18	165	0.47	0.55	2.25	1.05	1.1	1280
	1437	6.95	10	200	0.026	150	1300	348	0.55	9,26	180	0.47	0.45	6.41	1.05	11	849
	1024	L 0'2	0.92	69	0.026	100	770	189	1.25	6.27	211	0.47	0,45	2.25	1.05	7	510
MW-4R 4/19/2017	2789	1.38	13	320	0.026	84 Ş	1700	147	1,25	8,72	226	0.47	0.45	10.1	1.05	5:	554
	1280	4.0.0	2000	0.007	0.044	100	1040	406 0	1.00	100	147.64	15:0	24.0	07:7	1001	11	122

LEGEND Yellow = Outside 3 Std Devlations of Background Average Boxed = Outside Applicable Groundwater Standard

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PARAMETER	SAMPLING DATE	CONDUCTIVITY (FIELD)		AMMONIA	CHLORIDE	NITRATE	SULFATE	TOTAL DISSOLVED SOLDS	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CHROMIUM	COBALT	COPPER	IRON
STANDARD		(1) uS/cm	6.5-8.5 S.U S.U.	2,8 mg/L mg/L	250 mg/L**	10 mg/L	250 mg/L**	500 mg/L**	200 µg/L**	, нал-	10, μg/L*	2000 Hg/L	4 µg/L*	5 µg/L*	100 µg/L*	140µg/L	1000 µg/L**	300 µg/L**
MW-5R	5/17/2013	2940	6.75	12	490	0.026	0.7	2000	ş	0.55	3.05	133	0.47	0.55	225	1.05	1,1	2120
MW-5R	10/10/2013	3037	6.42	16	480	0.11	21	1900	34	0.55	3.05	150	1.74	0.55	5.91	1.05	11	4680
MW-5R	4/9/2014	2929	6,09	12	570	0.026	4,4	2200	71,5	0.55	3.05	166	0.47	0.55	5.1	1.05	1.1	3330
MW-5R	10/9/2014	1586	6.76	1.2	160	0.62	190	1100	34	0.55	6.71	58.9	0.47	0,55	2.25	1.05	1.1	361
MW-5R	4/23/2015	2867	6.57	12	530	0,026	37	2000	34	0.55	3.05	162	0.47	0.55	5.58	1,05	1,1	11600
MW-5R	10/13/2015	2507	6.81	9,5	530	0.13	19	2000	34	0.55	3.05	140	0.47	0.55	5.73	1.05	1,1	8990
MW-5R	4/19/2016	1757	6.6	28	730	0.026	1.2	2500	34	0.55	3.05	187	0.47	0.45	8.74	2.96	1.1	14900
MW-SR	10/13/2016	1077	7.03	1.5	96	0.44	270	1100	34	1.25	11.5	68.3	0.47	0.45	2.25	1.05	1.1	2040
MW-5R	4/19/2017	3982	7.27	37	069	0.026	4.7	2400	34	1,25	3.05	167	0.47	0.45	8.79	1.05	1.1	7800
MW-5R	10/18/2017	1584	7,13	2.3	160	0.53	160	1100	34	1.25	24.3	69.4	0.47	0.45	2.25	1.05	1,1	882
AVERAGE		2427	6.74	13.15	443.6	0.196	75.0	1830	37.8	0.75	6:39	130.16	0.54	0.51	4,89	1.24	1,10	6270
MW-6R	5/17/2013	1710	6.97	4,8	150	0.026	85	1100	ş	0.55	3.05	107	0.956	0.55	2,25	1.05	37.5	556
NW-6R	10/10/2013	1815	6.58	1.1	150	0.026	57	1200	34	0.55	3.05	146	0.47	0.55	2,25	1,05	Ę	502
MW-6R	4/9/2014	2350	6.25	11	250	0,026	20	1700	79.5	0.55	3,05	164	0.47	0.55	4.56	1.05	1.1	514
MW-6R	10/9/2014	906	6.6	0.62	42	0.1	48	590	ş	0.55	3.05	94.8	0.47	0.55	2.25	1.05	1.1	186
MW-6R	4/23/2015	3158	6.69	16	370	0.026	0.035	1900	34	0.55	3.05	147	0.47	0.55	5.72	1.05	1.1	1300
MW-6R	10/14/2015	1300	6.74	3.4	140	0.076	11	1000	34	0.55	3.05	133	0.47	0.55	2.25	1.05	1.1	491
MW-6R	4/19/2016	6201	6.79	21	480	0.36	0.65	2300	34	0.55	3.05	188	0.47	0.45	8.69	2.4	1.1	1140
MW-6R	10/13/2016	1491	6.92	0.36	3	0.66	240	840	34	1.25	3.05	134	0.47	0.45	2.25	1.05	1.1	114
MW-6R	4/19/2017	3076	7.41	21	360	0.026	20	1800	z	1.25	3.05	162	0.47	0.45	7	1.05	1.1	888
MW-6R	10/18/2017	1123	6.7	0,00365	62	0.69	150	750	94,9	1.25	3.05	108	0.47	0.45	2.25	2.24	2.21	132
AVERAGE		1801	6.77	8,53	206,7	0,202	69.77	1318	44.S	0.76	3.05	138.38	0.52	0.51	4.05	1,30	4,85	582.4
2-WW	5/16/2013	775	6.89	0.098	26	0.026	2	540	266	0.55	14.3	01	0.47	0.55	2.25	1.05	9	11500
T. MAN	10/0/0112	629	663	0.012	5.9	D nos		940	125	550	3.05	110	C00 U	7 55	30.0	105	;	VGLT
L-MM	4/8/2014	389	6.51	0.00365	8.7	0.026	54	280	216	0.55	3.05	26.6	0.47	0.55	225	50.1	1.5	1160
Nuw-7	10/8/2014	313	6.4	720.0	2.6	0.025	0.47	200	87.9	0.55	3.05	ę	0.47	0.55	2.25	105	. :	181
7-WW	4/22/2015	494	6.73	0.13	13	0.026	0	310	1900	0.55	13.6	10	0.47	0.55	2.25	1.05	1	11100
7-WW	10/14/2015	295	6.69	0.00365	4.7	0.026	1.3	240	147	0.55	3.05	10	0.47	0.55	2.25	1.05	12	721
1-WW	4/18/2016	978	7.2	0.062	ų	0.026	4.3	330	321	0.55	3,05	45.6	0.47	0.45	2.25	1.05	17	6550
7-WW	10/12/2016	303	6.72	0.012	6.1	0.026	0.39	240	153	1.25	3.05	20.7	0.47	0,45	2.25	1.05	1.1	1110
1-MM	4/18/2017	2800	8.43	0.37	69	0.052	21	550	91.9	1.25	12.8	30.6	0.47	0.45	2.25	1.05	11	9696
L-WW	10/17/2017	326	6.58	0.00365	- t)	0.026	0.48	270	91.1	1.25	3.05	26.6	0.47	0.45	2.25	1.05	111	488
AVERAGE		713	6.88	0.08	15.8	0.029	4.30	327	340.6	0.76	6,21	21.45	0.52	0.51	2.25	1.05	1.10	4453
MW-8	5/16/2013	762	7,11	0.38	25	0.026	11	490	11	0.55	3.05	9	0.47	0.55	2.25	1.05	ų	6130
MW-B	10/9/2013	330	6.41	0.028	7,9	0.026	4.6	270	141	0.55	3.05	10	0.47	0.55	2.25	1.05	171	436
NIW-8	4/9/2014	532	6.68	0.14	2	0.026	6.4	380	111	0.55	3.05	10	0.47	0.55	2.25	1.05	11	639
MW-B	10/8/2014	156	572	0.034	1.5	0.026	0.87	130	349	0.55	3.05	10	0.47	0.55	2.25	1.05	12	125
MW-8	4/22/2015	609	7.01	0.32	12	0.026	11	470	252	0.55	3.05	10	0.47	0.55	2.25	1.05	17	5390
MW-B	10/14/2015	153	6.15	0.14	6.5	0.026	÷	180	404	0.55	3.05	10	0.47	0.55	2.25	1.05	0	914
MW-8	4/18/2016	1004	7.17	0.26	21	0.026	2.6	310	194	0.55	3.05	35	0.47	D.45	2.25	1.05	13	3640
MW-B	10/12/2016	189	6.3	0.01	6.1	0.026	0.8	210	384	1,25	3,05	10	0.47	0.45	2,25	1.05	11	1900
MW-B	4/18/2017	2558	B.51	0.43	53	0.052	0.09	360	85.4	1.25	3.05	10	0.47	0.45	2.25	1.05	FI	3940
MW-B	10/17/2017	181	5.99	0.00365	12	0.026	0,42	180	242	1.25	3.05	10	0.47	0.45	2.25	1.05	1.1	406
AVFRAGE		647	123	0.17	18.4	0 000	2 40	200	0 444	34.0	306	12 60						1000

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT MELBOURNE LANDFILL AND RECYCLING CENTER COMPARED TO SHALLOW SURFICIAL BACKGROUND AT SARNO LANDFILL MAY 2013 THROUGH OCTOBER 2017

LEGEND Yellow = Outside 3 Std Deviations of Background Average Boxed = Outside Applicable Groundwater Standard

CID231/2 RID2960 CID231/2 RID2960 FID2960 FID2960 RID2960	(FIELD)	PH (FIELD)	AMMONIA	CHLORIDE	NITRATE	SULFATE	TOTAL DISSOLVED SOLIDS	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CHROMIUM	COBALT	COPPER	IRON
	(1) uS/cm	6.5-8.5 S.U.* S.U.	2.8 mg/L*** mg/L	250 mg/L** mg/L	10 mg/L	250 mg/L** mg/L		200 µg/L**	нал. В µал.	10 µg/L <sup>-</sup>	2000 µg/L* µg/L	нр/L 4 µр/L	10/Г 2 hg/г-	100 μg/L*	140µg/L	1000 µg/L~	300 µg/L**
	874	R aR	96.0	5	0.096	5	220	72	0.65	3 05	75.7	27.0	D CE	Je c	¥0.	č	and a
	624	6.78	0.36	56	0.026	3	420	34	0.55	3.05	30.4	0.984	0.55	2.25	1.05	11	7170
	633	6.58	0.33	38	0.026	39	430	34	0.55	3.05	32.3	0.47	0.55	2.25	1.05	E.L.	4570
	648	6.52	0.045	30	0.026	31	410	34	0.55	3.05	10	0,47	0.55	2.25	1.05	5	3220
	803	7.07	0.37	52	0,026	46	480	227	0.55	3.05	01	0.47	0.55	2.25	1.05	1.1	2040
MW-9R 10/13/2015	621	7.23	0.48	32	0.026	38	440	110	0.55	3.05	38.5	0.47	0.55	2.25	1.05	11	6830
MW-9R 4/18/2016	1400	7.35	0.58	12	0.026	26	370	498	0.55	3.05	23	0.47	0.45	2.25	1.05	11	9280
MW-9R 10/12/2016	570	7.05	0.42	23	0.026	22	390	115	1.25	3.05	42.5	0.47	0.45	2.25	1.05	12	5330
MW-9R 4/18/2017	749	8.51	0.5	34	0.052	49	480	34	1.25	3.05	39.9	0.47	0.45	2.25	1.05	El	7260
MW-9R 10/17/2017	783	7.05	0.04	61	0.026	33	580.	34	1.25	3.05	44.8	0.47	0.45	2.25	1.05	1.0	4300
AVERAGE	Ē	7,11	0.34	37.4	0.029	38.10	452	115.4	0.76	3.05	34.07	0.52	0.51	225	1.05	2,09	5995
MW-10 5/16/2013	843	6.91	1,3	25	0.026	1,1	470	3c	0.55	3.05	31.7	0.47	0.55	2.25	1.05	6.55	13300
	826	6.63	1.4	35	0.026	24	490	34	0.55	3.05	43.9	0.47	0.55	2.25	1.05	11	14200
	734	6.45	5	8	0.026	18	450	34	0.55	3.05	4	0.47	0.55	2.25	1.05	1	15500
	866	6.36	0.87	14	0.026	53	520	34	0.55	3.05	33.7	0.47	0.55	2.25	1.05	13	8640
MW-10 4/22/2015	817	6.93	6.1	18	0.026	7.6	440	34	0,55	3.05	28	0.47	0.55	2.25	1.05	5	15800
MW-10 10/13/2015	819	7.06	0.56	36	0.026	57	560	68	0.55	3.05	46.9	0.47	0.55	2.25	1.05	5	6390
	1471	7.23	1.2	27	0.026	2.1	400	146.	0.55	3.05	612	0.47	D.45	2.25	1.05	1.1	19800
	685	6.96	0.76	36	0.026	26	450	79.3	1.25	3.05	46.7	0.47	D.45	2.25	1.05	11	11300
	647	B.44	1,6	51	0,026	1,5	360	34	1.25	3.05	1.95	0.47	D.45	2.25	1.05	4.1	17500
MW-10 10/17/2017	618	7.05	0.56	41	0.026	15	430	72.4	1.25	3.05	42.7	0.47	0.45	2.25	1.05	1.1	5490
AVERAGE	833	7.00	1.08	29.5	0.026	21.13	457	59.1	0.76	3.05	41.49	0.47	0.51	2.25	1.05	1.65	12792
MW-11 S/17/2013	144	7.03	0.16	91	0.026	3.1	290	170	0.55	3.05	10	0.47	0.55	2.25	1.05	4.56	3720
MW-11 10/9/2013	680	6.9	0.21	47	0.026	2	450	243	0.55	3.05	10	0.47	0.55	2.25	1.05	11	1490
4/9/2014 tr-1/	563	6.68	0.38	27	0.026	27	380	204	0.55	3.05	10	0.47	0.55	2,25	1.05	5	3610
MW-11 10/8/2014	939	6.7	0.039	16	0,026	16	600	225	0.55	3.05	29.2	0.47	0,55	2.25	1.05	13	783
MW-11 4/22/2015	643	7.31	0.66	41	0.026	37	390	127	0.55	3.05	10	0.47	0.55	2.25	1.05	1.1	4270
MW-11 10/13/2015	975	7.41	0.1	27	0.026	160	710	681	0.55	3.05	47.1	0.47	0.55	2.25	1.05	FL	1310
	1083	7.59	0.73	10	0.026	8	330	639	0.55	3.05	33.1	0.47	0.45	2.25	1.05	EP.	2670
	842	7.25	0.00365	52	0.026	130	640	B44	1.25	3.05	49.4	0.47	0.45	2.25	1.05	11	523
	577	8.62	0.68	6.8	0.026	7.3	290	109	1.25	3.05	9	0.47	0.45	2.25	1.05	11	2040
MW-11 10/17/2017	697	7.23	0.055	21	0.026	30	530	76.7	1.25	3.05	39.4	0.47	0.45	2.25	1.05	1.1	1830
AVENAGE	ŧ	171	nen	ntiz	07010	*/*ce	107	5120	0.10	0.5	74,62	0.47	10.0	67	50.1	1,45	2222
MW-12 5/17/2013	1270	6.71	3.2	240	0.026	4	1300	105	0.55	3.05	2'68.	0.47	0.55	2.25	1,05	44,2	5250
MW-12 10/9/2013	412	5.85	0.00365	5.6	0.026	14	300	136	0.55	3.05	01	0.992	0.55	2,25	1.05	11	243
MW-12 4/9/2014	443	6.64	0.00365	101	0.026	18	310	108	0.65	3.05	10	0.47	0.55	2.25	1.05	11	311
MW-12 10/8/2014	480	6.25	0.16	2.3	0.026	5.4	380	124	0.55	3.05	10.	0.47	0.55	2.25	1.05	1:1	922
MW-12 4/23/2015	346	7.21	0.00365	4.7	0.08	11	250	109	0.55	3.05	10	0.47	0.55	2.25	1.05	1.1	941
MW-12 10/13/2015	413	7.19	0.013	1.4	0.026	5.5	310	129	0.55	3.05	10	0.47	0.55	2.25	1,05	Ş	220
	1246	7.39	0.54	36	0.026	82	480	303	0.55	3.05	6.44	0.47	0.45	2,25	1.05	11	1920
	409	5.98	0.00365	4.7	0.026	6.9	320	125	1.25	3.05	8,12	0.47	D.45	2.25	1.05	11	156
	916	8.55	14	120	0.026	110	066	103	1.25	6.25	8	0.47	0.45	2.25	1.05	R i	943
MW-12 10/17/2017	600	5.88	0.00355	15	0.026	8	4/0	6.19 A COL	1.25	3.05	39	0.47	0.45	2.25	1,05	1.1	265

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT MELBOURNE LANDFILL AND RECYCLING CENTER COMPARED TO SHALLOW SURFICIAL BACKGROUND AT SARNO LANDFILL MAY 2013 THROUGH OCTOBER 2017

LEGEND Yellow = Outside 3 Std Deviations of Eachground Average Boxed = Outside Applicable Groundwater Standard

Application contraction antipolitical antipolitical

Tritolity         Tagit, and         Tagit, and <thtagit, and         Tagit, and         Tagit, an</thtagit, 	PARAMETER	SAMPLING DATE	LEAD	MERCURY	NICKEL	SELENIUM	SILVER	NUIDOS	THALLIUM	VANADIUM	ZINC
25         0.05         1.25         3.75         1.45         1	STANDARD UNITS		1/8/17- 12/18/17-	, 119/L°	100 µg/L*	1/8/Г- 20 hg/Г-	100 µg/L	160 mg/L" mg/L	2 µg/L" µg/L	49 µg/L***	5000 µg/L
25         0.65         1.25         3.75         1.45         1.45         1.43         0.65         1.43           2         0.05         1.25         3.75         1.45         1.45         0.25         1.43           2         0.05         1.25         3.75         1.25         0.25         1.43         0.25         1.43           2         0.05         1.25         3.75         1.25         0.25         1.43         0.25         1.43           2         0.05         1.25         3.75         1.25         6.3         0.25         1.43           2         0.05         1.35         0.45         1.43         0.25         1.43           2         0.05         1.35         1.45         0.25         1.43         0.25           2         0.05         1.45         1.45         0.45         0.25         1.43           1.47         0.05         1.45         0.45         0.25         1.43         1.43           2         0.05         1.45         0.25         0.25         1.43         1.43           1.47         0.05         1.45         0.25         0.25         1.55         1.43	o Shallow Sur	ficial Background Well									Ŕ
25         0.05         1.25         3.75         1.25         1.32         1.32           25         0.05         1.25         3.75         1.25         1.35         1.35         1.45         1.45         1.45           25         0.05         1.25         3.75         1.25         1.35         1.45         0.25         1.45           25         0.05         1.25         3.75         1.25         5.3         0.25         1.45           25         0.05         1.25         3.75         1.25         5.3         0.25         1.45           250         0.05         1.26         3.75         1.25         5.3         0.25         1.45           175         0.05         1.45         1.45         1.45         0.25         1.45           175         0.05         1.45         1.45         0.25         1.45         0.25           175         0.05         1.45         1.45         0.25         0.45         0.45           175         0.05         1.45         0.25         0.45         0.25         0.45           175         0.05         1.45         0.25         0.45         0.27         0.25	MW-16S	6/4/2013	2.5	0.05	1.25	3.75	1.25	13.3	0.25	8	50
25         0.05         1.25         3.75         1.25         1.25         1.25         1.25         1.25         1.25         1.15         1	MW-16S	11/25/2013	2.5	0.05	1.25	3.75	1.25	6.9	0.25	13.2	s
25         0.05         1.25         3.75         1.25         1.43         0.25         1.16           25         0.05         1.25         3.75         1.25         5.7         0.25         6.1           25         0.05         1.25         3.75         1.25         5.5         0.25         6.1           25         0.05         1.25         3.75         1.25         5.5         0.25         6.1           25         0.05         1.25         3.75         1.25         5.5         0.25         6.1           25         0.05         1.56         1.57         1.55         0.25         1.55         0.75           25         0.05         1.56         0.75         1.55         0.25         0.75           1.76         0.15         1.45         0.15         1.45         0.75         1.55           25         0.015         1.6         0.05         1.55         0.75         1.55           1.76         0.015         1.6         0.75         0.75         1.56         1.56           1.76         0.015         1.6         0.75         0.75         1.56           1.76         0.015	MW-16S	B/11/2014	22	0.05	1,25	3.75	1,25	17.5	0.25	9.2	ŝ
25         0.05         1.25         3.75         1.25         6.15         6	MW-16S	12/11/2014	2.5	0.05	1.25	3.75	1.25	14.3	0.25	11.6	ŝ
25         0.05         1.25         0.75         1.25         0.75         1.25         0.75         1.25         0.75         1.25         0.46         1.46           265         0.05         1.25         3.75         1.25         5.5         0.05         1.55         5.5           205         0.05         1.26         3.75         1.25         5.5         0.05         1.5           205         0.05         1.55         3.75         1.25         5.5         0.05         2.5           205         0.05         1.55         3.75         1.25         5.5         0.05         2.5           205         0.05         1.16         0.05         1.15         0.06         1.15         0.05         2.5           1.75         0.05         1.6         0.05         1.45         0.06         0.05         0.05         2.5           1.75         0.06         1.45         0.06         0.05         0.05         0.05         0.05         0.05         0.05         0.05         0.05         0.05         0.05         0.05         0.05         0.05         0.05         0.05         0.05         0.05         0.05         0.05	S91-WM	6/18/2015	2.5	0.05	1.25	3.75	1.25	9.1	0.25	10.6	ŝ
25         0.05         1.25         3.75         1.25         6.8         0.25         6.8           25         0.05         1.25         3.75         1.45         5.5         5.5         0.05         1.55           252         0.05         1.85         3.75         1.45         5.5         0.05         1.55           252         0.06         1.89         4.89         1.26         0.29         0.75         1.55           253         0.00         1.89         4.89         1.25         0.29         0.75         1.55           254         0.00         1.89         4.90         1.26         0.26         0.75         1.55           1,76         0.00         1.51         0.00         1.35         0.75         0.75         1.75           0.8         0.0115         1.6         3.25         0.145         1.45         0.29         0.74           0.8         0.0115         1.6         3.25         0.145         1.26         0.29         5.74           0.8         0.0115         1.6         3.25         0.145         0.29         0.29         5.74           0.8         0.0115         1.6	NW-16S	12/9/2015	25	0.05	1.25	3.75	1.25	6.8	0.25	14.8	s
25         0.05         1.25         3.75         1.25         4.3         0.25         1.55           0.55         0.05         1.25         3.75         1.35         5.5         0.05         2.5           0.59         0.05         1.35         5.7         1.35         5.5         0.05         2.5           0.59         0.05         1.16         1.35         0.05         1.35         0.05         1.35           0.59         0.00         1.16         1.35         0.00         1.45         0.00         1.35           0.70         0.01         1.16         0.00         1.45         0.00         1.35         0.01           0.8         0.0115         1.6         0.35         0.145         1.47         0.29         1.35           0.8         0.0115         1.6         0.35         0.145         1.47         0.29         1.35           0.8         0.0115         1.6         0.35         0.145         1.48         0.29         1.35           0.8         0.0115         1.6         0.35         0.145         1.49         0.29         1.35           0.8         0.0115         1.6         0.35	S91-WM	5/19/2016	2.5	0.05	1.25	3.75	1.25	6.8	0.25	8.6	9
25         0.05         1.25         3.75         1.25         5.5         0.50         2.5           225         0.05         1.5         4.37         1.25         5.3         0.35         1.3           235         0.06         1.5         4.37         1.25         6.39         0.37         1.3           1.75         0.06         1.5         4.37         0.05         1.3         0.35         0.35           1.76         0.00         1.5         1.5         5.43         0.35         0.35         0.35           1.77         0.00         1.5         0.35         0.145         1.47         0.29         7.34           0.8         0.0115         1.6         3.25         0.145         1.47         0.29         7.34           0.8         0.0115         1.6         3.25         0.145         1.47         0.29         7.34           0.8         0.0115         1.6         3.25         0.145         1.47         0.29         7.34           0.8         0.015         1.6         3.25         0.145         1.47         0.29         7.34           0.8         0.015         1.6         3.25 <t< td=""><td>MW-16S</td><td>12/2/2016</td><td>2.5</td><td>0.05</td><td>1.25</td><td>3.75</td><td>1.25</td><td>4.8</td><td>0.25</td><td>15.6</td><td>s</td></t<>	MW-16S	12/2/2016	2.5	0.05	1.25	3.75	1.25	4.8	0.25	15.6	s
0.65         0.05         5         9.7         1.55         4.3         0.25         1.3           0.73         0.06         1.83         4.85         1.43         0.02         0.07         1.13           1.75         0.00         1.83         5.43         0.00         4.35         0.03         0.03         0.07           1.75         0.00         2.56         0.145         1.45         0.03         3.45         0.04         3.45           0.83         0.0115         1.6         3.25         0.145         1.74         0.29         0.13           0.83         0.0115         1.6         3.25         0.145         1.74         0.29         0.13           0.84         0.0115         1.6         3.25         0.145         1.74         0.29         7.24           0.84         0.0115         1.6         3.25         0.145         1.74         0.29         7.24           0.84         0.0115         1.6         3.25         0.145         1.74         0.29         7.24           0.84         0.0115         1.6         3.25         0.145         1.74         0.29         1.53           0.84	MW-16S	6/14/2017	2.5	0.05	1.25	3.75	1.25	5.5	0.50	2.5	5
2.22         0.05         1.63         4.35         1.35         6.00         1.31         1.35         1.071           1,75         0.00         1.36         1.31         0.00         4.33         0.00         1.35         1.35           1,75         0.00         3.56         5.41         0.00         4.33         0.01         1.35         2.36           0.8         0.0115         1.6         3.25         0.145         1.47         0.29         1.35           0.8         0.0115         1.6         3.25         0.145         1.47         0.29         1.36           0.8         0.0115         1.6         3.25         0.145         1.47         0.29         1.36           0.8         0.0115         1.6         3.25         0.145         1.47         0.29         1.36           0.8         0.0115         1.6         3.25         0.145         1.47         0.29         1.36           0.8         0.0115         1.6         3.25         0.145         1.47         0.29         1.36           0.8         0.0115         1.6         3.25         0.145         1.47         0.29         1.24 <td< td=""><td>MW-16S</td><td>12/18/2017</td><td>0.65</td><td>0.05</td><td>5</td><td>9.7</td><td>1.25</td><td>4.3</td><td>0.25</td><td>13</td><td>2.5</td></td<>	MW-16S	12/18/2017	0.65	0.05	5	9.7	1.25	4.3	0.25	13	2.5
0.00         1.19         1.00         1.25         0.00         1.19         0.00         3.56           4.07         0.05         5.19         5.10         0.35         5.10         0.36         0.36         0.36           4.07         0.05         5.16         0.36         5.16         0.36         5.36         0.34         0.36         0.34           0.8         0.0115         1.6         3.25         0.145         1.47         0.29         7.34           0.8         0.0115         3.54         3.25         0.145         1.47         0.29         7.34           0.8         0.0115         3.54         3.25         0.145         1.47         0.29         5.51           0.8         0.0115         3.54         3.25         0.145         5.66         0.29         5.51           0.8         0.0115         3.54         0.145         5.66         0.29         5.51           0.8         0.0115         1.6         3.25         0.145         5.53         0.29         5.51           0.8         0.0115         1.6         3.25         0.145         5.53         0.29         5.51           0.8         <	AVERAGE		2.32	0.05	1.63	4.35	1.25	8.93	0.28	10.71	4.75
177         0.00         3.35         5.6         0.00         133         2335         0.01         133           0.0         0.0115         1.6         3.25         0.145         1.47         0.29         3.45           0.8         0.0115         1.6         3.25         0.145         1.47         0.29         3.45           0.8         0.0115         1.6         3.25         0.145         1.47         0.29         7.24           0.8         0.0115         1.6         3.25         0.145         54.4         0.29         5.51           0.8         0.0115         1.6         3.25         0.145         54.4         0.29         5.51           0.8         0.0115         1.6         3.25         0.145         56.6         5.53         5.51           0.8         0.0115         1.6         3.25         0.145         5.53         5.3         5.3         5.51           0.8         0.0071         1.6         3.25         0.145         5.3         5.3         5.3         5.51           0.8         0.015         1.47         0.29         5.3         5.3         5.3         5.3         5.3		sid dev	0.58	0.00	1.19	1.88	00'0	4,53	0.08	3.86	0.79
4.0         0.05         5.1         9.0         1.3         2.53         0.51         2.30         0.51           0.8         0.0115         1.6         3.25         0.145         1.47         0.28         3.45           0.8         0.0115         1.6         3.25         0.145         1.47         0.28         3.45           0.8         0.0115         1.6         3.25         0.145         5.1         0.29         7.24           0.8         0.0115         1.6         3.25         0.145         5.46         0.29         5.51           0.8         0.0115         1.6         3.25         0.145         5.66         0.29         5.51           0.8         0.0115         1.6         3.25         0.145         5.68         0.29         5.51           0.8         0.0115         1.6         3.25         0.145         5.53         0.29         5.54           0.8         0.0115         1.6         3.25         0.145         5.53         0.29         5.54           0.8         0.0115         1.6         3.25         0.145         5.23         0.29         5.54           0.8         0.0115         1.		3x std dev	1.75	0.00	3.56	5.64	0.00	13.60	0,24	11.59	2.37
0.0         1.5         3.25         0.145         147         0.23         3.45           0.8         0.0115         1.6         3.25         0.145         1.74         0.29         3.45           0.8         0.0115         1.6         3.25         0.145         51.1         0.29         7.24           0.8         0.0115         1.6         3.25         0.145         54.6         0.29         7.24           0.8         0.0115         1.6         3.25         0.145         54.6         0.29         5.51           0.8         0.0115         1.6         3.25         0.145         56.6         0.29         5.51           0.8         0.0115         1.6         3.25         0.145         56.8         0.29         5.51           0.8         0.0115         1.6         3.25         0.145         55.8         0.29         5.51           0.8         0.023         5.1         3.25         0.145         55.8         0.29         5.51           0.8         0.015         1.6         3.25         0.145         55.8         0.29         5.51           0.8         0.023         5.1         3.25         0.1		npper range	4.07	0.05	5.18	6676	1.25	223	0.51	22.30	7.12
5772013         0.0         0.0115         1.6         3.25         0.145         147         0.29         0.45           1097073         0.8         0.0115         1.6         3.25         0.145         1.74         0.29         10.3           4982014         0.8         0.0115         1.6         3.25         0.145         1.74         0.29         10.3           4982014         0.8         0.0115         3.25         0.145         56.6         0.29         7.24           10182016         0.8         0.0115         3.25         0.145         56.6         0.29         55.7           10132016         0.8         0.0115         3.25         0.145         56.8         0.29         55.7           10132017         0.8         0.0115         1.6         3.25         0.145         55.9         0.34           10132017         0.8         0.0115         1.6         3.25         0.145         55.9         0.34           10112017         0.8         0.0115         1.6         3.25         0.145         55.9         5.49           10112017         0.8         0.0115         1.6         3.25         0.145         5.29	ourne compil	ance wells - shallow su									
(10)62013         0.8         0.0115         1.6         3.25         0.145         124         0.29         10.3           4220215         0.8         0.0115         1.6         3.25         0.145         59.1         0.29         7.24           10)82015         0.8         0.0115         1.6         3.25         0.145         56.6         0.29         7.24           10)82015         0.8         0.0115         1.6         3.25         0.145         56.6         0.29         5.51           10182015         0.8         0.0115         1.6         3.25         0.145         56.6         0.29         5.51           10182017         0.8         0.0115         1.6         3.25         0.145         55.3         0.23         5.51           10182017         0.8         0.0115         1.6         3.25         0.145         5.53         0.34           10192017         0.8         0.015         1.6         3.25         0.145         5.3         0.34           57772013         0.8         0.015         1.6         3.25         0.145         7.26         0.34           57772013         0.8         0.015         1.6         3.25	MW-2	5/17/2013	0.8	0.0115	1.6	3.25	0.145	147	0.29	3.45	80
48-2014         0.8         0.0115         1.6         3.25         0.145         9.11         0.29         5.24           148-2015         0.8         0.0115         3.25         0.145         54.6         0.29         5.62           14732015         0.8         0.0115         3.24         3.25         0.145         54.6         0.29         5.62           10132015         0.8         0.0115         3.24         3.25         0.145         54.8         0.29         5.68           10132016         0.8         0.0115         1.6         3.25         0.145         56.8         0.29         5.68           10132017         0.8         0.0115         1.6         3.25         0.145         56.9         0.29         5.64           101122017         0.8         0.0115         1.6         3.25         0.145         52.3         0.29         5.64           57772013         0.8         0.0115         1.6         3.25         0.145         52.3         0.29         5.64           577772013         0.8         0.0115         1.6         3.25         0.145         7.05         5.75           5777613         0.8         0.015	MW-2	10/9/2013	0,8	0.0115	1.6	3.25	0,145	124	0.29	10.3	80
4(3201(4)         0.2         0.0422         4.03         3.25         0.145         5.66         0.29         5.67           (10122015         0.8         0.0115         1.6         2.25         0.145         6.66         0.29         5.51           (10122015         0.8         0.0115         1.6         2.25         0.145         6.66         0.29         5.51           (10122015         0.8         0.0115         1.6         2.25         0.145         6.65         0.29         5.51           (10122017         0.8         0.0115         1.6         2.25         0.145         6.53         0.29         5.51           (10122017         0.8         0.0115         1.6         2.25         0.145         6.53         0.29         5.51           (10122017         0.8         0.0115         1.6         2.25         0.145         6.23         0.29         5.51           (10102013         0.8         0.0115         1.6         2.25         0.145         6.23         0.29         6.51           (10102013         0.8         0.0115         1.6         2.25         0.145         6.23         0.29         6.51           (10102013	MW-2	4/9/2014	0.8	0.0115	1.6	3.25	0.145	1.19	0.29	7.24	80
1/22/2015         0.0         0.0115         3.25         0.145         6.44         0.29         5.51           10/13/2015         0.8         0.0115         3.45         3.25         0.145         6.44         0.29         5.51           10/13/2015         0.8         0.0115         1.6         3.25         0.145         6.43         0.29         5.51           10/13/2016         0.8         0.00115         1.6         3.25         0.145         6.53         0.29         5.49           10/13/2015         0.8         0.00115         1.6         3.25         0.145         6.53         0.29         5.49           517/2017         0.8         0.00115         1.6         3.25         0.145         6.53         0.29         5.49           517/2013         0.8         0.00115         1.6         3.25         0.145         7.26         0.29         7.26           10110/0013         0.8         0.0115         1.6         3.25         0.145         7.26         0.29         6.51           10110/0013         0.8         0.0115         1.6         3.25         0.145         7.26         0.29         6.51           10110/0013	MW-2	10/8/2014	0.8	0.0492	4,03	3.25	0.145	59.6	0.29	6.62	80
(1012015         0.8         0.0115         3.54         3.25         0.145         6.6         0.39         15.3           (1012016         0.8         0.0115         1.6         3.25         0.145         6.6         0.39         5.66           4/192017         0.8         0.0115         1.6         3.25         0.145         6.53         0.29         5.66           4/192017         0.8         0.0115         1.6         3.25         0.145         6.53         0.29         5.66           4/192017         0.8         0.0115         1.6         3.25         0.145         6.53         0.29         5.49           51772013         0.8         0.0115         1.6         3.25         0.145         6.53         0.29         5.49           51772013         0.8         0.0115         1.6         3.25         0.145         7.05         7.05           10/102013         0.8         0.0115         1.6         3.25         0.145         7.05         7.05           10/102013         0.8         0.0115         1.6         3.25         0.145         7.05         7.05           10/102013         0.8         0.015         1.6 <t< td=""><td>MW-2</td><td>4/23/2015</td><td>0.8</td><td>0.0115</td><td>1.6</td><td>3.25</td><td>0.145</td><td>64.4</td><td>0.29</td><td>5.51</td><td>80</td></t<>	MW-2	4/23/2015	0.8	0.0115	1.6	3.25	0.145	64.4	0.29	5.51	80
1/162015         0.3         0.0115         1.6         3.25         0.145         6.43         0.35         0.66           1/192017         0.8         0.0061         4.13         3.25         0.145         5.63         0.29         5.49           1/192017         0.8         0.0218         5.1         3.25         0.145         5.23         0.29         5.49           1/192017         0.8         0.0218         5.1         3.25         0.145         5.23         0.29         5.49           5/172013         0.8         0.0115         1.6         3.25         0.145         5.23         0.29         5.49           5/172013         0.8         0.0115         1.6         3.25         0.145         5.23         0.29         5.49           5/172013         0.8         0.0115         1.6         3.25         0.145         7.26         7.26           1/102013         0.8         0.0115         1.6         3.25         0.145         7.26         0.23         0.23         0.23         0.23         0.23         0.23         0.23         0.23         0.23         0.23         0.23         0.23         0.23         0.23         0.23         0	MW-2	10/13/2015	0.8	0.0115	3.54	3.25	0.145	66.6	0.29	15.3	80
VI92ACTO         Lut         Current         V, I         Current         Current         V, I         Current         Current         V, I         Current         Current </td <td>2-MW</td> <td>9102/91/6</td> <td>0.8</td> <td>S110.0</td> <td>9.1</td> <td>9.9</td> <td>641.0</td> <td>04.8</td> <td>62.0</td> <td>0.0</td> <td></td>	2-MW	9102/91/6	0.8	S110.0	9.1	9.9	641.0	04.8	62.0	0.0	
University         0.80         0.0279         5.11         3.25         0.145         8.33         0.33         0.50         6.57           51772013         0.80         0.0274         2.64         3.25         0.145         8.33         0.39         0.59         0.55           51772013         0.80         0.0724         2.64         3.25         0.145         8.33         0.39         7.26           51772013         0.8         0.0115         1.6         3.25         0.145         7.28         0.39         7.05           4382014         0.8         0.0115         1.6         3.25         0.145         7.76         0.29         7.06           4382014         0.8         0.0115         1.6         3.25         0.145         7.76         0.29         8.21           4382014         0.8         0.015         4.15         3.25         0.145         7.6         0.29         8.21           4382015         0.8         0.015         4.17         3.25         0.145         9.2         9.5           410730715         0.8         0.015         5.3         0.145         9.2         0.2         9.5           410730715	2-MW	0102/01/01	80	00115	2.4	30.5	241.0	6.2.2	020	Pro C	o a
University         Data	C-IWWA	10/18/2017	80	8760.0	5	36.5	0 145	5.69	96.0	R67	, a
\$	AVERAGE		0.80	D.0224	2,64	3.25	0.15	80,9	0.29	7.26	8.0
10/102013         0.8         0.0115         1.6         3.25         0.145         77.6         0.29         10.1           4/92014         0.8         0.0115         1.6         3.25         0.145         83         0.29         8.21           1092014         0.8         0.015         1.6         3.25         0.145         83         0.29         8.21           1092014         0.8         0.015         4.6         3.25         0.145         100         0.29         6.15           4732015         0.8         0.0115         5.85         3.25         0.145         96.2         0.29         6.15           47192015         0.8         0.0115         5.85         3.25         0.145         145         0.29         6.15           101/32016         0.8         0.0115         5.41         3.25         0.145         2.2         0.29         3.54           101/32016         0.8         0.0115         5.43         0.145         3.2         0.29         3.54           101/32016         0.8         0.0115         5.16         3.25         0.145         2.0         0.39         3.54           101/32016         0.8         0.011	MW-4R	5/17/2013	0.8	0.0115	9,1	3.25	0.145	223	0.29	7.06	80
49/2014         0.8         0.0115         1.8         3.25         0.145         83         0.29         8.21           109/2014         0.8         0.0548         1.6         3.25         0.145         83         0.29         8.15           109/2014         0.8         0.0548         1.6         3.25         0.145         130         0.29         8.15           4/232015         0.8         0.0115         4.05         3.25         0.145         130         0.29         8.55           4/192017         0.8         0.0115         5.417         3.25         0.145         145         0.29         9.55           10132016         0.8         0.0115         5.417         3.25         0.145         145         0.29         9.54           10132015         0.8         0.0115         5.16         3.25         0.145         7.45         0.29         0.54           10192017         0.8         0.0115         6.12         3.25         0.145         7.45         0.29         7.54	MW-4R	10/10/2013	0.8	0.0115	1.6	3.25	0.145	77.6	0.29	10.1	80
1092014         0.8         0.0548         1.6         3.25         0.145         51.9         0.29         6.15           4/262015         0.8         0.0115         4.03         3.25         0.145         130         0.29         6.15           4/262015         0.8         0.0115         4.03         3.25         0.145         130         0.29         6.15           4/192016         0.8         0.0115         4.17         3.25         0.145         145         0.29         9.5           4/192016         0.8         0.0115         4.17         3.25         0.145         5.2         0.29         9.5           4/192017         0.8         0.0115         5.89         3.25         0.145         5.2         0.29         3.54           4/192017         0.8         0.0115         5.89         3.25         0.145         7.4.5         0.29         7.4	MW-4R	4/9/2014	0.8	0.0115	1.6	3.25	0.145	88	0.29	8.21	60
4/20/20/15         0.8         0.0115         4.03         3.25         0.145         130         0.29         9.56           10/12/2015         0.8         0.0115         5.95         3.25         0.145         96.2         0.29         9.56           4/19/2016         0.8         0.0115         5.95         3.25         0.145         96.2         0.29         9.5           4/19/2016         0.8         0.0115         1.6         3.25         0.145         7.45         0.29         9.5           4/19/2017         0.8         0.0115         1.6         3.25         0.145         2.2         0.29         3.54           4/19/2017         0.8         0.0115         5.89         3.25         0.145         7.4.5         0.29         7.54           1016/82017         0.8         0.0115         6.12         3.25         0.145         7.4.5         0.29         7.54	MW-4R	10/9/2014	0.8	0.0548	1.6	3.25	0.145	51.9	0.29	6.15	80
I01/32015         0.8         0.0115         5.35         3.25         0.145         96.2         0.29         9.5           4/192016         0.8         0.0115         4,17         3.25         0.145         96.2         0.29         9.5           10/132016         0.8         0.0115         4,17         3.25         0.145         1.5         0.35           10/132016         0.8         0.0115         1.6         3.25         0.145         2.2         0.35           4/192017         0.8         0.0115         6.12         3.25         0.145         74.5         0.29         7.54           10/182017         0.8         0.0115         6.12         3.25         0.145         74.5         0.29         7.54	MW-4R	4/23/2015	0.8	0.0115	4.03	3.25	0.145	130	0,29	9.56	80
419/2016 0.8 0.015 4.17 3.25 0.145 145 0.29 8.97 10/3/32016 0.8 0.0115 1.6 3.25 0.145 5.2 0.29 3.54 4/922017 0.8 0.0115 5.80 3.25 0.145 210 0.29 10.4 10/1822017 0.8 0.0115 6.12 3.25 0.145 7.4,5 0.29 7.54	MW-4R	10/13/2015	0.8	0.0115	5.95	3.25	0.145	96.2	0.29	9.5	60
10/322016 0.8 0.0115 1.6 3.25 0.145 52 0.29 3.54 4/922017 0.8 0.0115 5.80 3.25 0.145 210 0.29 10.4 10/1822017 0.8 0.0115 6.12 3.25 0.145 7.4,5 0.29 7.54	MW-4R	4/19/2016	0.8	0.0115	4,17	3.25	0.145	145	0.29	8.97	8
4192017 0.8 0.0115 5.89 3.25 0.145 210 0.29 10.4 10182017 0.8 0.0115 6.12 3.25 0.145 74,5 0.29 7.54	MW-4R	10/13/2016	0.8	0.0115	1.6	3,25	0.145	52	0.29	3.54	80
10/18/2017 0.8 0.0115 6.12 3.25 0.145 74.5 0.29 7.54	MW-4R	4/19/2017	0.8	0.0115	5,89	3.25	0.145	210	0.29	10.4	20
	MW-4R	10/18/2017	0.8	0.0115	6.12	3.25	0.145	74.5	0.29	7.54	83

LEGEND Yallow = Outside 3 Std Devitations of Background Average Boxed = Outside Applicable Groundwater Standard

SAMPLING DATE	LEAD	MERCURY	NICKEL	SELENIUM	SILVER	WINIDOS	THALLIUM	VANADIUM	ZINC
	15 µg/L*	2 µg/L.	100 µg/L-	50 µg/L*	100 µg/L**	160 mg/L*	2 µg/L*	49 µg/L µg/L	5000 µg/L**
5/17/2013	0.8	0.0115	3.4	3.25	0.145	185	0.29	6.89	80
10/10/2013	0.8	0.0115	1.6	3.25	0.145	189	0.29	9.69	80
4/9/2014	0.8	0.0115	4.88	3.25	0.145	210	0.29	8.08	80
10/9/2014	0.8	0.0458	5.38	3.25	0.145	63.1	0.29	3,64	83
4/23/2015	0.8	0.0115	60.4	3.25	0.145	183	0.29	6.97	80
10/13/2015	0.8	0.0115	5.37	3.25	0.145	175	0.29	7,89	80
4/19/2016	0.8	0.0115	4.43	3.25	0.145	255	0.29	13.2	8
10/13/2016	0.8	0.0246	6.39	3.25	0.145	60.8	0.29	P.	80
4/19/2017	0.8	0.0115	5.79	3.25	0.145	265	0.29	13.1	80
10/18/2017	0.80	0.0115	9.28 5.06	3.25	0.145	73.2	0.29	7.80	8.0
5/17/2013	0.8	0.0115	1.6	3.25	0.145	74.1	0.29	5.2	89
10/10/2013	0.8	0.0115	1.6	3.25	0.145	85.8	0.29	6.94	60
4/9/2014	0.8	0.0115	5.43	3.25	0.145	133	0.29	80	89
10/9/2014	0.8	0.0115	1.6	3.25	0.145	28.6	0.29	22	8
4/23/2015	0.8	0.0115	4,19	3.25	0,145	152	0.29	7.57	80
10/14/2015	0.8	0.0115	3.88	3.25	0.145	64.8	0.29	6.61	80
4/19/2016	0.8	0.0115	5.3	3.25	0.145	195	0.29	9.8	80
10/13/2016	0.8	0.0115	5.78	3.25	0.145	54.2	0.29	÷.	80
4/19/2017	0.8	0.0115	5.2	3.25	0.145	168	0.29	9.34	80
10/18/2017	0.8	0.0115	5.02	3.25	0.145	42.7	0.29	4	80
	0,80	0.0115	3,96	3.25	0.15	93,80	0.29	5.77	8.0
5/16/2013	0.8	0.0115	1,6	3.25	0,145	36.1	0.29	11.3	80
10/9/2013	0.8	0.0115	1.6	3.25	0.145	7.25	0.29	6.27	8
4/8/2014	0.8	0.0115	1.6	3.25	0.145	B.53	0.29	5.67	80
10/8/2014	0.8	0.0115	1.6	3.25	0.145	3.07	0.29	4	89
4/22/2015	0.8	0.0115	1,6	3.25	0.145	13.4	0.29	19.6	8
10/14/2015	0.6	0.0115	1.5	3.25	0.145	4.8	0.29	è.	80
4/18/2016	0.8	0.0115	1.6	3.25	0.145	15.6	0.29	6.94	80
10/12/2015	0.8	0.0115	1.6	3.25	0.145	4,85	0.29	-	80
4/18/2017	8.0	0.0115	10. U	3.25	0.145	36.6	0.29	÷ •	80 6
	0.80	0.0115	1.60	3.25	0.15	13.9	0.29	5.48	8.0
5/16/2013	0.8	0.0115	1.6	3.25	0.145	39.4	0.29	2.87	8
10/9/2013	0.8	0,0115	1.6	3.25	0.145	7.05	0.29	3.52	83
4/9/2014	0.8	0.0115	1.6	3.25	0.145	32.3	0.29	2.33	80
10/8/2014	0.8	0.0115	1.6	3.25	0.145	2,46	0.29	1	60
4/22/2015	0.8	0.0115	1.6	3.25	0.145	83	0.29	10.8	83
10/14/2015	0.8	0.0115	1.6	3.25	0.145	5.13	0.29		9
4/18/2016	0.8	0.0115	1.6	3.25	D.145	18.7	0.29	2.91	80
10/12/2015	0.8	0,0115	3.5	3.25	D.145	4.94	0.29	e	20.2
4/18/2017	9.8	0.0115	1.6	3.25	0.145	30.6	0.29	2.18	80 6
1102/11/01	80	1000	0.1	10.1	ALC D	40.4			C BC

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT MELBOURNE LANDFILL AND RECYCLING CENTER COMPARED TO SHALLOW SUBFICIAL

LEGEND Yellow = Outside 3 Std Deviations of Background Average Boxed = Outside Applicable Groundwater Standard

VANADIUM ZINC	49 µg/L*** 5000 µg/L**	2.22			2.04 8				1	1 8 2 1 3 8			3.5 24		27.6	46.7	C DC CB C			4	1.75 24.	8	3.44 46.3			7 58.2 7 50 07 0				2.25 53.2	1.72 63.47		3.82 8		N			5,69 8		
THALLIUM	2 µg/L µд/L	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0,29	670	0C U	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29		0.29
MUIDOS	160 mg/L*	25.8	19.5	18.2	18	31,8	20	17.4	19.4	35.2	22.5	27.2	29.2	28.2	32.2	20.5	1.00	25.3	17,8	14.4	25.8	13.9	53	18.4	19.7	15.9 25	1.21	19.4	9.39	18	18,1	86	60.9	9.52	3.8	2.93	2.51	8	100	202
SILVER	100 µg/L**	D.145	0.145	0.145	0.145	0.145	0.145	0.145	0.145	0.145	0.15	0.145	0.145	0.145	0.145	0.145	0 145	0.145	0.145	0.145	0.15	0.145	0.145	0.145	0.145	0.145	0.145	0.145	0.145	0.145	0.15	0.145	0.145	0.145	0.145	0.145	0.145	0.145		0.145
SELENIUM	1/0/1- 20 h0/1-	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3,25	3,25	3.25	3.25	3.25	3,20	20.0	3.25	3,25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	0.0C	07.0
NICKEL	100 µg/L* µg/L	1.6	1.6	1,6	1.6	1.6	1,6	1.6	1.6	1.6	1,60	1.6	1.6	1.6	9.1	9	0. 4	1.6	1.6	1.6	1.60	1.6	1.6	1.6	1,6	9.1	91	91	1.6	1.6	1.60	1.6	1.6	1.6	1.6	1.6	1.6	9.1	0.1	12.4
MERCURY	ла/г. 2 на/г.	0.0115	D.0115	0.0115	0.0115	0.0115	0.0115	0.0115	0.0115	0.0115	0.0115	0.0115	0.0115	0.0115	6110.0	0.010	0,0145	0.0115	0.0115	0.0115	0.0115	0.0115	0.0115	0.0115	0.0115	0.0115	0.0115	0.0115	0.0115	0.0115	0.0115	0.0115	0.0115	0.0115	0.0295	0.0115	0.0115	0,0115	21100	CIINN
LEAD	15 µg/L* µg/L	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	8.0	0.80	0.8	0.8	0.8	9.0	200	9.0	0.8	0.8	0.8	0.80	0.8	0.8	0.8	0.8	8'0	8.0	0.8	0.8	0.8	0.80	0.8	0.8	0.8	0.8	0.8	0.8	0.8		0.0
SAMPLING DATE		\$/16/2013	10/9/2013	4/9/2014	10/8/2014	4/22/2015	10/13/2015	4/18/2016	10/12/2016	10/17/2017		5/16/2013	10/9/2013	4/9/2014	10/8/2014	CI02/22/6	5102/21/101	10/12/2016	4/18/2017	10/17/2017		5/17/2013	10/9/2013	4/9/2014	10/8/2014	4/22/2015	4/18/2016	10/12/2016	4/18/2017	10/17/2017		5/17/2013	10/9/2013	4/9/2014	10/8/2014	4/23/2015	10/13/2015	4/18/2016	01077101	1102/01/14
PARAMETER	STANDARD UNITS	AWW-9R	NW-9R	AW-9R	MW-9R	MW-9R	NW-9R	NW-9R	NW-9R	He-WM	AVERAGE	MW-10	01-WW	01-WW	01-MW	01-00	01-AW	MW-10	DT-WW	MW-10	AVERAGE	11-WW	LI-WW	11-MW	11-WW	LL-WW	11-11	11-11	11-WW	11-WW	AVERAGE	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	21-444	21-MW

LEGEND Yellow = Outside 3 Std Devitations of Background Average Boxed = Outside Applicable Groundwater Standard Summary Table of Surface Water Data Over 5 Years

ARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT	SARNO ROAD CLASS III LANDFILL	UNE 2013 THROUGH DECEMBER 2017
PARAMETERS A1	SARNO ROAD CL	JUNE 2013 THROI

PARAMETER		CONDUCTIVITY (FIELD)	AMMONIA NITROGEN	UN-IONIZED AMMONIA	BIOCHEMICAL OXYGEN DEMAND	CHEMICAL OXYGEN DEMAND	CHLORIDE	NITRATE NITROGEN	TOTAL PHOS- PHORUS as P	SULFATE	TOTAL DISSOLVED SOLIDS
CLASS III (FRESH) SURFACE WATER STANDARD	<del>کر</del> ۳	<50 % increase or <1275 max	NA	0.02 mg/L	NA	NA	NA	NA	AN	NA	NA
GROUNDWATER STANDARD	<i>c</i> r	(1)	2.8 mg/L***	(1)	(1)	(1)	(1)	10 mg/L*	(1)	250 mg/L**	500 mg/L**
UNITS		uS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Sarno Surface Waters	Waters										
SW-1 / SW-1R	5 YR AVERAGE	942	0.43	0.03	7.3	133	SN	0.027	0.037	40.6	598
	std dev	83	0.54	0.03	1.9	17	NS	0.015	0.020	3.6	78
	3 x std dev	250	1.61	0.09	5.8	51	NS	0.044	0.061	10.7	234
	upper range	1192	2.04	0.12	13.1	185	NS	0.071	260.0	51.3	832
Melbourne Surface Water	face Water										
SW-1	5 YR AVERAGE	1586	6.47	0.26	18.4	323	174	0.030	0.79	125	1150
Sarno Surface Waters	Waters										
SW-2	5 YR AVERAGE	1041	3.24	0,04	5.0	105	NS	0.048	0.117	30	721
SW-3	5 YR AVERAGE	1036	0.67	0.05	8.1	153	NS	0.048	0.072	66	688
SW-4 / SW-4R	5 YR AVERAGE	845	0.78	0.01	4.5	47	NS	0.047	0.096	29	546
ZW-7	5 YR AVERAGE	1118	2.40	0.03	SN	SN	NS	NS	NS	SN	NS

LEGEND \*= Primary Drinking Water Standard \*\*\* = Secondary Drinking Water Standard \*\*\*\* = Chapter 62-777 Groundwater Cleanup Target Levels (GCTL)

Wednesday, March 21, 2018

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT SARNO ROAD CLASS III LANDFILL JUNE 2013 THROUGH DECEMBER 2017

		TOTAL HARDNESS	TOTAL KJELDAHL NITROGEN	TOTAL ORGANIC CARBON	TOTAL SUSPENDED SOLIDS	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CHROMIUM	COPPER
CLASS III (FRESH) SURFACE WATER STANDARD	<del>т</del> ж	NA	NA	NA	NA	4300 µg/L	50 µg/L	NA	0.13 µg/L	CALC	CALC
GROUNDWATER STANDARD	œ	(1)	(1)	(1)	(F)	6 µg/L*	10 µg/L*	2000 µg/L*	4 µg/L*	100 µg/L*	1000 µg/L**
UNITS		mg/L	mg/L	mg/L	mg/L	hg/L	hg/L	hg/L	hg/L	hg/L	hg/L
Sarno Surface Waters	Waters										
SW-1 / SW-1R	5 YR AVERAGE	200	4.89	32.1	30.1	0.59	3.1	51.1	0.028	1.25	0.47
	std dev	19	0.53	6.0	5.9	0.25	1.3	9.1	0.008	0.00	0.00
	3 x std dev	57	1.60	18.0	17.8	0.76	3.8	27.4	0.024	0.00	0.00
	upper range	257	6.49	50.1	47.9	1.35	6.9	78.5	0.051	1.25	0.47
Melbourne Surface Water	face Water										
SW-1	5 YR AVERAGE	451	15.1	79	14.4	3.39	18.4	68.8	0.047	4,40	2.23
Sarno Surface Waters	Waters										
SW-2	5 YR AVERAGE	374	4.7	30	34.4	0.33	3.2	51.9	0.040	1.88	0.47
SW-3	5 YR AVERAGE	276	4.2	42	22.0	0.28	3.3	41.4	0.035	1.77	0.47
SW-4 / SW-4R	5 YR AVERAGE	299	1.3	13	47.2	0.29	2.5	58.0	0.055	1.61	2.09
2W-7	5 YR AVERAGE	SN	SN	NS	SN	NS	SN	SN	SN	SN	SN

LEGEND \*= Primary Drinking Water Standard \*\*= Secondary Drinking Water Standard \*\*\* = Chapter 62-777 Groundwater Cleanup Target Levels (GCTL)

Wednesday, March 21, 2018

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT SARNO ROAD CLASS III LANDFILL JUNE 2013 THROUGH DECEMBER 2017

PARAMETER		NOR	LAD L	MERCILIRY		SILVER	THALLING	NAN DO NAN	CIVIC
									2
CLASS III (FRESH) SURFACE WATER STANDARD	ŝ	1000 µg/L	CALC	0.012 µg/L	5 µg/L	0.07 µg/L	6.3 µg/L	NA	CALC
GROUNDWATER STANDARD	~	300 µg/L**	15 µg/L*	2 µg/L*	50 µg/L*	100 µg/L**	2 µg/L*	49 µg/L***	5000 µg/L**
UNITS		hg/L	Hg/L	Hg/L	hg/L	hg/L	hg/L	Hg/L	hg/L
Sarno Surface Waters	Waters								
SW-1 / SW-1R	5 YR AVERAGE	72	2.88	0.0047	0.796	0.0250	0.250	3.15	5.62
	std dev	48	1.20	0.0012	0.372	0.000	0.000	1.37	1.96
	3 x std dev	143	3.60	0.0036	711.1	0.0000	0,000	4.12	5.88
	upper range	215	6.48	0.0083	1.913	0.0250	0.250	7.27	11.50
Melbourne Surface Water	face Water								
SW-1	5 YR AVERAGE	430	0.205	0.0101	0.325	0.0145	0.029	1.93	8.34
Sarno Surface Waters	Waters								
SW-2	5 YR AVERAGE	2001	2.83	0.0027	0.250	0.0250	0.250	2.84	20.70
SW-3	5 YR AVERAGE	328	3.05	0.0036	0.433	0.0305	0.250	3.80	5.76
SW-4 / SW-4R	5 YR AVERAGE	2073	4.14	0.0037	0.285	0.0250	0.250	5.80	15.15
ZW-7	5 YR AVERAGE	NS	SN	SN	SN	SN	SN	SN	NS

LEGEND \* = Primary Drinking Water Standard \*\* = Secondary Drinking Water Standard \*\*\* = Chapter 62-777 Groundwater Cleanup Target Levels (GCTL) CLOSURE COST ESTIMATING FORM FOR SOLID WASTE FACILITIES

Print Form

WHEN PROTECTION	Florida Department of	DEP Form # 62-701.900(28), F.A.C.
STEROMETICA PROTECTION	Environmental Protection	Form Title: Closure Cost Estimating Form For Solid Waste Facilities
TI AND A	Bob Martinez Center	Effective Date: January 6, 2010
善 FLOKIDA	2600 Blair Stone Road	Incorporated in Rule 62-701.630(3), F.A.C
	Tallahassee, Florida 32399-2400	
CLOSURE	COST ESTIMATING FORM FOR SOLID WASTE	EACILITIES

#### SURE COST ESTIMATING FORM FOR SOLID WASTE FACILITIES

Date of DEP Approval:

### I. GENERAL INFORMATION:

Facility Name:	Melbourne Lan	dfill & Rec	ycling Facili	ty	WA	ACS ID: 1844	4
Permit Application	n or Consent Or	rder No.:	05-013345	6-010-SO-22	Expiratio	n Date: 6/1	/2024
Facility Address:	3351 Sarno I	Road, Mell	oourne, Flori	da 32934	10		
Permittee or Own	er/Operator:	Florida R	ecyclers of E	Brevard, LLC.			
Mailing Address:	Same as Fac	ility Addre	SS				
Latitude:	28 <u>°</u>	07'	10.673 "	Longitude:	80°	40'	48.575 "
Coordinate Metho	d: <u>GPS</u>			Datum: Ft. N GUD			
Collected by:				Company/Affiliation:		1 8/0/4/2.000	

Solid Waste Disposal Units Included in Estimate:

Phase / Celi	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	
One	35.31	1998	107,5	85.5		······································	
One	33.31	1990	107.5	00.0	NA	NA	
111.20							
	3						
Total disposal unit acreage included in this estimate: Closure: <u>35.31</u> Long-Term Care: <u>44.72</u>							
Facility type: □ Class I □ Class III							
II. TYPE OF FINANCIAL ASSU	JRANCE E	OCUMENT (C	heck type)				
Letter of Credit*			ce Certificate	□ Esc	row Account		
Performance Bond*	8	Financia			n 29 (FA Defe	real)	
Guarantee Bond*					n 29 (FA Dele	rrai)	
			and Agreement				
* - Indicates mechanisms	that require th	he use of a Standb	y Trust Fund Agreement				
Northwest District Northeast 160 Government Center 7825 Baymeadows Pensacola, FL 32502-5794 Jacksonville, FL 850-595-8360 904-807	Way, Ste. B200 32256-7590	Central District 3319 Maguire Blvd., Ste Orlando, FL 32803-37 407-894-7555		South Distric 2295 Victoria Ave., 3 7 Fort Myers, FL 3390 239-332-697	Ste. 364 400 N. Cong 01-3881 West Palm	easl District Iress Ave., Ste. 200 Beach, FL 33401 -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 ajustment 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 Deflatory by the Deflator for the previous year. The inflation factor may also be obtained from the Solid Waste website <a href="https://www.dep.state.fl.us/waste/categories/swfr">www.dep.state.fl.us/waste/categories/swfr</a> or call the Financial Coordinator at (850) 245-8706.

This adjustment is based on the Department approved	closing cost estimate da	ated:	Feb. 08, 2019
Latest Department ApprovedCurrent Year InClosing Cost Estimate:Factor, e.g. 1			Inflation Adjusted Closing Cost Estimate:
\$2,662,807.39 × 1.022		=	\$2,721,389.15
This adjustment is based on the Department approved	long-term care cost esti	mate dated:	Feb. 08, 2019
Latest Department Approved Annual Long-Term Care Cost Estimate: Factor, e.g. 1	a arange 177		Inflation Adjusted Annual Long-Term Care Cost Estimate:
\$77,678.63 × 1.022		=	\$79,387.56
Number of Years of Long Term Care Rema	ining:	×	5
Inflation Adjusted Long-Term Care Cost	Estimate:	=	\$396,937.80
Signature/by: 🖄 Owner/Operator	□ Engineer 3351	(check what a	pplies)
Signature			Address
David Smith - Managing Member Name & Title	Melbo	ourne, Florida 3293 City, S	4 tate, Zip Code
2-25-20	flarec	yc@bellsouth.net	· ·
Date		E-M	ail Address
321-255-6625 Office - 321-543-7499 Cell David Smith Telephone Number			

OWNERS RESPONSE LETTER TO CONSENT ORDER FROM FDEP

# GRAY ROBINSON

ATTORNEYS AT LAW

1795 WEST NASA BLVD. Post Office Box 1870 (32902-1870) Melbourne, Florida 32901 tel 321-727-8100 fax 321-984-4122 gray-robinson.com BOCA RATON FORT LAUDERDALE FORT MYERS GAINESVILLE JACKSONVILLE KEY WEST LAKELAND MELBOURNE MIAMI NAPLES ORLANDO TALLAHASSEE TAMPA WASHINGTON, DC WEST PALM BEACH

321-727-8100

JACK.KIRSCHENBAUM@GRAY-ROBINSON.COM

July 22, 2020

#### VIA ELECTRONIC MAIL

David Smicherko, Environmental Manager Central District Florida Department of Environmental Protection 3319 Maguire Blvd.Suite232 Orlando, Florida 32803 RECEIVED

JUL 23 2020

DEP Central District

Subject:

Draft Consent Order Comments Florida Recyclers of Brevard-Melbourne Landfill WACS # 18444 3351 Sarno Road Melbourne, FL 32934

Dear Mr. Smicherko:

The undersigned represents as attorney Florida Recyclers of Brevard (FRB). Please consider this a response to your draft Consent Order dated March, 2020 for the subject facility. Rather than commenting specifically on the consent order, it is our position that a consent order level of enforcement instrument is unwarranted to bring the facility into compliance with Department Rules. Therefore, we request a "Compliance Assistance Offer", commonly used by other Department Districts for minor violations such as alleged for this facility. The draft CAO, a copy of which is attached hereto, is based on the warning letter and consent order which state the following:

"A complaint inspection was conducted at your facility on January 23, 2020. During this inspection, possible violations of Chapter 403, F.S., 62-701, Florida Administrative Code (F.A.C.), and Chapter 62-709, F.A.C. were observed.

During the inspection Department personnel noted the following:

- 1. Objectionable odors were noted off-site beyond the property boundary.
- The facility did not have an all-weather access road, at least 20 feet wide, around the perimeter of the site.
- The facility failed to ensure there were 50 foot fire breaks in the piles of processed and unprocessed material.
- 4. Processed material has been stored on site for longer than 18 months."

David Smicherko, Enviromental Manager July 22, 2020 Page 2

The draft COA has a list of recommended corrective actions that will address each of these potential violations and assure that the facility is brought into compliance. Many of these compliance items have been satisfied to date.

Again, it is our position that a COA is more applicable to the alleged minor violations.

The February 4, 2020 warning letter was the first notice to FRB of these alleged violations noted in the inspection. The site has been in operation for over 20 years, and this is the first time these types of issues have been noted in an FDEP inspection.

To address #1, FRB does not believe that their facility is the source on any off-site objectionable odors that may have been detected at New York Avenue, nor at the Westwood condos to the east. FRB has submitted an Odor Remediation Plan, conducted an on-site odor evaluation, and is conducting ongoing on and off-site odor monitoring to comply with the Department's rules for off-site odor prevention. Three months of odor monitoring supports that the FRB facility is not the source of off-site odors, or has remediated potential odor sources on site.

There are numerous potential odor sources surrounding the FRB facility: the Sarno Road Class III landfill (active working face directly west, at the end of New York Ave,); Brevard County Class I transfer station, and the dredge spoil disposal site, due west of the Westwood condos. All these sites have the potential of generating objectionable odors.

We disagree that the cumbersome variance process to Rules 62-701, or 62-709 FAC is required to allow the facility to store processed organic materials for more than 18 months. It is written in the rule: 62-709.330 (2) Processed material shall be removed from the facility within 18 months. However, if a yard processing facility is authorized under another Department solid waste management facility permit, then the department shall authorize on-site storage of processed material for longer than 18 months if the owner or operator demonstrates that there is a quantifiable use for such material for cover, erosion control, closure, or other similar activities at that permitted facility. This statement allows the Department to authorize the longer storage thru a solid waste disposal facility demonstration, commonly completed thru an Operations Plan or permit modification. The draft COA offers this simpler solution to the organics storage issue.

The non-compliance items listed in the warning letter and consent order, according to the Departments' enforcement guidelines, are all "minor" deviations from the solid waste rules. These are FRB's first alleged violations, and they have shown good faith actions to comply. Therefore, fines, and a consent odor are not warranted to force compliance.

David Smicherko, Enviromental Manager July 22, 2020 Page 3

FRB is committed to maintaining compliance with Department regulations. We are looking forward to your comments on this offer, or your offer to conduct a virtual meeting to discuss.

Very truly yours,

/s/ Jack Kirschenbaum

Jack Kirschenbaum

JAK/kf

Attachments

cc: James E. Golden, P.G.



# FLORIDA DEPARTMENT OF Environmental Protection

Central District Office 3319 Maguire Blvd. Suite 232 Orlando, FL 32803 Ron DeSantis Governor

Jeanette Nuñez Lt. Governor

Noah Valenstein Secretary

July , 2019

Mr. Art F. Evans, Managing Member Florida Recyclers of Brevard, LLC 1698 W. Hibiscus Blvd. Suite A Melbourne, FL 32937 <u>Art.fmdc@gmail.com</u>

Re: Compliance Assistance Offer Florida Recyclers of Brevard LLC. WACS # 18444-Melborne Landfill Brevard County

Dear Mr. Evans:

A solid waste management facility compliant inspection was conducted at the above referenced facility on January 23, 2020. During this inspection, potential non-compliance was noted. The purpose of this letter is to offer compliance assistance as a means of resolving these matters.

Specifically, potential non-compliance with the requirements of Chapter 403, Florida Statutes, Chapter 62-701 and Chapter 62-709, Florida Administrative Code (F.A.C.) were observed. Please see the attached inspection report (or Warning letter) for a full account of Department observations and recommendations. The following potential non-compliance items were observed during the inspection:

- 1. Objectionable odors were noted off-site beyond the property boundary.
- The facility did not have an all-weather access road, at least 20 feet wide, around the perimeter of the site.
- 3. The facility failed to ensure there were 50 foot fire breaks in the piles of processed and unprocessed material.
- 4. Processed material has been stored on site for longer than 18 months."

A list of Recommendations for Corrective Action is attached to bring these items into compliance is attached.

We request you review the item(s) of concern noted and respond in writing within **30 days** of receipt of this Compliance Assistance Offer. Your written response should include one of the following:

https://floridadep.gov/

Page 2 of 2

- 1. Describe what has been done to resolve the non-compliance issue(s) or provide a schedule describing how/when the issue(s) will be addressed.
- 2. Provide the requested information, or information that mitigates the concerns or demonstrates them to be invalid, or
- 3. Arrange for the case manager to visit your site to discuss the item(s) of concern.

It is the Department's desire that you are able to adequately address the aforementioned issues so that this matter can be closed. Your failure to respond promptly may result in the initiation of formal enforcement proceedings.

Please address your response and any questions to Ms. Mary Powers of the Central District Office at (407) 897-2921 or via e-mail at <u>mary.powers@floridadep.gov</u>. We look forward to your cooperation with this matter.

Sincerely,

David Smicherko, Environmental Manager Central District Florida Department of Environmental Protection

Enclosures: Inspection Report

cc:

https://floridadep.gov/



# **Department of Environmental Protection Solid Waste Facility Inspection Report**



# **Recommendations for Corrective Action**

### 1.) Odor Remediation Plan

Objectionable odors were noted off-site that potentially could be attributed to the facility. An Odor Remediation Plan in accordance with Rule 62-701.530 (3)(b) must be developed for the facility by a Florida licensed Professional Engineer. Immediately take steps to reduce any objectionable odors. Such steps may include applying or increasing initial cover, reducing the size of the working face, increased turning of compost piles, and ceasing operations in the areas where odors have been detected. Submit to the Department for approval an odor remediation plan for the gas releases. The plan shall describe the nature and extent of the problem and the proposed long-term remedy. The remedy shall be initiated within 30 days of approval.

### 2.) Routine Odor Monitoring Program

The facility shall implement a routine odor monitoring program to determine the timing and extent of any off-site odors, and to evaluate the effectiveness of the odor remediation plan. Retain records of odor monitoring at the facility and submit monthly reports to the Department until the ORP has been proven effective.

### 3.) Maintain All-Weather Perimeter Road

A continuous 20-foot wide perimeter access road was not observed. Facility must maintain an all-weather perimeter access road, at least 20-feet wide at all times. The Operator must conduct a self-inspection of the road daily, and make immediate corrective action to maintain the road. Written records of the results of these inspections must be retained for a minimum of three years.

#### 4.) Maintain Fire Breaks Between Organics Piles

50-foot fire breaks were not observed between all processed and unprocessed materials. The facility must maintain fire breaks between piles of processed and unprocessed organics to insure a maximum of 50 feet access from firefighting equipment. The Operator must conduct a self-inspection of the fire breaks daily, and make immediate corrective action to maintain the fire breaks. Written records of the results of these inspections must be retained for a minimum of three years.

### 5.) Demonstrate Need to Store Processed Organics for More Than 18 Months

Processed organics materials were observed to be stored more than 18 months. The yard trash processing is conducted on a permitted construction and demolition debris disposal facility. In accordance with Rule 62-709.330 (2), the facility shall provide the Department with a demonstration that there is a quantifiable use for such material for cover, erosion control, closure, or other similar activities at that permitted facility to allow the Department to authorize on-site storage of processed material for longer than 18 months. The facility shall submit the demonstration to the Department either in an Operations Plan and Closure Plan modifications, or minor permit modification.



Florida Department of Environmental Protection Inspection Checklist

 FACILITY INFORMATION:

 Facility Name:
 MELBOURNE LANDFILL (AKA FLORIDA RECYCLERS OF BREVARD)

 On-site Inspection Start Date:
 01/23/2020

 On-site Inspection End Date:
 01/23/2020

 WACS No.:
 18444

 Facility Street Address:
 3351 SARNO ROAD

 City:
 MELBOURNE

 County Name:
 BREVARD

 Zip:
 32934

### INSPECTION PARTICIPANTS:

(Include ALL Landfill and Department Personnel with Corresponding Titles) Principal Inspector: Mary Powers, Inspector Other Participants: Andrew Cannella, Manager;

### INSPECTION TYPE:

Complaint Investigation Inspection for C&D Debris Disposal Facility

### ATTACHMENTS TO THE INSPECTION CHECKLIST:

This Cover Page to the Inspection Checklist may include any or all of the following attachments as appropriate.

Note: Checklist items with shaded boxes are for informational purposes only.

10.0 - SECTION 10.0 - REGISTERED SOURCE-SEPARATED ORGANICS PROCESSING FACILITIES

### MELBOURNE LANDFILL (AKA FLORIDA RECYCLERS OF BREVARD)

Inspection Date: 01/23/2020

# 10.0 - SECTION 10.0 - REGISTERED SOURCE-SEPARATED ORGANICS PROCESSING FACILITIES

Requirements:

The requirements listed in this section provide an opportunity for the Department's inspector to indicate the conditions found at the time of the inspection. A "Not Ok" response to a requirement indicates either a potential violation of the corresponding rule or an area of concern that requires more attention. Both potential violations and areas of concern are discussed further at the end of this inspection report.

FACILITY TYPE(S)	MATERIAL(S) PROCESSED	PRODUCES	METHOD OF COMPOSTING
Yard Trash Transfer	✓ Yard Trash	Mulch	Windrow
Station	Manure	Firewood	Passive aerated windrows
✓ Yard Trash Recycling	Animal byproducts	E Fuel	Aerated static piles
	Pre-consumer vegetative	Compost	In-vessel composting
	waste	Soil Amendment	
	Vegetative waste	🗌 Soil	
		Other	
REQUIREMEN	TS AND PROHIBITIONS APPL	ICABLE TO ALL	and the second sec

ltem No.	REGULEMENTS AND PROMINITIONS APPLICABLE TO ALL REGISTERED SOURCE-SEPARATED ORGANICS PROCESSING FACILITIES	Qk	Not Ok	Unk	N/A
10.1	Unauthorized storage, processing, or disposal of solid waste except as authorized at a permitted or registered solid waste management facility or other exempt facility? 62-701.300(1)(a)		1		
10.2	Have objectionable odors been caused or allowed in violation of Chapter 62-296, F.A.C.? 62-709.300(7)(a)		1		
10.3	Unauthorized storage or processing in a way or location that violates air quality or water quality standards? 62-709.300(7)(b), 62-701.300(1)(b)				
10.4	Do geological formations or subsurface features provide support for the facility? 62- 709.300(7)(b), 62-701.300(2)(a)	1			
10.5	Unauthorized disposal or storage prohibited, except yard trash, within 200 feet of any natural or artificial body of water, including wetlands without permanent leachate controls, except impoundments or conveyances which are part of an on-site, permitted stormwater management system or on-site water bodies with no off-site discharge? 62-701.300(2)(e), 62- 709.320(3)	~			
10.6	Unauthorized storage or processing in any natural or artificial water body (e.g. ground water and wetlands within DEP jurisdiction)? 62-709.300(7)(b), 62-701.300(2)(d)	~			
10.7	Unauthorized storage or processing on the right of way of any public highway, road, or alley? 62-709.300(7)(b), 62-701.300(2)(f)	~			
10.8	Unauthorized open burning of solid waste except in accordance with Department requirements? 62-709.300(7)(b), 62-701.300(3)	~			
10.9	Unauthorized incorporation of CCA treated wood into material that will be applied as a ground cover, soil or soil amendment? 62-709.300(7)(b), 62-701.300(14)	~	1		
10.10	Unauthorized unconfined emissions of particulate matter in violation of paragraph 62- 296.320(4)(c), F.A.C.? 62-709.300(7)(b), 62-701.300(15)	1		Ì	
10.11	Does the facility have the necessary operational features and equipment - unless otherwise specified? Including: 62-709.320(2)(a)	{			
10.11.1	Effective barrier to prevent unauthorized entry and dumping? 62-709.320(2)(a)1	1			
10.11.2	Dust and litter control methods? 62-709.320(2)(a)2	1			1
10.1 <b>2</b>	Does the facility have the necessary fire protection and control provisions to deal with accidental burning of solid waste? Including 62-709.320(2)(a)3				
10.12.1	20-foot all-weather access road all around the perimeter? 62-709.320(2)(a)3.a.		1	1	
10.12.2	No material mechanically compacted? 62-709.320(2)(a)3.b.	1	-		1

# MELBOURNE LANDFILL (AKA FLORIDA RECYCLERS OF BREVARD)

Inspection Date: 01/23/2020

ltëm No.	REQUIREMENTS AND PROHIBITIONS APPLICABLE TO ALL REGISTERED SOURCE-SEPARATED ORGANICS PROCESSING FACILITIES	Ōķ	Not Ok	Unk	N/A
10.12.3	No material more than 50 feet from access by motorized firefighting equipment? 62- 709.320(2)(a)3.c.	l	1		·
10.13	Is the facility operated in a manner to control vectors? 62-709.320(2)(b)	1			
10.14	Is the facility operated in a manner to control objectionable odors per with Rule 62-296.320(2), F.A.C.? 62-709.320(2)(c)		1		
10.15	Are any installed drains and leachate or condensate conveyances kept cleaned? 62- 709.320(2)(d)	-			1
10.16	Is the received solid waste processed timely as follows? 62-709.320(2)(e)	с.,	1		)
10.16.1	Is yard trash size-reduced or removed within 6 months or time needed to receive 3,000 tons or 12,000 cubic yards, whichever is greater? (Separated logs with 6 inch diameter or greater can be stored for up to 12 months before being size-reduced or removed.) 62-709.320(2)(e)1	1			
10.16.2	Is putrescible waste (e.g. vegetative wastes, animal byproducts or manure) processed and incorporated into the composting material, or removed from the facility, within 48 hours? 62-709.320(2)(e)2	1			
10.17	Is any treated or untreated biomedical waste; hazardous waste; or any materials having (PCB) concentration of 50 ppm or greater containerized and removed immediately? 62-709.320(2)(f), 62-701.300(4), 62-701.300(5), 62-701.300(6)	1			
10.18	Have all residuals, solid waste and recyclable materials been removed and recycled or disposed and has any remaining processed material been properly used or disposed upon the facility ceasing operations? 62-709.320(2)(g)				. 1
10.19	If temperature is used to show disinfection or vector attraction achieved, are records kept for at least three years? 62-709.320(4)(b)				1
10.20	Is the registration for the facility current and on file with the Department? 62-709.320(3)(b)				1
10.21	Are renewal applications for annual registration of the facility submitted to the Department by July 1st, if applicable? 62-709.320(3)(c)				1
10.22	Are monthly records of incoming and outgoing material kept on-site or at another location as indicated on the registration form for at least three years? 62-709.320(4)(a)	1			
10:23	Are Annual Reports, based upon the preceding calendar year, summarizing monthly records, submitted to the Department as required? 62-709.320(4)(a)	1			
ltem No.	REQUIREMENTS AND PROHIBITIONS APPLICABLE TO YARD TRASH ONLY FACILITIES	Qk	Not Ok	Unk	N/A
10.24	Unauthorized storage or processing within 100 feet from off-site potable water well that existed before facility registered? 62-709.300(7)(b) and 62-701.300(12)(a)	1			
10.25	Unauthorized storage or processing within 50 feet from any body of water, including wetlands? (Does not include parts of permitted stormwater system, or water bodies totally within facility with no discharge to surface waters.) 62-709.300(7)(b), 62-701.300(12)(b)	~			
10.26	is processed material removed from facility within 18 months, unless longer storage authorized by permit? 62-709.330(2)		1		
10.27	Is the facility accepting only yard trash, and bags used to collect yard trash and containerizing any other material? 62-709.330(3)	1			
ltem No.	REQUIREMENTS AND PROHIBITIONS APPLICABLE TO ONLY THOSE FACILITIES THAT BLEND MANURE OR COMPOST VEGETATIVE WASTES, ANIMAL BYPRODUCTS OR MANURE	Ōk	Not Ok	Ųnk	Ň/A
10.28	Unauthorized storage or processing within 500 feet off-site potable water well that existed before facility registered? 62-709.300(7)(b) and 62-701.300(2)(b)				1
10.29	Unauthorized storage or processing within 200 feet from any body of water, including wetlands? (Does not include parts of permitted stormwater system, or water bodies totally within facility with no discharge to surface waters.) 62-709.300(7)(b), 62-701.300(2)(e)				1
10.30	Unauthorized storage or processing within 10,000 feet of any licensed and operating airport runway used by turbine powered aircraft, or within 5,000 feet of any licensed and operating airport runway used only by piston engine aircraft, unless applicant demonstrates that the facility is designed and will be operated so that it does not pose a bird hazard to aircraft? 62-709.300(7)(b), 62-701.320(13)(b)				-

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Inspection Date: 01/23/2020

Item No <u>.</u>	REQUIREMENTS AND PROHIBITIONS APPLICABLE TO ONLY THOSE FACILITIES THAT BLEND MANURE OR COMPOST VEGETATIVE WASTES, ANIMAL BYPRODUCTS OR MANURE	Ök	Not Ok	Unk	N/A
10.31	Is the carbon:nitrogen ratio of the blended feedstocks greater than 20? 62-709.350(2)				
10.32	Do piles exceed 12 feet in height? 62-709.350(3)				1
10.33	Is all material removed within 18 months, unless longer storage authorized by permit? 62- 709.350(5)				
10.34	Is there documentation showing that disinfection has been achieved? Note that this is not required if they are composting only pre-consumer vegetative waste with or without yard trash. 62-709.350(6)				1
10.35	Is there vector attraction reduction controls that include one of the following? 62-709.350(7) Temperature monitoring records showing the waste was composted for at least 14 days, with temperature no lower than 40 degrees Celsius and average temperature of the material being composted higher than 45 degrees Celsius. or 62-709.350(7)(a) Results of testing showing the specific oxygen uptake rate (SOUR) for material being composted or blended equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius. 62- 709.350(7)(b)				1

Inspection Date: 01/23/2020

Current Violations						
Rule:	62-709.320(2)(a)3.a.					
Question Number:	10.12.1					
Explanation:	There shall be an all-weather access road, at least 20 feet wide, all around the perimeter of the site.					
Corrective Action:	Specifically, Florida Recyclers does not have an all-weather access road, at least 20 feet wide, all around the perimeter of the site. Within 30 days of receiving this report, install an all-weather access road at least 20 feet in width around the perimeter of the facility.					
Rule:	62-709.320(2)(a)3.c.					
Question Number:	10.12.3					
Explanation:	None of the processed or unprocessed material shall be more than 50 feet from access by motorized firefighting equipment.					
Corrective Action:	Specifically, Florida Recyclers failed to ensure none of the processed or unprocessed material was more than 50 feet from access by motorized firefighting equipment. Within 30 days of receiving this report, the owner/operator shall install 50 foot fire					
Corrective Action:	breaks through larger piles of debris to create adequately sized internal fire lanes. Within 5 days of completion of corrective activities please notify the Department so that a follow up inspection can be conducted.					
Rule:	62-709.320(2)(c)					
Question Number:	10.14					
Explanation:	The facility shall be operated in a manner to control objectionable odors in accordance with subsection 62-296.320(2), F.A.C.					
	Specifically, Florida Recyclers failed to operate in a manner to control objectionable odors in accordance with subsection 62-296.320(2), F.A.C. Since off site odors were detected beyond the property boundary.					
Corrective Action:	Operate the facility in a manner so as to eliminate objectionableodors from leaving the site.					
Rule:	62-701.300(1)(a)					
Question Number:	10.1					
-	Unauthorized storage, processing, or disposal of solid waste except as authorized					
Expalnation:	at a permitted or registered solid waste management facility or other exempt facility? 62-701.300(1)(a)					

Page 6 of 9

# MELBOURNE LANDFILL (AKA FLORIDA RECYCLERS OF BREVARD)

Inspection Date: 01/23/2020

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Rule:	62-709.300(7)(a)
Question Number:	10.2
Explanation:	No person shall cause or allow the discharge of air pollutants that cause objectionable odor in violation of Chapter 62-296, F.A.C.
	Specifically, Florida Recyclers failed to control objectionable odors off site beyond the property boundary.
Corrective Action:	See Corrective Actions listed for Question Number 10.14.
Rule:	62-709.330(2)
Question Number:	10.26
Explanation:	Processed material shall be removed from the facility within 18 months. However if a yard processing facility is authorized under another Department solid waste management facility permit, then the department shall authorize on-site storage of processed material for longer than 18 months if the owner or operator demonstrates that there is a quantifiable use for such material for cover, erosion control, closure, or other similar activities at that permitted facility. Specifically, Florida Recyclers has failed to remove processed material from the facility within 18 months. A longer period of storage is not authorized by their permit.
Corrective Action:	Within 60 days of receiving this report, remove all processed material that has remained on site at the facility for longer than 18 months

Inspection Date: 01/23/2020

#### COMMENTS:

Permit 0133456-012-SO-MM Issued: 04/13/2017 Permit Renewal Application Due Date: 4/1/2024 Permit Expires: 6/1/2024

On January 23, 2020 at 8:17 A.M., no odor was detected at Ridgewood Club Condominium, which lies to the east of Florida Recyclers. At 8:20 A.M., a musty, earthy odor was detected on New York avenue located southeast of Florida Recyclers. At 8:31 A.M., Mary Powers of DEP met with Andrew Cannella, Manager of Florida Recyclers, and the on site inspection began.

A large compost pile exists in the southeast corner of the facility that Andrew Canella stated is approximately 5 years old (Fig. 1). This is a violation of Rule 62-709.330(2), F.A.C., listed above, which states that "processed material shall be removed from the facility within 18 months. However, if a yard processing facility is authorized under another Department solid waste management facility permit, then the department shall authorize on-site storage of processed material for longer than 18 months if the owner or operator demonstrates that there is a quantifiable use for such material for cover, erosion control, closure, or other similar activities at that permitted facility."

The compost pile is adjacent to the C&D working face of the facility (Fig. 2). An odor similar to the one detected off site was noted in this area.

Additionally, large piles of compost exist in the central part of the property (Fig. 3). Steam was observed emanating and dispersing from the piles of compost; most notably when a pile was being turned by use of an excavator (Fig. 4). Freshly ground yard waste is located next to the compost piles that exist in the central part of the property (Fig. 5).

#### ATTACHMENTS:

Fig. 1 Large compost pile



Fig. 2 C&D adjacent to compost



Inspection Date: 01/23/2020

Fig. 3 Central compost piles



Fig. 5 freshly ground yard waste



Fig. 4 Steam off compost piles



Inspection Date: 01/23/2020

#### Signed:

Mary Powers	Inspector			
PRINCIPAL INSPECTOR NAME	PRINCIPAL INSPECTOR TITLE			
-Mary Former	FDEP	01/29/2020		
PRINCIPAL INSPECTOR SIGNATURE	ORGANIZATION	DATE		
Andrew Cannella	Manager			
REPRESENTATIVE NAME	REPRESENTATIVE TITLE			
NO SIGNATURE REQUIRED		_		
REPRESENTATIVE SIGNATURE	ORGANIZATION			
· · · · · · · · · · · · · · · · · · ·				

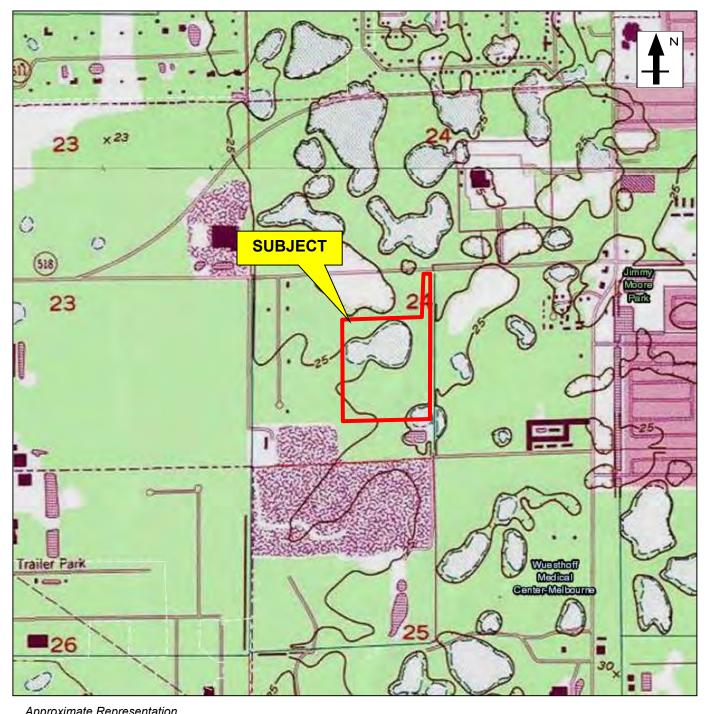
NOTE: By signing this document, the Site Representative only acknowledges receipt of this Inspection Report and is not admitting to the accuracy of any of the items identified by the Department as "Not Ok" or areas of concern.

#### **Report Approvers:**

Approver: David Smicherko

Inspection Approval Date: 01/30/2020

TOPOGRAPHY MAP



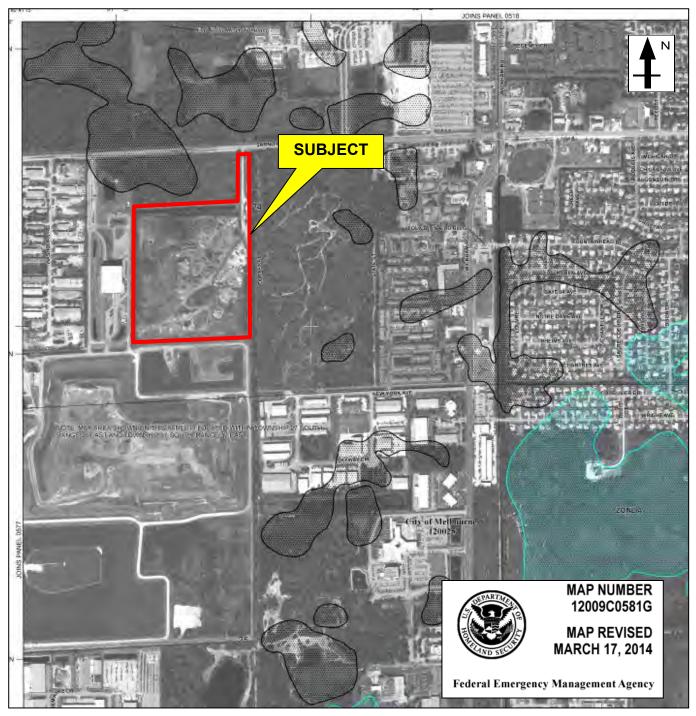
Approximate Representation Source: USGS, Topographical Map

# SOIL MAP WITH DESCRIPTIONS



Approximate Representation Source: Florida Soil Survey, Brevard County

FLOOD PLAIN MAP



Approximate Representation Source: FEMA

QUALIFICATIONS OF APPRAISERS

# QUALIFICATIONS OF APPRAISER WALTER N. CARPENTER JR., MAI, CRE

#### **BUSINESS ADDRESS**

Pinel & Carpenter, Inc. 1390 Hope Road, Suite 100 Maitland, FL 32751

#### **EDUCATION**

University of Florida; Bachelor of Science Degree in Business Administration majoring in Real Estate, 1975.

#### **PROFESSIONAL EDUCATION**

Completed the following courses under the direction of the American Institute of Real Estate Appraisers:

- Transferred Value (2020)
- The Appraiser as an Expert Witness: Preparation and Testimony (2019)
- Evaluating Commercial Leases: The Tenant and the Terms Both Matter (2019)
- Supervisory Appraiser/Trainee Appraiser (2018)
- Another View of The Tough One: Comparison Approach for Mixed Use Properties (2018)
- The Tough One: Mixed Use Properties (2018)
- National USPAP Update (2018)
- Florida Law (2018)
- National USPAP Update (2016)
- Florida Law (2016)
- Business Practices & Ethics (2015)
- Supervisory Appraiser/Trainee Appraiser (2015)
- Purchase Price Allocations for Financial Reporting & Tax (2014)
- National USPAP Update (2014)
- Florida Law (2014)
- Business Practices & Ethics (2013)
- National USPAP Update (2012)
- Florida Appraisal Law (2012)
- Financial Crimes Symposium (2011)
- Litigation Appraising: Specialized Topics & Applications (2011)
- The Appraiser as an Expert Witness (2011)
- National USPAP Update (2010)
- Appraisal Curriculum Overview (2010)
- National USPAP Equivalent (2008)
- Business and Ethics (2008)
- Identify & Prevent Real Estate Fraud (2008)
- USPAP Update (2006)
- Eminent Domain (2005)
- USPAP Update (2004)
- Appraisal of Real Estate (2004)
- Separating Real and Personal Property from Intangible Business Assets (2003)
- Condemnation Appraising: Advanced Topics and Applications (1999)
- Litigation Valuation/Mock Trial (1993)
- Litigation Valuation (1992)
- Standards of Professional Practice Exam SPP (1990)
- Litigation Valuation (1987)
- The Electronic Spreadsheet in the Appraisal Office-Seminole Community College (1985)
- Standards of Professional Practice (1984)
- Introduction to R.E. Investment Analysis (1983)
- Urban Properties (1977)
- Capitalization Theory and Techniques (1976)
- Fundamentals of Appraising (1975)

### QUALIFICATION OF APPRAISER WALTER N. CARPENTER JR., MAI, CRE Contd.

#### SEMINARS ATTENDED

- 2019 Central Florida Real Estate Forum (2019)
- Ignorance Isn't Bliss: Understanding an Investigation by a State Appraiser Regulatory Board or Agency (2019)
- 2018 Central Florida Real Estate Forum: Unity of the Community (2018)
- Appraising for Department of Interior-OVS and other Federal Agencies (2018)
- New Technology for Appraisers (2016)
- Fall Education Seminar Assoc. of Eminent Domain Professionals (2016)
- Online Cool Tools: New Technology for Real Estate Appraisers (2016)
- 2014 Central Florida Real Estate Forum: Unity of the Community (2014)
- Senior Housing & Long Term Care Properties (2014)
- Excel as an Appraiser: Making Your Job Easier Using Excel Spreadsheets (2013)
- Understanding the Loan Quality Initiative & Residential Collateral Data Delivery (2011)
- Investment Firm & Institutional Investor Initiative & Perspectives on RE Valuation (2010)
- Understanding Repurchase Demands & Rebuttal Appraisals (2010)
- Analyzing the Effects of Environmental Contamination (2010)
- Financial Reform Legislation (2010)
- Property Tax Assessment (2010)
- Residential Valuation Trends (2009)
- Valuation for Financial Reporting (2009)
- Analyzing Operative Expenses (2008)
- Analyzing Distressed Real Estate (2008)
- Supervisory/Trainee Roles & Relationship (2008)
- Appraisal Law Update (2008)
- Appraiser Law Update (2006)
- Appraisal Scope of Work (2006)
- Technology III (2006)
- Complex Cures Using Before and After Techniques (2000)
- Technology Forum, Part I (1999)
- Valuing Your Business (1999)
- Case Study Seminar (1999)
- The Globalization of Real Estate (1999)
- Appraisal of Local Retail Properties (1998)
- The Appraisal and Capital markets (1998)
- Understanding and Using DCF Software (1998)
- The High Tech Appraisal Office (1996)
- The Internet and Appraising (1996)
- Case Law of Eminent Domain (1996)
- Special Purpose Properties-Challenges of Real Estate Appraising/ Limited Markets (1995)
- Understanding Limited Appraisals (1994)
- Core Law Update (1994)
- Appraising Troubled Properties (1992)
- Reviewing Appraisals (1990)
- Persuasive Style in the Narrative Appraisal (1989)
- Standards of Professional Practice Update (1988)
- Applied Appraisal Techniques (1983)
- Applied Statistical Analysis in Appraising (1980)
- Income Capitalization Workshop (1978)
- New Developments in Condemnation (1975)
- H.U.D. Uniform Act of 1970

Completed the following courses and seminars under the direction of the Real Estate Securities and Syndication Institute:

- Applied Real Estate Syndication (1981)
- Syndication Real Estate (1982)
- Real Estate Partnership Administration

### QUALIFICATION OF APPRAISER WALTER N. CARPENTER JR., MAI, CRE Contd.

### LICENSES

State-Certified General Real Estate Appraiser License No. RZ1231

Real Estate Broker, State of Florida License No. BK 0130637

### **PROFESSIONAL DESIGNATION**

Member of the Appraisal Institute, holding the MAI designation, Certificate No. 7567 Member of the Counselors of Real Estate, CRE

#### **EXPERIENCE**

President, Pinel & Carpenter, Inc., 1987 to present. Vice-President, Pinel, Rex & Carpenter, Inc., 1980-1987 Associate and Assistant to Thomas H. Pinel, MAI, 1975-1980.

Active in real estate sales in Orlando since 1974 and in real estate appraising since 1975.

Completed appraisals of military bases, water/wastewater treatment plants, residential, commercial, and industrial properties, citrus groves, and special purpose properties, including office buildings, shopping centers, apartments, condominiums, theaters, restaurants, churches, dance studios, child care centers, etc., prepared for attorneys, accounting firms, banks, Internal Revenue Service, City of Orlando, Orange County, corporations, and individuals since 1975.

#### MAJOR APPRAISALS

duPont Centre, Church Street Station Entertainment Complex, Disney's Celebration City, LeeVista Center, Airport Industrial Park at Orlando, Hunter's Creek, City of Casselberry Electric & Distribution System, City of Port St. Lucie Water & Waste Water System, City of New Smyrna Water & Waste Water System, Eastern Subregional Waste Water Treatment Plant, Fairbanks Avenue Widening, Oak Ridge Road Widening, Conroy-Windermere Road Widening, Old Winter Garden Road Widening, and Forsyth Road Widening, Naval Training Center at Orlando, the Charleston Navy Base, City of Winter Park Utilities System, Gulfstream Properties Natural Gas Pipeline, Universal Studios – MCA Parcels

### PROFESSIONAL SERVICE

- NFIB, National Federation of Independent Business, Leadership Council
- Member of The Counselors of Real Estate, 2003 to present
- Executive Committee, Urban Land Institute, 2000 to 2012
- National Board of Directors, Appraisal Institute, 2001 2004

### QUALIFICATION OF APPRAISER WALTER N. CARPENTER JR., MAI, CRE Contd.

- Executive Committee, Appraisal Institute, 2003 -2004
- National Committee of Regional Chairs, Chairman Appraisal Institute, 2004
- National Chairman, Government Relations Committee, Appraisal Institute, 2000 2001
- Vice Chairman, Government Relations Committee, Region X, Appraisal Institute, 1997 2000
- Chairman, Government Relations Committee, Appraisal Institute, East FL Chapter, 1994 1999
- President, East Florida Chapter Appraisal Institute, 2001
- Vice-President, East Florida Chapter Appraisal Institute, 1999
- Treasurer, East Florida Chapter Appraisal Institute, 1998
- Secretary, East Florida Chapter Appraisal Institute, 1997
- Director, East Florida Chapter Appraisal Institute, 1996 to 2002
- Member of the Legislative Committee, Home Builders Association of Mid-Florida, 1985 1999
- Member of the Legislative Committee, Greater Orlando Association of Realtors
- Alumni Relations Director, Florida Blue Key Alumni Association of Central Florida
- Member of the Real Estate Securities and Syndication Institute
- Member of the Central Florida Investment Council
- Chairman, Education Committee, Greater Orlando Association of Realtors, 1988
- Director, The Economic Club of Orlando, 1985-1988
- Member of the Real Estate Advisory Board, Center for Real Estate Studies, University of Florida, Warren College of Business, 2001 to present
- Member of the National Federation of Independent Business Florida Chapter
- Member of the Association of Eminent Domain Professionals,
- Member of The Executive Committee (TEC), 2003 to 2012
- Member of US Chamber of Commerce
- Member of Orlando Regional Chamber of Commerce
- Moderator of Linear Rights-of-Way Workshop, Washington, DC, December 2001

#### **COMMUNITY SERVICE**

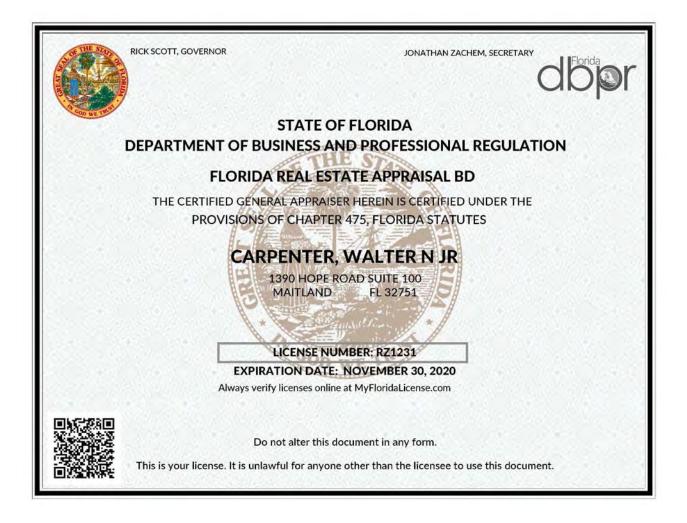
- Member, State of Florida Employer-Sponsored Benefits Study Task Force, 2013-2014
- President, Central Florida Fair, 2000-2002
- Director, Central Florida Fair, 1992 to present
- Chairman, Last Wave Committee, House of Hope, 1999
- Chairman, Stewardship Committee, St. Michael's Episcopal Church, 1998, 2009, 2010
- Chairman, Search Committee, St. Michael's Episcopal Church, 2014
- Ninth Judicial Circuit Grievance Committee Member, 1998 2000
- Director, Christian Service Center, 2008-2013
- Treasurer, Christian Service Center, 2013
- Director, Canterbury Episcopal Retreat & Conference Center, 1996 2000
- Director, Winter Park YMCA, 1987-1991
- Vestry, St. Michael's Episcopal Church, 1979-1981; 1989-1992
- President, Board of Directors, Big Brothers and Big Sisters of Central Florida, Inc., 1979
- Director, Big Brothers of Greater Orlando, Inc., 1977-1979
- Member of Committee of 100 Orange County
- Board of Directors, Committee of 100 Orange County, 2014
- Member of Florida United Business Association
- Member of The Leadership Trust NFIB

### Walter N. Carpenter

### State of Florida

## Department of Business and Professional Regulation

### License



### **BUSINESS ADDRESS**

Pinel & Carpenter, Inc. 1390 Hope Rd., Suite 100 Maitland, Florida 32751

### **EDUCATION**

Bachelor of Science Degree (Real Estate), 2008, The Florida State University, Tallahassee, Florida, 2008

Bachelor of Science Degree (Entrepreneurship and Small Business Management), 2008, The Florida State University, Tallahassee, Florida, 2008

## LICENSES

State-Certified General Real Estate Appraiser License No. RZ3677

Real Estate Broker, State of Florida License No. BK3315857

## **PROFESSIONAL EDUCATION**

- Advanced Concepts and Case Study (2019)
- Condemnation Appraising: Principals and Applications (2019)
- 7-Hour USPAP Update (2018)
- 3-Hour Law Update (2018)
- Central Florida Real Estate Forum (2018)
- Three Hour Florida Law (2018)
- Advanced Market Analysis/ Highest & Best Use (2017)
- 7-Hour USPAP Update (2016)
- 3-Hour Law Update (2016)
- Business Practices and Ethics (2016)
- Three Hour Florida Law (2016)
- National USPAP Update (2016)
- Advance Income Capitalization (2015)
- Appraiser as an Expert Witness: Preparation & Testimony (2012)
- General Appraiser Market Analysis and Highest and Best Use (2010)
- Statistics, Modeling and Finance (2010)
- General Appraiser Sales Comparison Approach (2010)
- General Appraiser Site Valuation and Cost Approach (2010)
- General Appraiser Income Approach (2009)
- General Appraiser Report Writing and Case Studies (2009)
- Florida Laws and Rules (2009)
- Roles and Responsibilities of Supervisors and Trainees (2008)
- The Florida State University Real Estate Trends Conference 2008

## QUALIFICATIONS OF APPRAISER KEVIN M. EATON

(CONTD.)

### EXPERIENCE

Nov. 2014 to Date - Staff Appraiser, Pinel & Carpenter, Inc.,

1390 Hope Road, Suite 100, Maitland, FL 32751

Aug. 2008 - Nov. 2014 - Associate Appraiser, Calhoun, Dreggors & Associates, Inc.,

728 W. Smith Street, Orlando, FL 34704

## MAJOR APPRAISALS

Clients served include: Bank of America, New Traditions Bank, BB&T, IberiaBank, Florida Department of Transportation, Greater Orlando Aviation Authority, Central Florida Expressway, Osceola County, Orange County, City of Kissimmee, City of Altamonte Springs, Shutts & Bowen, Orange County School Board, Broad & Cassel, Lowndes, Drosdick, Doster, Kantor & Reed, P.A., Dean Mead, Gray Robinson, et. al.

## APPRAISAL EXPERIENCE

Appraisal experience includes narrative and form report writing of commercial & residential vacant land, apartment complexes, automobile dealerships, condemnation/eminent domain, litigation, mobile home parks, shopping centers, regional enclosed shopping malls, retail buildings, industrial buildings, office buildings, churches, educational facilities, financial institutions, conservation land, proposed residential subdivision properties, industrial sites and form report writing of residential properties.

### **PROFESSIONAL AFFILIATIONS**

Candidate for Designation, Appraisal Institute East Chapter Member, Appraisal Institute

# QUALIFICATIONS OF APPRAISER KEVIN M. EATON

(CONTD.)

