JONES EDMUNDS

December 19, 2014

Richard B. Tedder, PE
Solid Waste Section
Florida Department of Environmental Protection
2600 Blair Stone Road, MS #4565
Tallahassee, Florida 32399

RE: Highlands County Solid Waste Agricultural Plastics Disposal Unit
Operations Permit Renewal Application
Permit No.: 0038570-023-SO/08
Jones Edmunds Project No.: 08345-015-01

Mr. Tedder:

On behalf of the Highlands County Solid Waste, Jones Edmunds & Associates, Inc. is pleased to provide the enclosed operations permit renewal application for the Agricultural Plastics Disposal Unit at the Highlands County Solid Waste Management Center in Sebring, Florida. The enclosed application includes Florida Department of Environmental Protection (FDEP) Form 62-701.900(1) and supporting information for the renewal of Permit No. 0038570-023-SO/08.

Jones Edmunds is providing one original hard copy and one electronic copy in PDF format on CD of the enclosed permit application. Jones Edmunds requests an application fee waiver and has included a copy of FDEP's approval for a Reduction or Waiver of Permit Processing Fees for calendar year 2015 under Section 218.075 of Florida Statutes 2008, dated November 12, 2014 (see Attachment D.5 of the permit application submittal).

If you or your staff have any questions, please feel free to contact me at (352) 377-5821 or hsboudreau@jonesedmunds.com.

Sincerely,

Harold S Boudreau III

Harold S. Boudreau, III, PE
Project Manager

\\gnv-projects\projects\08345-highlandscounty\015-01 ag plastic renewal\consult\permitting\coverletter.docx

Enclosures

xc: Ramon Gavarrete, Highlands County Solid Waste Division

CELEBRATING 40 YEARS

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# HIGHLANDS COUNTY AGRICULTURAL PLASTICS DISPOSAL UNIT OPERATION PERMIT RENEWAL APPLICATION

## Permit Number: 0038570-023-SO/08

Highlands County Board of County Commissioners | December 2014

**HIGHLANDS COUNTY**

**AGRICULTURAL PLASTICS DISPOSAL UNIT**

**OPERATION PERMIT**

**RENEWAL APPLICATION**

FDEP Permit No.: 0038570-023-SO/08

FDEP WACS No. 00074956

**Prepared for:**

HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS

600 S. Commerce Avenue

Sebring, Florida 33870

**Prepared by:**

JONES EDMUNDS & ASSOCIATES, INC.

730 NE Waldo Road

Gainesville, Florida 32641

Certificate of Authorization #1841

December 2014


Harold S. Boudreau, III, PE

Florida PE No. 77030

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# APPENDICES

# Introduction

# 1 INTRODUCTION

Jones Edmunds prepared this permit renewal application and is submitting it to the Florida Department of Environmental Protection (FDEP) on behalf of the Highlands County Board of County Commissioners for the Highlands County Solid Waste Management Center (HCSWMC) Agricultural (Ag) Plastic Disposal Unit. This application is to renew the Ag Plastic permit No. 0038570-023-SO/08.

The HCSWMC AG Plastic operation permit expires on February 17, 2015. The permit requires that a permit renewal application be submitted at least 60 days before the permit expires. Therefore, the due date for submittal of the application package is December 19, 2014.

The 6-acre Ag Plastic Landfill is within the 147-acre HCSWMC on the northwest portion of the 987-acre HCSWMC property at 12700 Arbuckle Creek Road, near Sebring, Florida 33870, in Section 22, Township 34 South, and Range 30 East. The HCSWMC also operates a Class I Landfill (permit number: 0038570-030-SO/01), Construction and Demolition Debris Landfill (permit number: 0038570-029-SO/24), as shown in previously submitted 2014 Class I Application (reference below), Appendix B, Sheet C1. No expansions of the Ag Plastic Landfill are planned.

The permit application includes the *Application to Construct, Operate, Modify, or Close a Solid Waste Management Facility* (FDEP Form 62-701.900(1)) and the supporting information as required for permit renewal of an active Ag Plastic Landfill. Supporting documentation meets the requirements of Rule 62-701, FAC and includes an updated Operation Plan, and Engineering Plan. The Closure Plan and Long-Term Care Plan were submitted previously has part of the 2004 Ag Plastic Application (reference below). Information previously submitted to FDEP that is still valid was not resubmitted for this permit renewal, and the previous submittals are referenced. Previous submittals incorporated by reference in this application document are listed below:

- 2004 Ag Plastic Application – *Application and Engineering Report for Construction and Operation Permit for Agricultural Waste, Gas Plastic Film, Tubing, and Piping Disposal Facility*, dated May 28, 2004, submitted by Highlands County Department of Solid Waste Management, prepared by PBS&J.
- 2009 Ag Plastic Application – *Permit Application and Engineering Report For Agricultural Plastic Disposal Unit Operation Permit Renewal*, dated September 9, 2009, submitted by Highlands County Department of Solid Waste Management, prepared by PBS&J.
- 2014 Class I Application – *Highlands County Class I Landfill Operation Permit Renewal Application,* dated June 2014, prepared for Highlands County Board of County Commissioners, prepared by Jones Edmunds & Associates, Inc.

# Application to Construct, Operate, Modify, or Close a Solid Waste Management Facility

# FDEP Form 62-701.900(1)

Florida Department of
Environmental Protection
Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form #: 62-701.900(1), F.A.C.

Form Title: Application to Construct, Operate, Modify, or Close a Solid Waste Management Facility

Effective Date: August 12, 2012

Incorporated in Rule: 62-701.330(3), F.A.C.

# STATE OF FLORIDA
# DEPARTMENT OF ENVIRONMENTAL PROTECTION

# APPLICATION TO CONSTRUCT, OPERATE, MODIFY, OR CLOSE A SOLID WASTE MANAGEMENT FACILITY

# APPLICATION INSTRUCTIONS AND FORMS

Northwest District
160 Governmental Center
Suite 308
Pensacola, FL 32502-5794
850-595-8300

Northeast District
7777 Baymeadows Way West
Suite 100
Jacksonville, FL 32256-7590
904-256-1700

Central District
3319 Maguire Boulevard
Suite 232
Orlando, FL 32803-3767
407-897-4100

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

South District
2295 Victoria Ave, Suite 364
P.O. Box 2549
Fort Myers, FL 33901-3881
239-344-5600

Southeast District
400 North Congress Avenue
Suite 200
West Palm Beach, FL 33401
561-681-6600

## INSTRUCTIONS TO APPLY FOR A SOLID WASTE MANAGEMENT FACILITY PERMIT

### I. General

Solid Waste Management Facilities shall be permitted pursuant to Section 403.707, Florida Statutes (FS) and in accordance with Florida Administrative Code (FAC) Chapter 62-701. A minimum of four copies of the application shall be submitted to the appropriate Department office having jurisdiction over the facility. The appropriate fee in accordance with Rule 62-701.315, FAC, shall be submitted with the application by check made payable to the Department of Environmental Protection (DEP).

Complete appropriate sections for the type of facility for which application is made. Entries shall be typed or printed in ink. All blanks shall be filled in or marked "Not Applicable" or "No Substantial Change". Information provided in support of the application shall be marked "Submitted" and the location of this information in the application package indicated. The application shall include all information, drawings, and reports necessary to evaluate the facility. Information required to complete the application is listed on the attached pages of this form.

### II. Application Parts Required for Construction and Operation Permits

A. Landfills and Ash Monofills - Submit Parts A through S
B. Asbestos Monofills - Submit Parts A, B, C, D, E, F, I, K, M, O through S
C. Industrial Solid Waste Disposal Facilities - Submit Parts A through S

**NOTE:** Portions of some Parts may not be applicable.

**NOTE:** For facilities that have been satisfactorily constructed in accordance with their construction permit, the information required for A, B and C type facilities does not have to be resubmitted for an operation permit if the information has not substantially changed during the construction period. The appropriate portion of the form should be marked "no substantial change".

### III. Application Parts Required for Closure Permits

A. Landfills and Ash Monofills - Submit Parts A, B, L, N through S
B. Asbestos Monofills - Submit Parts A, B, M, O through S
C. Industrial Solid Waste Disposal Facilities - Submit Parts A, B, L through S

**NOTE:** Portions of some Parts may not be applicable.

### IV. Permit Renewals

The above information shall be submitted at time of permit renewal in support of the new permit. However, facility information that was submitted to the Department to support the expiring permit, and which is still valid, does not need to be re-submitted for permit renewal. Portions of the application not re-submitted shall be marked "no substantial change" on the application form.

## V. Application Codes

| | | |
|---|---|---|
| S | - | Submitted |
| LOCATION | - | Physical location of information in application |
| N/A | - | Not Applicable |
| N/C | - | No Substantial Change |

## VI. Listing of Application Parts

PART A: GENERAL INFORMATION

PART B: DISPOSAL FACILITY GENERAL INFORMATION

PART C: PROHIBITIONS

PART D: SOLID WASTE MANAGEMENT FACILITY PERMIT REQUIREMENTS, GENERAL

PART E: LANDFILL PERMIT REQUIREMENTS

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PART L: WATER QUALITY AND LEACHATE MONITORING REQUIREMENTS

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PART O: LANDFILL CLOSURE REQUIREMENTS

PART P: OTHER CLOSURE PROCEDURES

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PART R: FINANCIAL ASSURANCE

PART S: CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

**STATE OF FLORIDA**
**DEPARTMENT OF ENVIRONMENTAL PROTECTION**
**APPLICATION FOR A PERMIT TO CONSTRUCT, OPERATE, MODIFY OR CLOSE A SOLID WASTE MANAGEMENT FACILITY**

Please Type or Print

**PART A. GENERAL INFORMATION**

1. Type of disposal facility (check all that apply):
   - ☐ Class I Landfill
   - ☐ Class III Landfill
   - ☐ Industrial Solid Waste
   - ☑ Other (describe):
   - ☐ Ash Monofill
   - ☐ Asbestos Monofill

   Disposal Unit for agricultural waste plastic film, plastic tubing, and plastic irrigation pipe.

**NOTE:** Waste Processing Facilities should apply on Form 62-701.900(4), FAC;
Yard Trash Disposal Facilities should notify on Form 62-701.900(3), FAC;
Compost Facilities should apply on Form 62-709.901(1), FAC; and
C&D Disposal Facilities should apply on Form 62-701.900(6), FAC

2. Type of application:
   - ☐ Construction
   - ☑ Operation
   - ☐ Construction/Operation
   - ☐ Closure
   - ☐ Long-term Care Only

3. Classification of application:
   - ☐ New
   - ☑ Renewal
   - ☐ Substantial Modification
   - ☐ Intermediate Modification
   - ☐ Minor Modification

4. Facility name: Highlands County Solid Waste Management Center

5. DEP ID number: 00074956 County: Highlands

6. Facility location (main entrance):
   12700 Arbuckle Creek Road, Sebring, Florida, 33870

7. Location coordinates:
   Section: 22 Township: 34S Range: 30E
   Latitude: 27 ° 30 ' 14 " Longitude: 81 ° 19 ' 4 "
   Datum: WGS 84 Coordinate method: Google Earth
   Collected by: M. Pollman Company/Affiliation: Jones Edmunds & Associates, Inc.

8. Applicant name (operating authority): Highlands County Board of County Commissioners

Mailing address: 600 South Commerce Avenue (Street or P.O. Box) Sebring (City) Florida (State) 33870 (Zip)

Contact person: Ramon D. Gavarrete, PE Telephone: (863) 402-6877

Title: County Engineer

rgavarre@hcbcc.org
E-Mail address (if available)

9. Authorized agent/Consultant: Jones Edmunds & Associates, Inc.

Mailing address: 730 Northeast Waldo Road
Street or P.O. Box City State Zip

Contact person: Hal S. Boudreau, III, PE Telephone: (352) 377-5821

Title: Project Manager

hsboudreau@jonesedmunds.com
E-Mail address (if available)

10. Landowner (if different than applicant): Landowner same as applicant

Mailing address: _____
Street or P.O. Box City State Zip

Contact person: _____ Telephone: (____) _____

_____
E-Mail address (if available)

11. Cities, towns, and areas to be served:
Highlands County

12. Population to be served:
Current: 101,600 (2015 BEBR Medium Projection) Five-Year Projection: 107,200 (2020 BEBR Medium Projection)

13. Date site will be ready to be inspected for completion: N/A

14. Expected life of the facility: 79 years

15. Estimated costs:
Total Construction: $ 0 Closing Costs: $ 466,461

16. Anticipated construction starting and completion dates:
From: N/A To: N/A

17. Expected volume or weight of waste to be received:
_____ $yds^3$/day ~1,000 tons/year tons/day _____ gallons/day

**PART B. DISPOSAL FACILITY GENERAL INFORMATION**

1. Provide brief description of disposal facility design and operations planned under this application:

Operations permit will allow the continued disposal of agricultural plastic waste in the Agricultural Plastic Disposal Unit. Waste disposal will be limited to agricultural plastic film, plastic tubing, plastic irrigation pipe, and other plastic agricultural waste. The waste is generally received twice per year in the spring and fall.

2. Facility site supervisor: Dick Gorman

Title: Landfill Operations Manager Telephone: (863) 402-7786

dgorman@hcbcc.org
E-Mail address (if available)

3. Disposal area: Total acres: 6 Used acres: 6 Available acres: 0

4. Weighing scales used: ☑ Yes ☐ No

5. Security to prevent unauthorized use: ☑ Yes ☐ No

6. Charge for waste received: N/A $/yds$^3$ 45 $/ton

7. Surrounding land use, zoning:

- ☐ Residential
- ☑ Agricultural
- ☐ Commercial
- ☐ Industrial
- ☐ None
- ☐ Other (describe):

8. Types of waste received:

- ☐ Household
- ☐ Commercial
- ☐ Incinerator/WTE ash
- ☐ Treated biomedical
- ☐ Water treatment sludge
- ☐ Air treatment sludge
- ☐ Agricultural
- ☐ Asbestos
- ☐ C & D debris
- ☐ Shredded/cut tires
- ☐ Yard trash
- ☐ Septic tank
- ☐ Industrial
- ☐ Industrial sludge
- ☐ Domestic sludge
- ☑ Other (describe):

Waste plastic film, plastic irrigation tubing, and plastic irrigation pipe from agricultural operations only.

9. Salvaging permitted: ☐ Yes ☑ No

10. Attendant: ☑ Yes ☐ No Trained operator: ☑ Yes ☐ No

11. Trained spotters: ☑ Yes ☐ No Number of spotters used: 1

12. Site located in: ☐ Floodplain ☐ Wetlands ☑ Other (describe):
Uplands

13. Days of operation: Monday through Saturday

14. Hours of operation: 7:30 am to 5:00 pm

15. Days working face covered: None required.

16. Elevation of water table: 62 ft. Datum Used: NGVD 1929

17. Number of monitoring wells: None for Ag Plastic - adjacent to Class I Landfill.

18. Number of surface monitoring points: None - adjacent to Class I Landifll

19. Gas controls used: ☐ Yes ☑ No Type controls: ☐ Active ☐ Passive

Gas flaring: ☐ Yes ☑ No Gas recovery: ☐ Yes ☑ No

20. Landfill unit liner type:

- ☐ Natural soils
- ☐ Single clay liner
- ☐ Single geomembrane
- ☐ Single composite
- ☐ Slurry wall
- ☐ Double geomembrane
- ☐ Geomembrane & composite
- ☐ Double composite
- ☑ None
- ☐ Other (describe):

21. Leachate collection method:

- ☐ Collection pipes
- ☐ Geonets
- ☐ Well points
- ☐ Perimeter ditch
- ☐ Other (describe):
- ☐ Double geomembrane
- ☐ Gravel layer
- ☐ Interceptor trench
- ☑ None

22. Leachate storage method:

☐ Tanks ☐ Surface impoundments

☑ Other (describe):

No leachate collection or storage.

23. Leachate treatment method:

☐ Oxidation ☐ Chemical treatment

☐ Secondary ☐ Settling

☐ Advanced ☑ None

☐ Other (describe):

No leachate collection or treatment.

24. Leachate disposal method:

☐ Recirculated ☐ Pumped to WWTP

☐ Transported to WWTP ☐ Discharged to surface water/wetland

☐ Injection well ☐ Percolation ponds

☐ Evaporation ☐ Spray irrigation

☑ Other (describe):

No leachate collection or disposal.

25. For leachate discharged to surface waters:

Name and Class of receiving water:

N/A

26. Storm Water:

Collected: ☑ Yes ☐ No

Type of treatment:

Wetlands

Name and Class of receiving water:

Arbuckle Creek Class IV Agricultural Water Supply

27. Environmental Resources Permit (ERP) number or status:

Permit No. 28-00342-S, Active.

No modifications since last permit application.

**PART C. PROHIBITIONS** (62-701.300, FAC)

| | LOCATION | | N/C indicates no change from the May 28, 2004 permit application document. |
|---|---|---|---|
| S ☐ | C.1 | N/A ☐ N/C ☑ | 1. Provide documentation that each of the siting criteria will be satisfied for the facility; (62-701.300(2), FAC) |
| S ☐ | C.2 | N/A ☐ N/C ☑ | 2. If the facility qualifies for any of the exemptions contained in Rules 62-701.300(12) through (18), FAC, then document this qualification(s); |
| S ☐ | C.3 | N/A ☐ N/C ☑ | 3. Provide documentation that the facility will be in compliance with the burning restrictions; (62-701.300(3), FAC) |
| S ☐ | C.4 | N/A ☐ N/C ☑ | 4. Provide documentation that the facility will be in compliance with the hazardous waste restrictions; (62-701.300(4), FAC) |
| S ☐ | C.5 | N/A ☐ N/C ☑ | 5. Provide documentation that the facility will be in compliance with the PCB disposal restrictions; (62-701.300(5), FAC) |
| S ☐ | C.6 | N/A ☐ N/C ☑ | 6. Provide documentation that the facility will be in compliance with the biomedical waste restrictions; (62-701.300(6), FAC) |
| S ☐ | C.7 | N/A ☐ N/C ☑ | 7. Provide documentation that the facility will be in compliance with the Class I surface water restrictions; (62-701.300(7), FAC) |
| S ☐ | C.8 | N/A ☐ N/C ☑ | 8. Provide documentation that the facility will be in compliance with the special waste for landfills restrictions; (62-701.300(8), FAC) |
| S ☐ | C.9 | N/A ☐ N/C ☑ | 9. Provide documentation that the facility will be in compliance with the liquid restrictions; (62-701.300(10), FAC) |
| S ☐ | C.10 | N/A ☐ N/C ☑ | 10. Provide documentation that the facility will be in compliance with the used oil and oily waste restrictions; (62-701.300(11), FAC) |

**PART D. SOLID WASTE MANAGEMENT FACILITY PERMIT REQUIREMENTS, GENERAL** (62-701.320, FAC)

| | LOCATION | | N/C indicates no change from the May 28, 2004 permit application document or the 2014 Class I permit application document. |
|---|---|---|---|
| S ☑ | D.1 | N/A ☐ N/C ☐ | 1. Four copies, at minimum, of the completed application form, all supporting data and reports; (62-701.320(5)(a), FAC) |
| S ☑ | D.2 | N/A ☐ N/C ☐ | 2. Engineering and/or professional certification (signature, date, and seal) provided on the applications and all engineering plans, reports, and supporting information for the application; (62-701.320(6), FAC) |
| S ☑ | D.3 | N/A ☐ N/C ☐ | 3. A letter of transmittal to the Department; (62-701.320(7)(a), FAC) |

S ☑ D.4 N/A ☐ N/C ☐ 4. A completed application form dated and signed by the applicant; (62-701.320(7)(b), FAC)

S ☑ D.5 N/A ☐ N/C ☐ 5. Permit fee specified in Rule 62-701.315, FAC in check or money order, payable to the Department; (62-701.320(7)(c), FAC)

S ☑ D.6 N/A ☐ N/C ☐ 6. An engineering report addressing the requirements of this rule and with the following format: a cover sheet, text printed on 8 ½ inch by 11 inch consecutively numbered pages, a table of contents or index, the body of the report and all appendices including an operation plan, contingency plan, illustrative charts and graphs, records or logs of tests and investigations, engineering calculations; (62-701.320(7)(d), FAC)

S ☑ D.7 N/A ☐ N/C ☐ 7. Operation Plan and Closure Plan; (62-701.320(7)(e)1, FAC)

S ☑ D.8 N/A ☐ N/C ☐ 8. Contingency Plan; (62-701.320(7)(e)2, FAC)

S ☐ D.9 N/A ☐ N/C ☑ 9. Plans or drawings for the solid waste management facilities in appropriate format (including sheet size restrictions, cover sheet, legends, north arrow, horizontal and vertical scales, elevations referenced to NGVD 1929) showing: (62-701.320(7)(f), FAC)

S ☐ D.9.a N/A ☐ N/C ☑ a. A regional map or plan with the project location in relation to major roadways and population centers;

S ☑ D.9.b N/A ☐ N/C ☐ b. A vicinity map or aerial photograph no more than one year old showing the facility site and relevant surface features located within 1000 feet of the facility;

S ☐ D.9.c N/A ☐ N/C ☑ c. A site plan showing all property boundaries certified by a Florida Licensed Professional Surveyor and Mapper;

S ☐ D.9.d N/A ☐ N/C ☑ d. Other necessary details to support the engineering report, including referencing elevations to a consistent, nationally recognized datum, and identifying the method used for collecting latitude and longitude data;

S ☐ D.10 N/A ☐ N/C ☑ 10. Documentation that the applicant either owns the property or has legal authority from the property owner to use the site; (62-701.320(7)(g), FAC)

S ☐ D.11 N/A ☐ N/C ☑ 11. For facilities owned or operated by a county, provide a description of how, if any, the facilities covered in this application will contribute to the county's achievement of the waste reduction and recycling goals contained in Section 403.706, FS; (62-701.320(7)(h), FAC)

S ☑ D.12 N/A ☐ N/C ☐ 12. Provide a history and description of any enforcement actions taken by the Department against the applicant for violations of applicable statutes, rules, orders, or permit conditions relating to the operation of any solid waste management facility in the state; (62-701.320(7)(i), FAC)

S ☐ D.13 N/A ☑ N/C ☐ 13. Proof of publication in a newspaper of general circulation of notice of application for a permit to construct or substantially modify a solid waste management facility; (62-701.320(8), FAC)

S ☐ D.14 N/A ☐ N/C ☑ 14. Provide a description of how the requirements for airport safety will be achieved, including proof of required notices if applicable. If exempt, explain how the exemption applies; (62-701.320(13), FAC)

S ☑ D.15 N/A ☐ N/C ☐ 15. Explain how the operator and spotter training requirements and special criteria will be satisfied for the facility; (62-701.320(15), FAC)

**PART E. LANDFILL PERMIT REQUIREMENTS** (62-701.330, FAC)

**LOCATION** N/C indicates no change from the May 28, 2004 permit application document.

S ☑ E.1 N/A ☐ N/C ☐ 1. Regional map or aerial photograph no more than five years old showing all airports that are located within five miles of the proposed landfill; (62-701.330(3)(a), FAC)

S ☐ E.2 N/A ☐ N/C ☑ 2. Plot plan with a scale not greater than 200 feet to the inch showing: (62-701.330(3)(b), FAC)

S ☐ E.2.a N/A ☐ N/C ☑ a. Dimensions;

S ☐ E.2.b N/A ☐ N/C ☑ b. Locations of proposed and existing water quality monitoring wells;

S ☐ E.2.c N/A ☑ N/C ☐ c. Locations of soil borings;

S ☐ E.2.d N/A ☐ N/C ☑ d. Proposed plan of trenching or disposal areas;

S ☐ E.2.e N/A ☐ N/C ☑ e. Cross sections showing original elevations and proposed final contours which shall be included either on the plot plan or on separate sheets;

S ☐ E.2.f N/A ☑ N/C ☐ f. Any previously filled waste disposal areas;

S ☐ E.2.g N/A ☐ N/C ☑ g. Fencing or other measures to restrict access;

| | | | |
|---|---|---|---|
| S ☐ | E.3 | N/A ☐ N/C ☑ | 3. Topographic maps with a scale not greater than 200 feet to the inch with five foot contour intervals showing: (62-701.330(3)(c), FAC) |
| S ☐ | E.3.a | N/A ☑ N/C ☐ | a. Proposed fill areas; |
| S ☐ | E.3.b | N/A ☐ N/C ☑ | b. Borrow areas; |
| S ☐ | E.3.c | N/A ☐ N/C ☑ | c. Access roads; |
| S ☐ | E.3.d | N/A ☐ N/C ☑ | d. Grades required for proper drainage; |
| S ☐ | E.3.e | N/A ☐ N/C ☑ | e. Cross sections of lifts; |
| S ☐ | E.3.f | N/A ☐ N/C ☑ | f. Special drainage devices if necessary; |
| S ☐ | E.3.g | N/A ☐ N/C ☑ | g. Fencing; |
| S ☐ | E.3.h | N/A ☐ N/C ☑ | h. Equipment facilities; |
| S ☑ | E.4 | N/A ☐ N/C ☐ | 4. A report on the landfill describing the following: (62-701.330(3)(d), FAC) |
| S ☑ | E.4.a | N/A ☐ N/C ☐ | a. The current and projected population and area to be served by the proposed site; |
| S ☑ | E.4.b | N/A ☐ N/C ☐ | b. The anticipated type, annual quantity, and source of solid waste expressed in tons; |
| S ☑ | E.4.c | N/A ☐ N/C ☐ | c. Planned active life of the facility, the final design height of the facility, and the maximum height of the facility during its operation; |
| S ☑ | E.4.d | N/A ☐ N/C ☐ | d. The source and type of cover material used for the landfill; |
| S ☐ | E.5 | N/A ☑ N/C ☐ | 5. Provide evidence that an approved laboratory shall conduct water quality monitoring for the facility in accordance with Chapter 62-160, FAC; (62-701.330(3)(g), FAC |
| S ☑ | E.6 | N/A ☐ N/C ☐ | 6. Provide a statement of how the applicant will demonstrate financial responsibility for the closing and long-term care of the landfill; (62-701.330(3)(h), FAC) |

**PART F. GENERAL CRITERIA FOR LANDFILLS** (62-701.340, FAC)

| | LOCATION | | |
|---|---|---|---|
| | | N/C indicates no change from the May 28, 2004 permit application document or the 2014 Class I permit application document. | |
| S ☐ | F.1 | N/A ☐ N/C ☑ | 1. Describe (and show on a Federal Insurance Administration flood map, if available) how the landfill or solid waste disposal unit shall not be located in the 100 year floodplain where it will restrict the flow of the 100 year flood, reduce the temporary water storage capacity of the floodplain unless compensating storage is provided, or result in a washout of solid waste; (62-701.340(3)(b), FAC) |
| S ☐ | F.2 | N/A ☐ N/C ☑ | 2. Describe how the minimum horizontal separation between waste deposits in the landfill and the landfill property boundary shall be 100 feet, measured from the toe of the proposed final cover slope; (62-701.340(3)(c), FAC) |

**PART G. LANDFILL CONSTRUCTION REQUIREMENTS** (62-701.400, FAC)

| | LOCATION | | |
|---|---|---|---|
| | | N/A indicates that this section is not applicable because no construction is proposed with this permit application document. | |
| S ☐ | | N/A ☑ N/C ☐ | 1. Describe how the landfill shall be designed so the solid waste disposal units will be constructed and closed at planned intervals throughout the design period of the landfill, and shall be designed to achieve a minimum factor of safety of 1.5 using peak strength values to prevent failures of side slopes and deep-seated failures; (62-701.400(2), FAC) |
| S ☐ | | N/A ☑ N/C ☐ | 2. Landfill liner requirements; (62-701.400(3), FAC) |
| S ☐ | | N/A ☑ N/C ☐ | a. General construction requirements; (62-701.400(3)(a), FAC) |
| S ☐ | | N/A ☑ N/C ☐ | (1) Provide test information and documentation to ensure the liner will be constructed of materials that have appropriate physical, chemical, and mechanical properties to prevent failure; |
| S ☐ | | N/A ☑ N/C ☐ | (2) Document foundation is adequate to prevent liner failure; |
| S ☐ | | N/A ☑ N/C ☐ | (3) Constructed so bottom liner will not be adversely impacted by fluctuations of the ground water; |
| S ☐ | | N/A ☑ N/C ☐ | (4) Designed to resist hydrostatic uplift if bottom liner located below seasonal high ground water table; |
| S ☐ | | N/A ☑ N/C ☐ | (5) Installed to cover all surrounding earth which could come into contact with the waste or leachate; |

| LOCATION | | PART G CONTINUED |
|---|---|---|
| S ☐ _____ | N/A ☑ N/C ☐ | b. Composite liners; (62-701.400(3)(b), FAC) |
| S ☐ _____ | N/A ☑ N/C ☐ | (1) Upper geomembrane thickness and properties; |
| S ☐ _____ | N/A ☑ N/C ☐ | (2) Design leachate head for primary leachate collection and removal system (LCRS) including leachate recirculation if appropriate; |
| S ☐ _____ | N/A ☑ N/C ☐ | (3) Design thickness in accordance with Table A and number of lifts planned for lower soil component; |
| S ☐ _____ | N/A ☑ N/C ☐ | c. Double liners; (62-701.400(3)(c), FAC) |
| S ☐ _____ | N/A ☑ N/C ☐ | (1) Upper and lower geomembrane thickness and properties; |
| S ☐ _____ | N/A ☑ N/C ☐ | (2) Design leachate head for primary LCRS to limit the head to one foot above the liner; |
| S ☐ _____ | N/A ☑ N/C ☐ | (3) Lower geomembrane sub-base design; |
| S ☐ _____ | N/A ☑ N/C ☐ | (4) Leak detection and secondary leachate collection system minimum design criteria ($k \geq 10$ cm/sec, head on lower liner $\leq 1$ inch, head not to exceed thickness of drainage layer); |
| S ☐ _____ | N/A ☑ N/C ☐ | d. Standards for geosynthetic components; (62-701.400(3)(d), FAC) |
| S ☐ _____ | N/A ☑ N/C ☐ | (1) Factory and field seam test methods to ensure all geomembrane seams achieve the minimum specifications; |
| S ☐ _____ | N/A ☑ N/C ☐ | (2) Geomembranes to be used shall pass a continuous spark test by the manufacturer; |
| S ☐ _____ | N/A ☑ N/C ☐ | (3) Design of 24-inch-thick protective layer above upper geomembrane liner; |
| S ☐ _____ | N/A ☑ N/C ☐ | (4) Describe operational plans to protect the liner and leachate collection system when placing the first layer of waste above a 24-inch-thick protective layer; |
| S ☐ _____ | N/A ☑ N/C ☐ | (5) HDPE geomembranes, if used, meet the specifications in GRI GM13, and LLDPE geomembranes, if used, meet the specifications in GRI GM17; |
| S ☐ _____ | N/A ☑ N/C ☐ | (6) PVC geomembranes, if used, meet the specifications in PGI 1104; |

| LOCATION | | |
|---|---|---|
| S ☐ _____ N/A ☑ N/C ☐ | (7) | Interface shear strength testing results of the actual components which will be used in the liner system; |
| S ☐ _____ N/A ☑ N/C ☐ | (8) | Transmissivity testing results of geonets if they are used in the liner system; |
| S ☐ _____ N/A ☑ N/C ☐ | (9) | Hydraulic conductivity testing results of geosynthetic clay liners if they are used in the liner system; |
| S ☐ _____ N/A ☑ N/C ☐ | e. Geosynthetic specification requirements; (62-701.400(3)(e), FAC) | |
| S ☐ _____ N/A ☑ N/C ☐ | (1) | Definition and qualifications of the designer, manufacturer, installer, QA consultant and laboratory, and QA program; |
| S ☐ _____ N/A ☑ N/C ☐ | (2) | Material specifications for geomembranes, geocomposites, geotextiles, geogrids, and geonets; |
| S ☐ _____ N/A ☑ N/C ☐ | (3) | Manufacturing and fabrication specifications including geomembrane raw material and roll QA, fabrication personnel qualifications, seaming equipment and procedures, overlaps, trial seams, destructive and non-destructive seam testing, seam testing location, frequency, procedure, sample size, and geomembrane repairs; |
| S ☐ _____ N/A ☑ N/C ☐ | (4) | Geomembrane installation specifications including earthwork, conformance testing, geomembrane placement, installation personnel qualifications, field seaming and testing, overlapping and repairs, materials in contact with geomembranes, and procedures for lining system acceptance; |
| S ☐ _____ N/A ☑ N/C ☐ | (5) | Geotextile and geogrids specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil materials and any overlying materials; |
| S ☐ _____ N/A ☑ N/C ☐ | (6) | Geonet and geocomposites specifications including handling and placement, conformance testing, stacking and joining, repair, and placement of soil materials and any overlying materials; |
| S ☐ _____ N/A ☑ N/C ☐ | (7) | Geosynthetic clay liner specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil materials and any overlying materials; |

S ☐ _____ N/A ☑ N/C ☐ f. Standards for soil liner components; (62-701.400(3)(f), FAC)

S ☐ _____ N/A ☑ N/C ☐ (1) Description of construction procedures including over-excavation and backfilling to preclude structural inconsistencies and procedures for placing and compacting soil components in layers;

S ☐ _____ N/A ☑ N/C ☐ (2) Demonstration of compatibility of the soil component with actual or simulated leachate in accordance with EPA Test Method 9100, or an equivalent test method;

S ☐ _____ N/A ☑ N/C ☐ (3) Procedures for testing in situ soils to demonstrate they meet the specifications for soil liners;

S ☐ _____ N/A ☑ N/C ☐ (4) Specifications for soil component of liner including at a minimum:

S ☐ _____ N/A ☑ N/C ☐ (a) Allowable particle size distribution, and Atterberg limits including shrinkage limit;

S ☐ _____ N/A ☑ N/C ☐ (b) Placement moisture and dry density criteria;

S ☐ _____ N/A ☑ N/C ☐ (c) Maximum laboratory-determined saturated hydraulic conductivity using simulated leachate;

S ☐ _____ N/A ☑ N/C ☐ (d) Minimum thickness of soil liner;

S ☐ _____ N/A ☑ N/C ☐ (e) Lift thickness;

S ☐ _____ N/A ☑ N/C ☐ (f) Surface preparation (scarification);

S ☐ _____ N/A ☑ N/C ☐ (g) Type and percentage of clay mineral within the soil component;

S ☐ _____ N/A ☑ N/C ☐ (5) Procedures for constructing and using a field test section to document the desired saturated hydraulic conductivity and thickness can be achieved in the field;

S ☐ _____ N/A ☑ N/C ☐ g. If a Class III landfill is to be constructed with a bottom liner system, provide a description of how the minimum requirements for the liner will be achieved;

S ☐ _____ N/A ☑ N/C ☐ 3. Leachate collection and removal system (LCRS); (62-701.400(4), FAC)

S ☐ _____ N/A ☑ N/C ☐ a. The primary and secondary LCRS requirements; (62-701.400(4)(a), FAC)

S ☐ _____ N/A ☑ N/C ☐ (1) Constructed of materials chemically resistant to the waste and leachate;

S ☐ _____ N/A ☑ N/C ☐ (2) Have sufficient mechanical properties to prevent collapse under pressure;

S ☐ _____ N/A ☑ N/C ☐ (3) Have granular material or synthetic geotextile to prevent clogging;

S ☐ _____ N/A ☑ N/C ☐ (4) Have a method for testing and cleaning clogged pipes or contingent designs for reducing leachate around failed areas;

S ☐ _____ N/A ☑ N/C ☐ b. Other LCRS requirements; (62-701.400(4)(b) and (c), FAC

S ☐ _____ N/A ☑ N/C ☐ (1) Bottom 12 inches having hydraulic conductivity $\geq 1 \times 10^{-3}$ cm/sec;

S ☐ _____ N/A ☑ N/C ☐ (2) Total thickness of 24 inches of material chemically resistant to the waste and leachate;

S ☐ _____ N/A ☑ N/C ☐ (3) Bottom slope design to accommodate for predicted settlement and still meet minimum slope requirements;

S ☐ _____ N/A ☑ N/C ☐ (4) Demonstration that synthetic drainage material, if used, is equivalent or better than granular material in chemical compatibility, flow under load, and protection of geomembranes liner;

S ☐ _____ N/A ☑ N/C ☐ 4. Leachate recirculation; (62-701.400(5), FAC)

S ☐ _____ N/A ☑ N/C ☐ a. Describe general procedures for recirculating leachate;

S ☐ _____ N/A ☑ N/C ☐ b. Describe procedures for controlling leachate runoff and minimizing mixing of leachate runoff with storm water;

S ☐ _____ N/A ☑ N/C ☐ c. Describe procedures for preventing perched water conditions and gas buildup;

S ☐ _____ N/A ☑ N/C ☐ d. Describe alternate methods for leachate management when it cannot be recirculated due to weather or runoff conditions, surface seeps, wind-blown spray, or elevated levels of leachate head on the liner;

S ☐ _____ N/A ☑ N/C ☐ e. Describe methods of gas management in accordance with Rule 62-701.530, FAC;

S ☐ _____ N/A ☑ N/C ☐ f. If leachate irrigation is proposed, describe treatment methods and standards for leachate treatment prior to irrigation over final cover, and provide documentation that irrigation does not contribute significantly to leachate generation;

S ☐ _____ N/A ☑ N/C ☐ 5. Leachate storage tanks and leachate surface impoundments; (62-701.400(6), FAC)

S ☐ _____ N/A ☑ N/C ☐ a. Surface impoundment requirements; (62-701.400(6)(b), FAC)

S ☐ _____ N/A ☑ N/C ☐ (1) Documentation that the design of the bottom liner will not be adversely impacted by fluctuations of the ground water;

S ☐ _____ N/A ☑ N/C ☐ (2) Designed in segments to allow for inspection and repair, as needed, without interruption of service;

S ☐ _____ N/A ☑ N/C ☐ (3) General design requirements;

S ☐ _____ N/A ☑ N/C ☐ (a) Double liner system consisting of an upper and lower 60-mil minimum thickness geomembrane;

S ☐ _____ N/A ☑ N/C ☐ (b) Leak detection and collection system with hydraulic conductivity ≥ 1 cm/sec;

S ☐ _____ N/A ☑ N/C ☐ (c) Lower geomembrane place on subbase ≥ 6 inches thick with $k \leq 1 \times 10^{-5}$ cm/sec or on an approved geosynthetic clay liner with $k \leq 1 \times 10^{-7}$ cm/sec;

S ☐ _____ N/A ☑ N/C ☐ (d) Design calculation to predict potential leakage through the upper liner;

S ☐ _____ N/A ☑ N/C ☐ (e) Daily inspection requirements, and notification and corrective action requirements if leakage rates exceed that predicted by design calculations;

S ☐ _____ N/A ☑ N/C ☐ (4) Description of procedures to prevent uplift, if applicable;

| | | |
|---|---|---|
| S ☐ _____ N/A ☑ N/C ☐ | (5) | Design calculations to demonstrate minimum two feet of freeboard will be maintained; |
| S ☐ _____ N/A ☑ N/C ☐ | (6) | Procedures for controlling vectors and off-site odors; |
| S ☐ _____ N/A ☑ N/C ☐ | b. Above-ground leachate storage tanks; (62-701.400(6)(c), FAC) | |
| S ☐ _____ N/A ☑ N/C ☐ | (1) | Describe tank materials of construction and ensure foundation is sufficient to support tank; |
| S ☐ _____ N/A ☑ N/C ☐ | (2) | Describe procedures for cathodic protection for the tank, if needed; |
| S ☐ _____ N/A ☑ N/C ☐ | (3) | Describe exterior painting and interior lining of the tank to protect it from the weather and the leachate stored; |
| S ☐ _____ N/A ☑ N/C ☐ | (4) | Describe secondary containment design to ensure adequate capacity will be provided and compatibility of materials of construction; |
| S ☐ _____ N/A ☑ N/C ☐ | (5) | Describe design to remove and dispose of stormwater from the secondary containment system; |
| S ☐ _____ N/A ☑ N/C ☐ | (6) | Describe an overfill prevention system, such as level sensors, gauges, alarms, and shutoff controls to prevent overfilling; |
| S ☐ _____ N/A ☑ N/C ☐ | (7) | Inspections, corrective action, and reporting requirements; |
| S ☐ _____ N/A ☑ N/C ☐ | (a) | Weekly inspection of overfill prevention system; |
| S ☐ _____ N/A ☑ N/C ☐ | (b) | Weekly inspection of exposed tank exteriors; |
| S ☐ _____ N/A ☑ N/C ☐ | (c) | Inspection of tank interiors when tank is drained, or at least every three years; |
| S ☐ _____ N/A ☑ N/C ☐ | (d) | Procedures for immediate corrective action if failures detected; |
| S ☐ _____ N/A ☑ N/C ☐ | (e) | Inspection reports available for Department review; |
| S ☐ _____ N/A ☑ N/C ☐ | c. Underground leachate storage tanks; (62-701.400(6)(d), FAC) | |

| | | |
|---|---|---|
| S ☐ _____ N/A ☑ N/C ☐ | (1) | Describe materials of construction; |
| S ☐ _____ N/A ☑ N/C ☐ | (2) | A double-walled tank design system to be used with the following requirements: |
| S ☐ _____ N/A ☑ N/C ☐ | (a) | Interstitial space monitoring at least weekly; |
| S ☐ _____ N/A ☑ N/C ☐ | (b) | Corrosion protection provided for primary tank interior and external surface of outer shell; |
| S ☐ _____ N/A ☑ N/C ☐ | (c) | Interior tank coatings compatible with stored leachate; |
| S ☐ _____ N/A ☑ N/C ☐ | (d) | Cathodic protection inspected weekly and repaired as needed; |
| S ☐ _____ N/A ☑ N/C ☐ | (3) | Describe an overfill prevention system, such as level sensors, gauges, alarms, and shutoff controls to prevent overfilling, and provide for weekly inspections; |
| S ☐ _____ N/A ☑ N/C ☐ | (4) | Inspection reports available for Department review; |
| S ☐ _____ N/A ☑ N/C ☐ | d. Schedule provided for routine maintenance of LCRS; (62-701.400(6)(e), FAC) | |
| S ☐ _____ N/A ☑ N/C ☐ | 6. Liner systems construction quality assurance (CQA); (62-701.400(7), FAC) | |
| S ☐ _____ N/A ☑ N/C ☐ | a. Provide CQA Plan including: | |
| S ☐ _____ N/A ☑ N/C ☐ | (1) | Specifications and construction requirements for liner system; |
| S ☐ _____ N/A ☑ N/C ☐ | (2) | Detailed description of quality control testing procedures and frequencies; |
| S ☐ _____ N/A ☑ N/C ☐ | (3) | Identification of supervising professional engineer; |
| S ☐ _____ N/A ☑ N/C ☐ | (4) | Identify responsibility and authority of all appropriate organizations and key personnel involved in the construction project; |
| S ☐ _____ N/A ☑ N/C ☐ | (5) | State qualifications of CQA professional engineer and support personnel; |

S ☐ _____ N/A ☑ N/C ☐ (6) Description of CQA reporting forms and documents;

S ☐ _____ N/A ☑ N/C ☐ b. An independent laboratory experienced in the testing of geosynthetics to perform required testing;

S ☐ _____ N/A ☑ N/C ☐ 7. Soil liner CQA; (62-701.400(8), FAC)

S ☐ _____ N/A ☑ N/C ☐ a. Documentation that an adequate borrow source has been located with test results, or description of the field exploration and laboratory testing program to define a suitable borrow source;

S ☐ _____ N/A ☑ N/C ☐ b. Description of field test section construction and test methods to be implemented prior to liner installation;

S ☐ _____ N/A ☑ N/C ☐ c. Description of field test methods, including rejection criteria and corrective measures to insure proper liner installation;

S ☐ _____ N/A ☑ N/C ☐ 8. For surface water management systems at aboveground disposal units, provide documentation showing the design of any features intended to convey stormwater to a permitted or exempted treatment system; (62-701.400(9), FAC)

S ☐ _____ N/A ☑ N/C ☐ 9. Gas control systems; (62-701.400(10), FAC)

S ☐ _____ N/A ☑ N/C ☐ a. Provide documentation that if the landfill is receiving degradable wastes, it will have a gas control system complying with the requirements of Rule 62-701.530, FAC;

S ☐ _____ N/A ☑ N/C ☐ 10. For landfills designed in ground water, provide documentation that the landfill will provide a degree of protection equivalent to landfills designed with bottom liners not in contact with ground water; (62-701.400(11), FAC)

## PART H. HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS (62-701.410(1), FAC)

**LOCATION**

N/A indicates that this section is not applicable because no construction and no new hydrogeological investigations are proposed with this permit application document.

S ☐ _____ N/A ☑ N/C ☐ 1. Submit a hydrogeological investigation and site report including at least the following information:

S ☐ _____ N/A ☑ N/C ☐ a. Regional and site specific geology and hydrology;

S ☐ _____ N/A ☑ N/C ☐ b. Direction and rate of ground water and surface water flow including seasonal variations;

S ☐ _____ N/A ☑ N/C ☐ c. Background quality of ground water and surface water;

S ☐ _____ N/A ☑ N/C ☐ d. Any on-site hydraulic connections between aquifers;

S ☐ _____ N/A ☑ N/C ☐ e. Site stratigraphy and aquifer characteristics for confining layers, semi-confining layers, and all aquifers below the landfill site that may be affected by the landfill;

S ☐ _____ N/A ☑ N/C ☐ f. Description of topography, soil types, and surface water drainage systems;

S ☐ _____ N/A ☑ N/C ☐ g. Inventory of all public and private water wells within a one mile radius of the landfill including, where available, well top of casing and bottom elevations, name of owner, age and usage of each well, stratigraphic unit screened, well construction technique, and static water level;

S ☐ _____ N/A ☑ N/C ☐ h. Identify and locate any existing contaminated areas on the site;

S ☐ _____ N/A ☑ N/C ☐ i. Include a map showing the locations of all potable wells within 500 feet of the waste storage and disposal areas;

S ☐ _____ N/A ☑ N/C ☐ 2. Report signed, sealed, and dated by P.E. and/or P.G.;

**PART I. GEOTECHNICAL INVESTIGATION REQUIREMENTS** (62-701.410(2), FAC)

**LOCATION**

N/A indicates that this section is not applicable because no construction and no new geotechnical investigations are proposed with this permit application document.

S ☐ _____ N/A ☑ N/C ☐ 1. Submit a geotechnical site investigation report defining the engineering properties of the site including at least the following:

S ☐ _____ N/A ☑ N/C ☐ a. Description of subsurface conditions including soil stratigraphy and ground water table conditions;

S ☐ _____ N/A ☑ N/C ☐ b. Investigate for the presence of muck, previously filled areas, soft ground, lineaments, and sink holes;

S ☐ _____ N/A ☑ N/C ☐ c. Estimates of average and maximum high water table across the site;

S ☐ _____ N/A ☑ N/C ☐ d. Foundation analysis including:

S ☐ _____ N/A ☑ N/C ☐ (1) Foundation bearing capacity analysis;

S ☐ _____ N/A ☑ N/C ☐ (2) Total and differential subgrade settlement analysis;

S ☐ _____ N/A ☑ N/C ☐ (3) Slope stability analysis;

S ☐ _____ N/A ☑ N/C ☐ e. Description of methods used in the investigation, and includes soil boring logs, laboratory results, analytical calculations, cross sections, interpretations, and conclusions;

S ☐ _____ N/A ☑ N/C ☐ f. An evaluation of fault areas, seismic impact zones, and unstable areas as described in 40 CFR 258.13, 40 CFR 258.14, and 40 CFR 258.15;

S ☐ _____ N/A ☑ N/C ☐ 2. Report signed, sealed, and dated by P.E. and/or P.G.;

**PART J. VERTICAL EXPANSION OF LANDFILLS** (62-701.430, FAC)

**LOCATION**

N/A indicates that this section is not applicable because no vertical expansion is proposed with this permit application document.

S ☐ _____ N/A ☑ N/C ☐ 1. Describe how the vertical expansion shall not cause or contribute to leachate leakage from the existing landfill, shall not cause objectionable odors, or adversely affect the closure design of the existing landfill;

S ☐ _____ N/A ☑ N/C ☐ 2. Describe how the vertical expansion over unlined landfills will meet the requirements of Rule 62-701.400, FAC with the exceptions of Rule 62-701.430(1)(c), FAC;

S ☐ _____ N/A ☑ N/C ☐ 3. Provide foundation and settlement analysis for the vertical expansion;

S ☐ _____ N/A ☑ N/C ☐ 4. Provide total settlement calculations demonstrating that the final elevations of the lining system, gravity drainage, and no other component of the design will be adversely affected;

S ☐ _____ N/A ☑ N/C ☐ 5. Minimum stability factor of safety of 1.5 for the lining system component interface stability and for deep stability;

S ☐ _____ N/A ☑ N/C ☐ 6. Provide documentation to show the surface water management system will not be adversely affected by the vertical expansion;

S ☐ _____ N/A ☑ N/C ☐ 7. Provide gas control designs to prevent accumulation of gas under the new liner for the vertical expansion;

**PART K. LANDFILL OPERATION REQUIREMENTS** (62-701.500, FAC)

| | LOCATION | | |
|---|---|---|---|
| S ☑ | K.1 | N/A ☐ N/C ☐ | 1. Provide documentation that the landfill will have at least one trained operator during operation and at least one trained spotter at each working face; (62-701.500(1), FAC) |
| S ☑ | K.2 | N/A ☐ N/C ☐ | 2. Provide a landfill operation plan including procedures for: (62-701.500(2), FAC) |
| S ☑ | K.2.a | N/A ☐ N/C ☐ | a. Designating responsible operating and maintenance personnel; |
| S ☑ | K.2.b | N/A ☐ N/C ☐ | b. Emergency preparedness and response, as required in subsection 62-701.320(16), FAC; |
| S ☑ | K.2.c | N/A ☐ N/C ☐ | c. Controlling types of waste received at the landfill; |
| S ☑ | K.2.d | N/A ☐ N/C ☐ | d. Weighing incoming waste; |
| S ☑ | K.2.e | N/A ☐ N/C ☐ | e. Vehicle traffic control and unloading; |
| S ☑ | K.2.f | N/A ☐ N/C ☐ | f. Method and sequence of filling waste; |
| S ☑ | K.2.g | N/A ☐ N/C ☐ | g. Waste compaction and application of cover; |
| S ☑ | K.2.h | N/A ☐ N/C ☐ | h. Operations of gas, leachate, and stormwater controls; |
| S ☑ | K.2.i | N/A ☐ N/C ☐ | i. Water quality monitoring; |
| S ☑ | K.2.j | N/A ☐ N/C ☐ | j. Maintaining and cleaning the leachate collection system; |
| S ☑ | K.3 | N/A ☐ N/C ☐ | 3. Provide a description of the landfill operation record to be used at the landfill, details as to location of where various operational records will be kept (i.e. DEP permit, engineering drawings, water quality records, etc.); (62-701.500(3), FAC) |
| S ☑ | K.4 | N/A ☐ N/C ☐ | 4. Describe the waste records that will be compiled monthly and provided to the Department annually; (62-701.500(4), FAC) |
| S ☑ | K.5 | N/A ☐ N/C ☐ | 5. Describe methods of access control; (62-701.500(5), FAC) |
| S ☑ | K.6 | N/A ☐ N/C ☐ | 6. Describe load checking program to be implemented at the landfill to discourage disposal of unauthorized waste at the landfill; (62-701.500(6), FAC) |

| LOCATION | | PART K CONTINUED |
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| S ☑ K.7 | N/A ☐ N/C ☐ | 7. Describe procedures for spreading and compacting waste at the landfill that include: (62-701.500(7), FAC) |
| S ☑ K.7.a | N/A ☐ N/C ☐ | a. Waste layer thickness and compaction frequencies; |
| S ☐ K.7.b | N/A ☑ N/C ☐ | b. Special considerations for first layer of waste placed above the liner and leachate collection system; |
| S ☑ K.7.c | N/A ☐ N/C ☐ | c. Slopes of cell working face and side grades above land surface, and planned lift depths during operation; |
| S ☑ K.7.d | N/A ☐ N/C ☐ | d. Maximum width of working face; |
| S ☑ K.7.e,K.7.f | N/A ☐ N/C ☐ | e. Description of type of initial cover to be used at the facility that controls: |
| S ☑ K.7.e,K.7.f | N/A ☐ N/C ☐ | (1) Vector breeding/animal attraction; |
| S ☑ K.7.e,K.7.f | N/A ☐ N/C ☐ | (2) Fires; |
| S ☑ K.7.e,K.7.f | N/A ☐ N/C ☐ | (3) Odors; |
| S ☑ K.7.e,K.7.f | N/A ☐ N/C ☐ | (4) Blowing litter; |
| S ☑ K.7.e,K.7.f | N/A ☐ N/C ☐ | (5) Moisture infiltration; |
| S ☑ K.7.f | N/A ☐ N/C ☐ | f. Procedures for applying initial cover, including minimum cover frequencies; |
| S ☑ K.7.g | N/A ☐ N/C ☐ | g. Procedures for applying intermediate cover; |
| S ☑ K.7.h | N/A ☐ N/C ☐ | h. Time frames for applying final cover; |
| S ☑ K.7.i | N/A ☐ N/C ☐ | i. Procedures for controlling scavenging and salvaging; |
| S ☑ K.7.j | N/A ☐ N/C ☐ | j. Description of litter policing methods; |
| S ☑ K.7.k | N/A ☐ N/C ☐ | k. Erosion control procedures; |

N/A indicates that this section is not applicable because no leachate collection and no gas monitoring are specifically required for the Ag Plastic Landfill.

| LOCATION | | | PART K CONTINUED |
|---|---|---|---|
| S ☐ | K.8 | N/A ☑ N/C ☐ | 8. Describe operational procedures for leachate management including: (62-701.500(8), FAC) |
| S ☐ | K.8 | N/A ☑ N/C ☐ | a. Leachate level monitoring; |
| S ☐ | K.8 | N/A ☑ N/C ☐ | b. Operation and maintenance of leachate collection and removal system, and treatment as required; |
| S ☐ | K.8 | N/A ☑ N/C ☐ | c. Procedures for managing leachate if it becomes regulated as a hazardous waste; |
| S ☐ | K.8 | N/A ☑ N/C ☐ | d. Identification of treatment or disposal facilities that may be used for off-site discharge and treatment of leachate; |
| S ☐ | K.8 | N/A ☑ N/C ☐ | e. Contingency plan for managing leachate during emergencies or equipment problems; |
| S ☐ | K.8 | N/A ☑ N/C ☐ | f. Procedures for recording quantities of leachate generated in gal/day and including this in the operating record; |
| S ☐ | K.8 | N/A ☑ N/C ☐ | g. Procedures for comparing precipitation experienced at the landfill with leachate generation rates and including this information in the operating record; |
| S ☐ | K.8 | N/A ☑ N/C ☐ | h. Procedures for water pressure cleaning or video inspecting leachate collection systems; |
| S ☐ | K.9 | N/A ☑ N/C ☐ | 9. Describe how the landfill receiving degradable wastes shall implement a gas management system meeting the requirements of Rule 62-701.530, FAC; (62-701.500(9), FAC) |
| S ☑ | K.10 | N/A ☐ N/C ☐ | 10. Describe procedures for operating and maintaining the landfill stormwater management system to comply with the requirements of Rule 62-701.400(9), FAC; (62-701.500(10), FAC) |
| S ☑ | K.11 | N/A ☐ N/C ☐ | 11. Equipment and operation feature requirements; (62-701.500(11), FAC) |
| S ☑ | K.11.a | N/A ☐ N/C ☐ | a. Sufficient equipment for excavating, spreading, compacting, and covering waste; |
| S ☑ | K.11.b | N/A ☐ N/C ☐ | b. Reserve equipment or arrangements to obtain additional equipment within 24 hours of breakdown; |
| S ☑ | K.11.c | N/A ☐ N/C ☐ | c. Communications equipment; |

| LOCATION | | |
|---|---|---|
| S ☑ K.11.d | N/A ☐ N/C ☐ | d. Dust control methods; |
| S ☑ K.11.e | N/A ☐ N/C ☐ | e. Fire protection capabilities and procedures for notifying local fire department authorities in emergencies; |
| S ☑ K.11.f | N/A ☐ N/C ☐ | f. Litter control devices; |
| S ☑ K.11.g | N/A ☐ N/C ☐ | g. Signs indicating operating authority, traffic flow, hours of operation, and disposal restrictions; |
| S ☑ K.12 | N/A ☐ N/C ☐ | 12. Provide a description of all-weather access road, inside perimeter road, and other on-site roads necessary for access at the landfill; (62-701.500(12), FAC) |
| S ☑ K.13 | N/A ☐ N/C ☐ | 13. Additional record keeping and reporting requirements; (62-701.500(13), FAC) |
| S ☑ K.13.a | N/A ☐ N/C ☐ | a. Records used for developing permit applications and supplemental information maintained for the design period of the landfill; |
| S ☑ K.13.b | N/A ☐ N/C ☐ | b. Monitoring information, calibration and maintenance records, and copies of reports required by permit maintained for at least 10 years; |
| S ☑ K.13.c | N/A ☐ N/C ☐ | c. Maintain annual estimates of the remaining life of constructed landfills, and of other permitted areas not yet constructed, and submit this estimate annually to the Department; |
| S ☑ K.13.d | N/A ☐ N/C ☐ | d. Procedures for archiving and retrieving records which are more than five years old; |

**PART L. WATER QUALITY MONITORING REQUIREMENTS** (62-701.510, FAC)

N/A indicates that this section is not applicable because the Ag Plastic Landfill has no water quality monitoring requirements and water quality monitoring is not proposed with this permit application document.

| LOCATION | | |
|---|---|---|
| S ☐ | N/A ☑ N/C ☐ | 1. A water quality monitoring plan shall be submitted describing the proposed ground water and surface water monitoring systems, and shall meet at least the following requirements: |
| S ☐ | N/A ☑ N/C ☐ | a. Based on the information obtained in the hydrogeological investigation and signed, dated, and sealed by the P.G. or P.E. who prepared it; (62-701.510(2)(a), FAC) |

| LOCATION | | PART L CONTINUED |
|---|---|---|
| S ☐ _____ N/A ☑ N/C ☐ | | b. All sampling and analysis performed in accordance with Chapter 62-160, FAC; (62-701.510(2)(b), FAC) |
| S ☐ _____ N/A ☑ N/C ☐ | | c. Ground water monitoring requirements; (62-701.510(3), FAC) |
| S ☐ _____ N/A ☑ N/C ☐ | (1) | Detection wells located downgradient from and within 50 feet of disposal units; |
| S ☐ _____ N/A ☑ N/C ☐ | (2) | Downgradient compliance wells as required; |
| S ☐ _____ N/A ☑ N/C ☐ | (3) | Background wells screened in all aquifers below the landfill that may be affected by the landfill; |
| S ☐ _____ N/A ☑ N/C ☐ | (4) | Location information for each monitoring well; |
| S ☐ _____ N/A ☑ N/C ☐ | (5) | Well spacing no greater than 500 feet apart for downgradient wells and no greater than 1500 feet apart for upgradient wells, unless site specific conditions justify alternate well spacings; |
| S ☐ _____ N/A ☑ N/C ☐ | (6) | Properly selected well screen locations; |
| S ☐ _____ N/A ☑ N/C ☐ | (7) | Monitoring wells constructed to provide representative ground water samples; |
| S ☐ _____ N/A ☑ N/C ☐ | (8) | Procedures for properly abandoning monitoring wells; |
| S ☐ _____ N/A ☑ N/C ☐ | (9) | Detailed description of detection sensors, if proposed; |
| S ☐ _____ N/A ☑ N/C ☐ | | d. Surface water monitoring requirements; (62-701.510(4), FAC) |
| S ☐ _____ N/A ☑ N/C ☐ | (1) | Location of and justification for all proposed surface water monitoring points; |
| S ☐ _____ N/A ☑ N/C ☐ | (2) | Each monitoring location to be marked and its position determined by a registered Florida land surveyor; |
| S ☐ _____ N/A ☑ N/C ☐ | | e. Initial and routine sampling frequency and requirements; (62-701.510(5), FAC) |
| S ☐ _____ N/A ☑ N/C ☐ | (1) | Initial background ground water and surface water sampling and analysis requirements; |

| | | |
|---|---|---|
| S ☐ _____ N/A ☑ N/C ☐ | (2) | Routine monitoring well sampling and analysis requirements; |
| S ☐ _____ N/A ☑ N/C ☐ | (3) | Routine surface water sampling and analysis requirements; |
| S ☐ _____ N/A ☑ N/C ☐ | f. Describe procedures for implementing evaluation monitoring, prevention measures, and corrective action as required; (62-701.510(6), FAC) | |
| S ☐ _____ N/A ☑ N/C ☐ | g. Water quality monitoring report requirements; (62-701.510(8), FAC) | |
| S ☐ _____ N/A ☑ N/C ☐ | (1) | Semi-annual report requirements; (see paragraphs 62-701.510(5)(c) and (d), FAC for sampling frequencies) |
| S ☐ _____ N/A ☑ N/C ☐ | (2) | Documentation that the water quality data shall be provided to the Department in an electronic format consistent with requirements for importing into Department databases, unless an alternate form of submittal is specified in the permit; |
| S ☐ _____ N/A ☑ N/C ☐ | (3) | Two and one-half year report requirements, or every five years if in long-term care, signed dated, and sealed by P.G. or P.E.; |

**PART M. SPECIAL WASTE HANDLING REQUIREMENTS** (62-701.520, FAC)

**LOCATION**

N/A indicates that this section is not applicable because special waste is not accepted at the Ag Plastic Landfill and no special waste acceptance is proposed with this permit application document.

| | |
|---|---|
| S ☐ _____ N/A ☑ N/C ☐ | 1. Describe procedures for managing motor vehicles; (62-701.520(1), FAC) |
| S ☐ _____ N/A ☑ N/C ☐ | 2. Describe procedures for landfilling shredded waste; (62-701.520(2), FAC) |
| S ☐ _____ N/A ☑ N/C ☐ | 3. Describe procedures for asbestos waste disposal; (62-701.520(3), FAC) |
| S ☐ _____ N/A ☑ N/C ☐ | 4. Describe procedures for disposal or management of contaminated soil; (62-701.520(4), FAC) |
| S ☐ _____ N/A ☑ N/C ☐ | 5. Describe procedures for disposal of biological wastes; (62-701.520(5), FAC) |

**PART N. GAS MANAGEMENT SYSTEM REQUIREMENTS** (62-701.530, FAC)

| LOCATION | | |
|---|---|---|
| | N/A indicates that this section is not applicable because no putrescible waste is accepted at the Ag Plastic Landfill and no gas management systems are required or proposed with this permit application document. | |
| S ☐ _____ | N/A ☑ N/C ☐ | 1. Provide documentation for a gas management system that will: (62-701.530(1), FAC) |
| S ☐ _____ | N/A ☑ N/C ☐ | a. Be designed to prevent concentrations of combustible gases from exceeding 25% the LEL in structures and 100% the LEL at the property boundary; |
| S ☐ _____ | N/A ☑ N/C ☐ | b. Be designed for site specific conditions; |
| S ☐ _____ | N/A ☑ N/C ☐ | c. Be designed to reduce gas pressure in the interior of the landfill; |
| S ☐ _____ | N/A ☑ N/C ☐ | d. Be designed to not interfere with the liner, leachate control system, or final cover; |
| S ☐ _____ | N/A ☑ N/C ☐ | 2. Provide documentation that will describe locations, construction details, and procedures for monitoring gas at ambient monitoring points and with soil monitoring probes; (62-701.530(2), FAC) |
| S ☐ _____ | N/A ☑ N/C ☐ | 3. Provide documentation describing how the gas remediation plan and odor remediation plan will be implemented; (62-701.530(3), FAC) |
| S ☐ _____ | N/A ☑ N/C ☐ | 4. Landfill gas recovery facilities; (62-701.530(5), FAC) |
| S ☐ _____ | N/A ☑ N/C ☐ | a. Provide information required in Rules 62-701.320(7) and 62-701.330(3), FAC; |
| S ☐ _____ | N/A ☑ N/C ☐ | b. Provide information required in Rule 62-701.600(4), FAC, where relevant and practical; |
| S ☐ _____ | N/A ☑ N/C ☐ | c. Provide estimates of current and expected gas generation rates and description of condensate disposal methods; |
| S ☐ _____ | N/A ☑ N/C ☐ | d. Provide description of procedures for condensate sampling, analyzing, and data reporting; |
| S ☐ _____ | N/A ☑ N/C ☐ | e. Provide closure plan describing methods to control gas after recovery facility ceases operation, and any other requirements contained in Rule 62-701.400(10), FAC; |

**PART O. LANDFILL FINAL CLOSURE REQUIREMENTS** (62-701.600, FAC)

| LOCATION | | N/C indicates no change from the May 28, 2004 permit application document. |
|---|---|---|
| S ☐ O.1 | N/A ☐ N/C ☑ | 1. Closure permit requirements; (62-701.600(2), FAC) |
| S ☐ O.1 | N/A ☐ N/C ☑ | a. Application submitted to the Department at least 90 days prior to final receipt of wastes; |
| S ☐ O.1 | N/A ☐ N/C ☑ | b. Closure plan shall include the following: |
| S ☐ O.1 | N/A ☐ N/C ☑ | (1) Closure design plan; |
| S ☐ O.1 | N/A ☐ N/C ☑ | (2) Closure operation plan; |
| S ☐ O.1 | N/A ☐ N/C ☑ | (3) Plan for long-term care; |
| S ☐ O.1 | N/A ☐ N/C ☑ | (4) A demonstration that proof of financial assurance for long-term care will be provided; |
| S ☐ O.2 | N/A ☐ N/C ☑ | 2. Closure design plan including the following requirements: (62-701.600(3), FAC) |
| S ☐ O.2 | N/A ☐ N/C ☑ | a. Plan sheet showing phases of site closing; |
| S ☐ O.2 | N/A ☐ N/C ☑ | b. Drawings showing existing topography and proposed final grades; |
| S ☐ O.2 | N/A ☐ N/C ☑ | c. Provisions to close units when they reach approved design dimensions; |
| S ☐ O.2 | N/A ☐ N/C ☑ | d. Final elevations before settlement; |
| S ☐ O.2 | N/A ☐ N/C ☑ | e. Side slope design including benches, terraces, down slope drainage ways, energy dissipaters, and description of expected precipitation effects; |
| S ☐ O.2 | N/A ☐ N/C ☑ | f. Final cover installation plans including: |
| S ☐ O.2 | N/A ☐ N/C ☑ | (1) CQA plan for installing and testing final cover; |
| S ☐ O.2 | N/A ☐ N/C ☑ | (2) Schedule for installing final cover after final receipt of waste; |
| S ☐ O.2 | N/A ☐ N/C ☑ | (3) Description of drought resistant species to be used in the vegetative cover; |

N/C indicates no change from the May 28, 2004 permit application document.

| | | | |
|---|---|---|---|
| S ☐ | O.2 | N/A ☐ N/C ☑ | (4) Top gradient design to maximize runoff and minimize erosion; |
| S ☐ | O.2 | N/A ☐ N/C ☑ | (5) Provisions for cover material to be used for final cover maintenance; |
| S ☐ | O.2 | N/A ☐ N/C ☑ | g. Final cover design requirements; |
| S ☐ | O.2 | N/A ☐ N/C ☑ | (1) Protective soil layer design; |
| S ☐ | O.2 | N/A ☐ N/C ☑ | (2) Barrier soil layer design; |
| S ☐ | O.2 | N/A ☐ N/C ☑ | (3) Erosion control vegetation; |
| S ☐ | O.2 | N/A ☑ N/C ☐ | (4) Geomembrane barrier layer design; |
| S ☐ | O.2 | N/A ☑ N/C ☐ | (5) Geosynthetic clay liner design, if used; |
| S ☐ | O.2 | N/A ☐ N/C ☑ | (6) Stability analysis of the cover system and the disposed waste; |
| S ☐ | O.2 | N/A ☐ N/C ☑ | h. Proposed method of stormwater control; |
| S ☐ | O.2 | N/A ☐ N/C ☑ | i. Proposed method of access control; |
| S ☐ | O.2 | N/A ☐ N/C ☑ | j. Description of the proposed or existing gas management system which complies with Rule 62-701.530, FAC; |
| S ☐ | O.3 | N/A ☐ N/C ☑ | 3. Closure operation plan shall include: (62-701.600(4), FAC) |
| S ☐ | O.3 | N/A ☐ N/C ☑ | a. Detailed description of actions which will be taken to close the landfill; |
| S ☐ | O.3 | N/A ☐ N/C ☑ | b. Time schedule for completion of closing and long-term care; |
| S ☐ | O.3 | N/A ☐ N/C ☑ | c. Describe proposed method for demonstrating financial assurance for long-term care; |
| S ☐ | O.3 | N/A ☐ N/C ☑ | d. Operation of the water quality monitoring plan required in Rule 62-701.510, FAC; |
| S ☐ | O.3 | N/A ☐ N/C ☑ | e. Development and implementation of gas management system required in Rule 62-701.530, FAC; |

| LOCATION | | | |
|---|---|---|---|
| S ☐ | O.4 | N/A ☐ N/C ☑ | 4. Certification of closure construction completion including: (62-701.600(6), FAC) |
| S ☐ | O.4 | N/A ☐ N/C ☑ | a. Survey monuments; (62-701.600(6)(a), FAC) |
| S ☐ | O.4 | N/A ☐ N/C ☑ | b. Final survey report; (62-701.600(6)(b), FAC) |
| S ☐ | O.5 | N/A ☐ N/C ☑ | 5. Declaration to the public; (62-701.600(7), FAC) |
| S ☐ | O.6 | N/A ☐ N/C ☑ | 6. Official date of closing; (62-701.600(8), FAC) |
| S ☐ | O.7 | N/A ☐ N/C ☑ | 7. Justification for and detailed description of procedures to be followed for temporary closure of the landfill, if desired; (62-701.600(9), FAC) |

**PART P. OTHER CLOSURE PROCEDURES** (62-701.610, FAC)

N/A indicates that this section is not applicable because this application does not include landfill closure or other closure procedures.

| LOCATION | | | |
|---|---|---|---|
| S ☐ | P.1 | N/A ☑ N/C ☐ | 1. Describe how the requirements for use of closed solid waste disposal areas will be achieved; (62-701.610(1), FAC) |
| S ☐ | P.2 | N/A ☑ N/C ☐ | 2. Describe how the requirements for relocation of wastes will be achieved; (62-701.610(2), FAC) |

**PART Q. LONG-TERM CARE** (62-701.620, FAC)

N/A indicates that this section is not applicable to the active Ag Plastic Landfill. The Long-Term-Care Plan included in the previously submitted 2004 Ag Plastic permit application has not changed.

| LOCATION | | | |
|---|---|---|---|
| S ☐ | Q.1 | N/A ☑ N/C ☐ | 1. Maintaining the gas collection and monitoring system; (62-701.620(5), FAC) |
| S ☐ | Q.2 | N/A ☑ N/C ☐ | 2. Stabilization report requirements; (62-701.620(6), FAC) |
| S ☐ | Q.3 | N/A ☑ N/C ☐ | 3. Right of access; (62-701.620(7), FAC) |
| S ☐ | Q.4 | N/A ☑ N/C ☐ | 4. Requirements for replacement of monitoring devices; (62-701.620(8), FAC) |
| S ☐ | Q.5 | N/A ☑ N/C ☐ | 5. Completion of long-term care signed and sealed by professional engineer; (62-701.620(9), FAC) |

**PART R. FINANCIAL ASSURANCE** (62-701.630, FAC)

| | LOCATION | | |
|---|---|---|---|
| S ☑ | R.1 | N/A ☐ N/C ☐ | 1. Provide cost estimates for closing, long-term care, and corrective action costs estimated by a P.E. for a third party performing the work, on a per unit basis, with the source of estimates indicated; (62-701.630(3) & (7), FAC) |
| S ☑ | R.2 | N/A ☐ N/C ☐ | 2. Describe procedures for providing annual cost adjustments to the Department based on inflation and changes in the closing, long-term care, and corrective action plans; (62-701.630(4) & (8), FAC) |
| S ☑ | R.3 | N/A ☐ N/C ☐ | 3. Describe funding mechanisms for providing proof of financial assurance and include appropriate financial assurance forms. (62-701.630(5), (6), & (9), FAC) |

**PART S. CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER**

1. Applicant:

The undersigned applicant or authorized representative of Highlands Board of County Commissioners is aware that statements made in this form and attached information are an application for a Operation permit from the Florida Department of Environmental Protection, and certifies that the information in this application is true, correct, and complete to the best of his/her knowledge and belief. Further, the undersigned agrees to comply with the provisions of Chapter 403, Florida Statutes, and all rules and regulations of the Department. It is understood that the Permit is not transferable, and the Department will be notified prior to the sale or legal transfer of the permitted facility.

Signature of Applicant or Agent

Ramon Gavarrete, PE, County Engineer
Name and Title (please type)

rgavarre@hcbcc.org
E-Mail Address (if available)

12700 Arbuckle Creek Road
Mailing Address

Sebring, FL 33870
City, State, Zip Code

(863) 402-7786
Telephone Number

Date: 12-19-2014

Attach letter of authorization if agent is not a government official, owner, or corporate officer.

2. Professional Engineer registered in Florida (or Public Officer if authorized under Sections 403.707 and 403.7075, Florida Statutes):

This is to certify that the engineering features of this solid waste management facility have been designed/examined by me and found to conform to engineering principles applicable to such facilities. In my professional judgment, this facility, when properly maintained and operated, will comply with all applicable statutes of the State of Florida and rules of the Department. It is agreed that the undersigned will provide the applicant with a set of instructions of proper maintenance and operation of the facility.

Harold S Boudreau III
Signature

Harold S. Boudreau, III, PE, Project Engineer
Name and Title (please type)

77030
Florida Registration Number (please affix seal)

HAROLD SHERWOOD BOUDREAU III LICENSE No. 77030 STATE OF FLORIDA PROFESSIONAL ENGINEER

730 NE Waldo Road
Mailing Address

Gainesville, FL 32641
City, State, Zip Code

hsboudreau@jonesedmunds.com
E-Mail Address (if available)

(352) 377-5821
Telephone Number

Date: 12/19/2014

# Supporting Documentation

# PART D

# SOLID WASTE MANAGEMENT FACILITY PERMIT REQUIREMENTS, GENERAL

## 1 APPLICATION FORM AND ALL SUPPORTING DATA AND REPORTS

Rule 62-701.320(5)(a), FAC requires four copies of the application, engineering plans and reports, and all supporting information for the proposed construction, substantial modification, operation, or closure of a facility. However, recent guidance from FDEP requires applicants to submit one hard copy of the application, drawings, and supporting documentation and one electronic copy in Adobe Acrobat PDF file format of the application, drawings, and supporting documentation. FDEP is transitioning to a paperless process for permit applications; the electronic copy is easily duplicated and is considered satisfactory for the rule requirement.

## 2 ENGINEERING AND/OR PROFESSIONAL CERTIFICATION

Jones Edmunds & Associates, Inc. has prepared this application and is an authorized engineering firm in Florida (Certificate of Authorization #1841). This application plans, reports, and supporting information have been signed and sealed by Harold S. Boudreau, PE, a registered Professional Engineer in Florida (Florida Professional Engineer No. 77030), as the Engineer of Record.

## 3 LETTER OF TRANSMITTAL

A letter of transmittal is included with this permit application.

## 4 APPLICATION FORM

FDEP Form No. 62-701.900(1), effective date of August 12, 2012, has been completed and is dated and signed by the applicant.

## 5 PERMIT FEE

In lieu of the permit fee, a copy of FDEP's approval of the Reduction or Waiver of Permit Processing Fees for calendar year 2015 based on Florida Statute Section 218.075 is included as Attachment D.5.

## 6 ENGINEERING REPORT

This application and supporting documentation meet the requirements of an engineering report required by Rule 62-701.320(7)(d), FAC.

# 7 OPERATION PLAN AND CLOSURE PLAN

This application is for the operation of the Ag Plastic Landfill. The Operation Plan provided in Appendix A outlines the operations of the Ag Plastic Landfill and identifies the policies, procedures, and guidelines for operations.

A Closure Plan was submitted with the 2004 Ag Plastic Application. A detailed Closure and Long-Term-Care Plan will be provided at the time of closure.

# 8 CONTINGENCY PLAN

Contingency plans for operations at the Ag Plastic Landfill are provided in the Operation Plan provided in Appendix A.

# 9 PLANS OR DRAWINGS

The engineering plans and drawings for the Ag Plastic Landfill have not changed and are provided in the 2004 Ag Plastic Application, Part F.

a. Regional Map or Plan

The regional map or plan is provided in previously submitted 2004 Ag Plastic Application and the more recently submitted 2014 Class I Application, Appendix B, Sheet V1.

b. Vicinity Map or Aerial Photograph

The vicinity map with aerial photo is provided in previously submitted 2014 Class I Application Appendix B, Sheet C1. See also Attachment E.1.

c. Site Plan

The site plan showing all property boundaries is provided in previously submitted 2014 Class I Application Appendix B, Sheet C1. No changes to the facility's property boundary have occurred since it was previously certified by a Florida-Licensed Professional Surveyor and Mapper; therefore, a site plan with the boundaries certified is not provided with this application.

d. Supporting Details

Drawings previously submitted in the 2004 Ag Plastic Application and 2009 Ag Plastic Application provide other necessary details to support the engineering report including referencing elevations to a consistent, nationally recognized datum and identifying the method used for collecting latitude and longitude data.

# 10 DOCUMENTATION FROM PROPERTY OWNER

The entire property is owned by the Highlands County Board of County Commissioners Solid Waste Division. A copy of the Warranty Deed dated April 3, 1989, was submitted in the 2004 Ag Plastic Application, Part E.

# 11 COUNTY WASTE REDUCTION AND RECYCLING GOALS

No changes to the facility's waste reduction and recycling goals are proposed in this permit application.

The Highlands County recycling program consists of 24 drop-off locations around the County. At these locations, residents can recycle newspapers, magazines, plastic containers, cardboard, steel cans, aluminum cans, and glass. The Ag Plastic Landfill generally supports the components of the County's solid waste management system by providing disposal.

# 12 HISTORY AND DESCRIPTION OF ENFORCEMENT ACTIONS

FDEP took enforcement action against Highlands County with Consent Order 10-0884-28-TK. A fine of $1,200 was submitted to FDEP May 19, 2010, and the HCSWMC is now in compliance.

# 13 PROOF OF PUBLICATION AND NOTIFICATION LETTERS

In accordance with Rule 62-701.320(8), FAC, a Notice of Application is not applicable for renewal permit applications and is not required to be submitted by Highlands County.

# 14 AIRPORT SAFETY

Attachment E.1 shows no change since the pervious permit application. Sebring Regional Airport is the only airport within a 5-mile radius of the proposed Ag Plastic Landfill. In accordance with the requirements of 62-701.320(13), FAC, no waste is stored, disposed, or processed within 10,000 feet of the Sebring Regional Airport.

# 15 OPERATOR AND SPOTTER TRAINING REQUIREMENTS

Operators and spotters that work at the HCSWMC and Ag Plastic Landfill will be trained in accordance with Rule 62-701.320(15), FAC. Personnel are required to successfully complete FDEP-approved training courses. The training plan and records documenting successful completion of the courses will be kept at the HCSWMC at all times. The Operation Plan in Appendix A identifies the operators' training requirements for the Ag Plastic Landfill.

# Attachment D.5

# FDEP's Approval of the Reduction or Waiver of Permit Processing Fees

**FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION**
South District Office
P.O. Box 2549
Fort Myers, FL 33902-2549
*SouthDistrict@dep.state.fl.us*

RICK SCOTT
GOVERNOR

CARLOS LOPEZ-CANTERA
LT. GOVERNOR

HERSCHEL T. VINYARD JR.
SECRETARY

November 12, 2014

**SENT BY ELECTRONIC MAIL**

Mr. Timothy R. Mechling
OMB Senior Manager
Highlands County
Email: tmechling@hcbcc.org

Re: Fee Waiver Request

Dear Mr. Mechling:

Thank you for your letter dated November 4, 2014, and supporting documentation sent to Albert McLaurin, (received via e-mail on November 10, 2014) requesting fee waivers based upon §218.075, F.S., on behalf of the Highlands County Board of County Commissioners.

Pursuant to §218.075, F.S., Department of Environmental Protection permit processing fees are hereby waived for the Highlands County Board of County Commissioners for calendar year 2015. This waiver is applicable when the permit applicant is the governing body of Highlands County or a third party under contract with the county and the project serves a public purpose. Please submit a copy of this letter along with any permit application for which the fee waiver is sought.

Please note that Mr. McLaurin has retired from this agency since October 5, 2014.

If you have any questions, please feel free to contact Abdul B. Ahmadi, P.E. at (239) 344-5614.

Sincerely,

Jon M. Iglehart
Director of District Management

JMI/ABA/se

Copies to:

Kimberly A. Middleton: kmiddleton@hcbcc.org
Megan Mills, DEP
Gary Maier, DEP
Mary Fitzgerald, DEP
Jeannie Gerhart, DEP
Maria Coleman, DEP

# PART E

# LANDFILL PERMIT REQUIREMENTS

## 1 REGIONAL MAP OR AERIAL PHOTOGRAPH SHOWING AIRPORTS

Attachment E.1 provides an aerial photograph showing all airports within 5 miles of the HCSWMC.

## 2 PLOT PLAN

The previously submitted drawings provided in 2004 Ag Plastic Application, Part F and 2009 Ag Plastic Application, Section 4 and 2014 Class I Application, Appendix B meet the requirements of Rule 62-701.330(3)(b), FAC, and include a plot plan of the site showing dimensions, locations of proposed and existing water quality monitoring wells, locations of soil borings, proposed plan of disposal areas, original elevations, proposed final contours, previously filled waste areas, and fencing. The scale of the plot plan is not greater than 200 feet to the inch.

a. Dimensions

The Permit Drawings are drawn to scale. Dimensions of the Ag Plastic Landfill are shown on the 2004 Ag Plastic Application, Part F, Figure F-3.

b. Locations of Proposed and Existing Water Quality Monitoring Wells

Specific water quality monitoring for the Ag Plastic Landfill is not required. Water quality monitoring for the HCSWMC is performed as part of the Class I Landfill Permit Number 0038570-030-SO/01, Appendix 3. Locations of the existing water quality monitoring wells are shown on the 2014 Class I Application, Figure L.1.

c. Locations of Soil Borings

Soil borings are not applicable to this permit renewal application because no expansions are planned.

d. Proposed Plan of Trenching or Disposal Areas

The Ag Plastic Landfill disposal area is shown in the previously submitted 2004 Ag Plastic Application, Part F and 2009 Ag Plastic Application, Section 4. No new disposal areas are proposed as a part of this permit application.

e. Cross Sections

Cross-sections are shown in the previously submitted 2004 Ag Plastic Application, Part F and 2009 Ag Plastic Application, Section 4. No changes are proposed as a part of this permit application.

f. Previously Filled Waste Disposal Areas

The Ag Plastic Landfill has no previously filled waste disposal areas.

g. Fencing or Other Measures to Restrict Access

The project area is surrounded by a fence, and the entrance has a security gate, as discussed in the Operation Plan (Appendix A). The HCSWMC property is fenced and has a 6-foot-deep ditch and 5-foot-high berm running along the outside of the fence. The entrance gate along Arbuckle Creek Road is only open during operating hours. Signs indicating hours of operation, operating and permitting authorities, and directions for persons delivering waste are posted at the entrance.

# 3 TOPOGRAPHIC MAPS

The previously submitted drawings provided in 2004 Ag Plastic Application, Part F and 2009 Ag Plastic Application, Section 4 and 2014 Class I Application, Appendix B meet the requirements of Rule 62-701.330(3)(c), FAC, and include topographic maps at a scale no greater than 200 feet to the inch with 5-foot contour intervals that show proposed fill area, access roads, grades required for proper drainage, special drainage devices, fencing, and equipment facilities.

a. Proposed Fill Areas

No construction or fill are proposed in this permit application.

b. Borrow Areas

Borrow areas are shown in 2014 Class I Application, Appendix B, Site Plan. No new borrow areas are proposed in this permit application.

c. Access Roads

Access roads are shown in 2014 Class I Application, Appendix B, Site Plan. No new access roads are proposed in this permit application.

d. Grades Required for Proper Drainage

Final build-out grades and drainage structures were previously submitted in the 2004 Ag Plastic Application, Part F and 2009 Ag Plastic Application, Section 4. No changes are proposed as a part of this permit application.

e. Cross Sections of Lifts

Cross-sections were previously submitted in the 2004 Ag Plastic Application, Part F and 2009 Ag Plastic Application, Section 4. No changes are proposed as a part of this permit application.

f. Special Drainage Devices

Drainage structures and details were previously submitted in the 2004 Ag Plastic Application, Part F and 2009 Ag Plastic Application, Section 4. No changes are proposed as a part of this permit application.

g. Fencing

See Part E.2.g.

h. Equipment Facilities

No changes to equipment facilities are proposed.

# 4 LANDFILL REPORT

a. Current and Projected Population

The Ag Plastic Landfill serves the populations of incorporated and unincorporated Highlands County. The current and projected population was obtained from the University of Florida's Bureau of Economic and Business Research (BEBR). The BEBR's population projection data used were released in March 2013 (*Projections of Florida Population by County, 2015–2040, with Estimates for 2012* in Volume 46, Bulletin 165 of *Florida Population Studies* – Attachment E.4).

b. Anticipated Type, Annual Quantity, and Source of Solid Waste

The Ag Plastic Landfill only accepts agricultural plastic waste, including film, tubing, and irrigation pipe. Data on the annual quantity of waste received in FY12/13 are provided in Attachment E.4.

Reports providing waste types and quantities disposed of in the HCSWMC are provided to FDEP as required by Chapter 62-701.500(4), FAC.

c. Planned Active Life, Final Design Height, and Maximum Operation Height of the Facility

The planned active life was calculated for the Ag Plastic Landfill, and the calculations are provided in Attachment E.4. The volume remaining was calculated based on the most recent topographic survey. The proposed final closure design was previously submitted and has not changed. The design life accounts for increased solid waste acceptance due to population increase. The Ag Plastic Landfill has approximately 79 years of active life for waste disposal. The maximum operation height of the solid waste (top of intermediate cover) is 102 feet NGVD, based on the 104 feet NGVD design height of the landfill.

d. Source and Type of Cover Material

Cover material will be obtained from the on-site borrow pit or off-site pits, if necessary. See Operation Plan (Appendix A) for information on the cover material.

# 5 WATER QUALITY MONITORING LABORATORY

Specific water quality monitoring for the Ag Plastic Landfill is not required. Water quality monitoring for the HCSWMC is performed as part of the Class I Landfill Permit Number 0038570-030-SO-01, Appendix 3. Water quality monitoring for the HCSWMC is performed by an FDEP-approved laboratory in accordance with Rule 62-160, FAC. Pace Analytic Services, Inc. is currently contracted. A copy of their certification is provided in the previously submitted 2014 Class I Application, Attachment E.5.

# 6 FINANCIAL RESPONSIBILITY

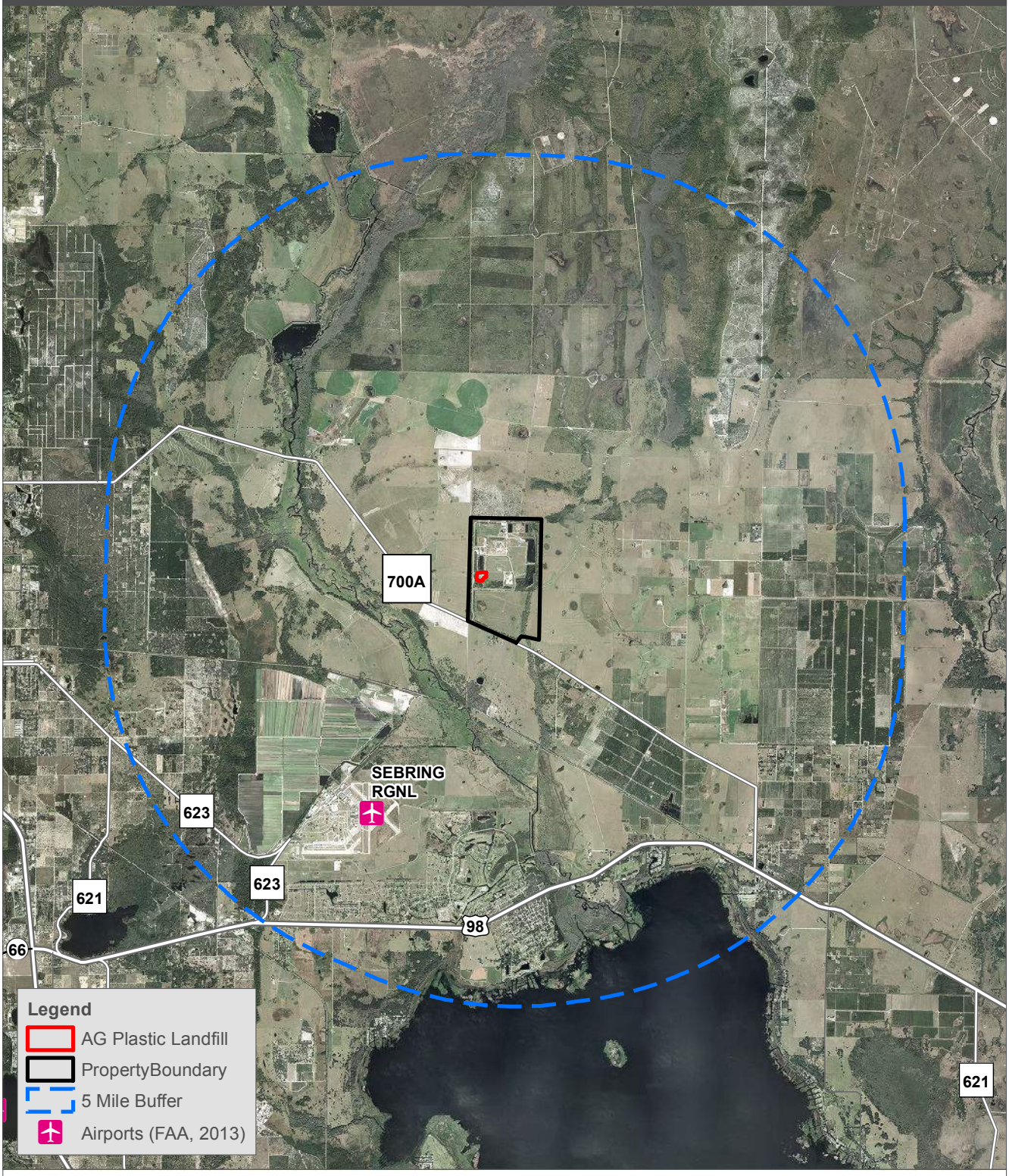
Please refer to Part R of this permit application for financial assurance documentation required by Rule 62-701.630, FAC.

# Attachment E.1

# Airport Location Map and Aerial Photo

**Attachment E.1**

# Airport Location and Aerial Photo Map
# Highlands County Solid Waste Management Center AG Plastic Landfill




0 1 2
Miles
1:126,720

Aerial Photo: 2014 FDOT

JONES EDMUNDS

*For Informational Purposes Only* Q:\(\\Gnvgisprojects)\08345_Highlands\015_Ag_Plastic_Landfill\mxd\E1_Airports.mxd SAN 12/04/2014

# Attachment E.4

# Design Life Calculations

| JONES EDMUNDS | Attachment 1 - Capacity and Design Life Analysis | | | |
|---|---|---|---|---|
| | PROJECT NUMBER: | 08345-012-01 | | |
| | PROJECT NAME: | HIGHLANDS COUNTY | | |
| | SUBJECT: | Capacity and Design Life Analysis | | |
| | BY: | M. Pollman | Date: | 8/20/14 |
| | CHECKED BY: | H. Boudreau | Date: | 12/19/24 |

# Ag Plastic Landfill

**Objective:**

1. Calculate the annual BEBR Population Growth Rate Projections.
2. Calculate the volume remaining from survey date 9/26/2013
3. Calculate the remaining capacity and projected lifespan.

**Data:**

| | | | | |
|---|---|---|---|---|
| $V_T$ = | Total Design Volume (based on Highlands County value) = | 230,000 | CY | *(Reference 3 - Table 8)* |
| $V_C$ = | Current Disposal Volume = | 25,519 | CY | *(Reference 1)* |
| $W_A$ = | Annual Tonnage Disposed (FY12-13 - rounded) = | 440 | Tons | *(Reference 2)* |
| $W_{A(11)}$ = | Annual Tonnage Disposed (FY12-13) = | 634 | Tons | *(Reference 3 - Table 8)* |
| $V_{A(11)}$ = | Annual Capacity Used (FY12-13) = | 2,883 | CY | *(Reference 3 - Table 8)* |
| $\sigma_a$ = | $W_{A(11)} / V_{A(11)}$ = Waste to Volume Ratio (FY12-13) = | 16 | pcf | *(Calculated)* |
| | **634 tons / 2883 CY =** | 0.22 | tcy | *(Calculated)* |

**Calculations:**

1. Estimate the future annual growth rate based on BEBR medium population projections. *(Reference 4)*
2. Calculate the waste volume remaining based on 2013 survey.

$V_R = V_T - V_C$

Where:

| | | | | | |
|---|---|---|---|---|---|
| $V_T$ = | Total Design Volume | | 230,000 | CY | *(Reference 1)* |
| $V_C$ = | Current Volume based on | 9/26/2013 Survey = | 25,519 | CY | *(Reference 1)* |
| **$V_R$ =** | **230000 CY - 25519 CY =** | | **204,481** | **CY** | ***(Calculated)*** |

3. Calculate the tonnage projections and the anticipated lifespan for the Landfill.

**Medium BEBR Population Projections**
**Ag Plastic Landfill**

**(4) Disposal Volume Remaining ($V_R$) =** 204,481 CY *(Calculated)*

| Year | (1) Annual Waste Disposal Rate (Tons/year) | (2) Annual Growth Rate *(Reference 4)* (%/yr) | (3) Waste to Volume Ratio (T/CY) | [(1) x (3)] Volume of Waste Landfilled CY | (5) = Previous Volume Remaining - [(1)x(3)] Annual Volume Remaining (CY) |
|---|---|---|---|---|---|
| 2013 | 440 | | | | 204,481 |
| 2014 | 444 | 0.9% | 0.22 | 2,018 | 202,463 |
| 2015 | 448 | 0.9% | 0.22 | 2,036 | 200,427 |
| 2016 | 453 | 1.1% | 0.22 | 2,058 | 198,370 |
| 2017 | 458 | 1.1% | 0.22 | 2,080 | 196,290 |
| 2018 | 462 | 1.1% | 0.22 | 2,102 | 194,188 |
| 2019 | 467 | 1.1% | 0.22 | 2,125 | 192,063 |
| 2020 | 472 | 1.1% | 0.22 | 2,148 | 189,915 |
| 2021 | 477 | 0.9% | 0.22 | 2,168 | 187,747 |
| 2022 | 481 | 0.9% | 0.22 | 2,188 | 185,559 |
| 2023 | 486 | 0.9% | 0.22 | 2,209 | 183,350 |
| 2024 | 490 | 0.9% | 0.22 | 2,229 | 181,121 |
| 2025 | 495 | 0.9% | 0.22 | 2,250 | 178,871 |
| 2026 | 499 | 0.8% | 0.22 | 2,267 | 176,603 |
| 2027 | 503 | 0.8% | 0.22 | 2,285 | 174,318 |
| 2028 | 507 | 0.8% | 0.22 | 2,303 | 172,016 |
| 2029 | 510 | 0.8% | 0.22 | 2,320 | 169,695 |
| 2030 | 514 | 0.8% | 0.22 | 2,338 | 167,357 |
| 2031 | 518 | 0.6% | 0.22 | 2,353 | 165,004 |
| 2032 | 521 | 0.6% | 0.22 | 2,368 | 162,637 |
| 2033 | 524 | 0.6% | 0.22 | 2,382 | 160,254 |
| 2034 | 527 | 0.6% | 0.22 | 2,397 | 157,857 |
| 2035 | 531 | 0.6% | 0.22 | 2,412 | 155,445 |
| 2036 | 533 | 0.5% | 0.22 | 2,425 | 153,019 |
| 2037 | 536 | 0.5% | 0.22 | 2,438 | 150,582 |
| 2038 | 539 | 0.5% | 0.22 | 2,451 | 148,131 |
| 2039 | 542 | 0.5% | 0.22 | 2,464 | 145,667 |
| 2040 | 545 | 0.5% | 0.22 | 2,476 | 143,191 |
| 2041 | 548 | 0.5% | 0.22 | 2,490 | 140,701 |
| 2042 | 551 | 0.5% | 0.22 | 2,503 | 138,199 |

| | | |
|---|---|---|
| | | **Attachment 1 - Capacity and Design Life Analysis** |
| PROJECT NUMBER: | 08345-012-01 | |
| PROJECT NAME: | HIGHLANDS COUNTY | |
| SUBJECT: | Capacity and Design Life Analysis | |
| BY: | M. Pollman | Date: 8/20/14 |
| CHECKED BY: | H. Boudreau | Date: 12/19/14 |

# Ag Plastic Landfill

**Objective:**

1. Calculate the annual BEBR Population Growth Rate Projections.
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|---|---|---|---|---|
| $V_T$ = | Total Design Volume (based on Highlands County value) = | 230,000 | CY | *(Reference 3 - Table 8)* |
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| $W_A$ = | Annual Tonnage Disposed (FY12-13 - rounded) = | 440 | Tons | *(Reference 2)* |
| $W_{A(11)}$ = | Annual Tonnage Disposed (FY12-13) = | 634 | Tons | *(Reference 3 - Table 8)* |
| $V_{A(11)}$ = | Annual Capacity Used (FY12-13) = | 2,883 | CY | *(Reference 3 - Table 8)* |
| $\sigma_a$ = | $W_{A(11)} / V_{A(11)}$ = Waste to Volume Ratio (FY12-13) = | 16 | pcf | *(Calculated)* |
| | **634 tons / 2883 CY =** | 0.22 | tcy | *(Calculated)* |

**Calculations:**

1. Estimate the future annual growth rate based on BEBR medium population projections. *(Reference 4)*
2. Calculate the waste volume remaining based on 2013 survey.

$V_R = V_T - V_C$

Where:

| | | | | | |
|---|---|---|---|---|---|
| $V_T$ = | Total Design Volume | | 230,000 | CY | *(Reference 1)* |
| $V_C$ = | Current Volume based on | 9/26/2013 Survey = | 25,519 | CY | *(Reference 1)* |
| **$V_R$ =** | **230000 CY - 25519 CY =** | | **204,481** | **CY** | ***(Calculated)*** |

3. Calculate the tonnage projections and the anticipated lifespan for the Landfill.

**Medium BEBR Population Projections**
**Ag Plastic Landfill**

**(4) Disposal Volume Remaining ($V_R$) =** 204,481 CY *(Calculated)*

| Year | (1) Annual Waste Disposal Rate (Tons/year) | (2) Annual Growth Rate *(Reference 4)* (%/yr) | (3) Waste to Volume Ratio (T/CY) | [(1) x (3)] Volume of Waste Landfilled CY | (5) = Previous Volume Remaining - [(1)x(3)] Annual Volume Remaining (CY) |
|---|---|---|---|---|---|
| 2043 | 553 | 0.5% | 0.22 | 2,516 | 135,683 |
| 2044 | 556 | 0.5% | 0.22 | 2,529 | 133,154 |
| 2045 | 559 | 0.5% | 0.22 | 2,542 | 130,612 |
| 2046 | 562 | 0.5% | 0.22 | 2,556 | 128,056 |
| 2047 | 565 | 0.5% | 0.22 | 2,569 | 125,487 |
| 2048 | 568 | 0.5% | 0.22 | 2,583 | 122,904 |
| 2049 | 571 | 0.5% | 0.22 | 2,596 | 120,308 |
| 2050 | 574 | 0.5% | 0.22 | 2,610 | 117,698 |
| 2051 | 577 | 0.5% | 0.22 | 2,624 | 115,075 |
| 2052 | 580 | 0.5% | 0.22 | 2,637 | 112,437 |
| 2053 | 583 | 0.5% | 0.22 | 2,651 | 109,786 |
| 2054 | 586 | 0.5% | 0.22 | 2,665 | 107,121 |
| 2055 | 589 | 0.5% | 0.22 | 2,679 | 104,441 |
| 2056 | 592 | 0.5% | 0.22 | 2,693 | 101,748 |
| 2057 | 596 | 0.5% | 0.22 | 2,708 | 99,041 |
| 2058 | 599 | 0.5% | 0.22 | 2,722 | 96,319 |
| 2059 | 602 | 0.5% | 0.22 | 2,736 | 93,583 |
| 2060 | 605 | 0.5% | 0.22 | 2,750 | 90,832 |
| 2061 | 608 | 0.5% | 0.22 | 2,765 | 88,067 |
| 2062 | 611 | 0.5% | 0.22 | 2,779 | 85,288 |
| 2063 | 615 | 0.5% | 0.22 | 2,794 | 82,494 |
| 2064 | 618 | 0.5% | 0.22 | 2,809 | 79,685 |
| 2065 | 621 | 0.5% | 0.22 | 2,824 | 76,862 |
| 2066 | 624 | 0.5% | 0.22 | 2,838 | 74,023 |
| 2067 | 628 | 0.5% | 0.22 | 2,853 | 71,170 |
| 2068 | 631 | 0.5% | 0.22 | 2,868 | 68,301 |
| 2069 | 634 | 0.5% | 0.22 | 2,883 | 65,418 |
| 2070 | 638 | 0.5% | 0.22 | 2,899 | 62,519 |
| 2071 | 641 | 0.5% | 0.22 | 2,914 | 59,606 |
| 2072 | 644 | 0.5% | 0.22 | 2,929 | 56,676 |
| 2073 | 648 | 0.5% | 0.22 | 2,945 | 53,732 |

| JONES EDMUNDS | | | | |
|---|---|---|---|---|
| | **Attachment 1 - Capacity and Design Life Analysis** | | | |
| | PROJECT NUMBER: | 08345-012-01 | | |
| | PROJECT NAME: | HIGHLANDS COUNTY | | |
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| | BY: | M. Pollman | Date: | 8/20/14 |
| | CHECKED BY: | H. Boudreau | Date: | 12/19/14 |

# Ag Plastic Landfill

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| | | | | |
|---|---|---|---|---|
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| $W_A$ = | Annual Tonnage Disposed (FY12-13 - rounded) = | 440 | Tons | *(Reference 2)* |
| $W_{A(11)}$ = | Annual Tonnage Disposed (FY12-13) = | 634 | Tons | *(Reference 3 - Table 8)* |
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| $\sigma_a$ = | $W_{A(11)} / V_{A(11)}$ = Waste to Volume Ratio (FY12-13) = | 16 | pcf | *(Calculated)* |
| | **634 tons / 2883 CY =** | 0.22 | tcy | *(Calculated)* |

**Calculations:**

1. Estimate the future annual growth rate based on BEBR medium population projections. *(Reference 4)*
2. Calculate the waste volume remaining based on 2013 survey.

$V_R = V_T - V_C$

Where:

| | | | | | |
|---|---|---|---|---|---|
| $V_T$ = | Total Design Volume | | 230,000 | CY | *(Reference 1)* |
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| **$V_R$ =** | **230000 CY - 25519 CY =** | | **204,481** | **CY** | ***(Calculated)*** |

3. Calculate the tonnage projections and the anticipated lifespan for the Landfill.

**Medium BEBR Population Projections**
**Ag Plastic Landfill**

**(4) Disposal Volume Remaining ($V_R$) =** 204,481 CY *(Calculated)*

| Year | (1) Annual Waste Disposal Rate (Tons/year) | (2) Annual Growth Rate *(Reference 4)* (%/yr) | (3) Waste to Volume Ratio (T/CY) | [(1) x (3)] Volume of Waste Landfilled CY | (5) = Previous Volume Remaining - [(1)x(3)] Annual Volume Remaining (CY) |
|---|---|---|---|---|---|
| 2074 | 651 | 0.5% | 0.22 | 2,960 | 50,772 |
| 2075 | 655 | 0.5% | 0.22 | 2,976 | 47,796 |
| 2076 | 658 | 0.5% | 0.22 | 2,991 | 44,805 |
| 2077 | 661 | 0.5% | 0.22 | 3,007 | 41,798 |
| 2078 | 665 | 0.5% | 0.22 | 3,023 | 38,775 |
| 2079 | 668 | 0.5% | 0.22 | 3,039 | 35,736 |
| 2080 | 672 | 0.5% | 0.22 | 3,055 | 32,682 |
| 2081 | 676 | 0.5% | 0.22 | 3,071 | 29,611 |
| 2082 | 679 | 0.5% | 0.22 | 3,087 | 26,524 |
| 2083 | 683 | 0.5% | 0.22 | 3,103 | 23,421 |
| 2084 | 686 | 0.5% | 0.22 | 3,120 | 20,301 |
| 2085 | 690 | 0.5% | 0.22 | 3,136 | 17,165 |
| 2086 | 693 | 0.5% | 0.22 | 3,152 | 14,013 |
| 2087 | 697 | 0.5% | 0.22 | 3,169 | 10,844 |
| 2088 | 701 | 0.5% | 0.22 | 3,186 | 7,658 |
| 2089 | 704 | 0.5% | 0.22 | 3,202 | 4,456 |
| 2090 | 704 | 0.5% | 0.22 | 3,202 | 4,456 |
| 2091 | 708 | 0.5% | 0.22 | 3,219 | 1,236 |
| 2092 | 712 | 0.5% | 0.22 | 3,236 | -2,000 |
| **(6) Total Years Remaining (from September 2013)** | | | | | **78.6** |
| **(7) Anticipated Closure Date** | | | | | **April 2092** |

Note: Numbering in parenthesis based on discussion items in text.

**References:**


1. AutoCAD Civil 3D Volume of 9-26-2013 survey.
   AutoCAD Civil 3D Volume of conceptual final cover surface developed for this analysis.
2. 2013 Tonnage Data from Highlands County report for residential plus commercial.
3. FY11/12 Tonnage and Volume Data from Yearly Volume Consumption Report for Permit Specific Condition #22 dated October 25, 2012 prepared by Highlands County Solid Waste Management for Mr. Alber McLaurin, PE FDEP Fort Myers Regional Service Center.
4. University of Florida Bureau of Economic and Business Research (BEBR), Florida Population Studies, Bulletin 162 (Revised) March 2012, "Projections for Florida Populations by County, 2011 - 2040".

| JONES EDMUNDS | | Attachment 1 - Capacity and Design Life Analysis | | |
|---|---|---|---|---|
| | PROJECT NUMBER: | 08345-012-01 | | |
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| | BY: | M. Pollman | Date: | 8/20/14 |
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# Ag Plastic Landfill

**Objective:**

1. Calculate the annual BEBR Population Growth Rate Projections.
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| $W_{A(11)}$ = | Annual Tonnage Disposed (FY12-13) = | 634 | Tons | *(Reference 3 - Table 8)* |
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| $\sigma_a$ = | $W_{A(11)} / V_{A(11)}$ = Waste to Volume Ratio (FY12-13) = | 16 | pcf | *(Calculated)* |
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**Calculations:**

1. Estimate the future annual growth rate based on BEBR medium population projections. *(Reference 4)*
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$V_R = V_T - V_C$

Where:

| | | | | | |
|---|---|---|---|---|---|
| $V_T$ = | Total Design Volume | | 230,000 | CY | *(Reference 1)* |
| $V_C$ = | Current Volume based on | 9/26/2013 Survey = | 25,519 | CY | *(Reference 1)* |
| **$V_R$ =** | **230000 CY - 25519 CY =** | | **204,481** | **CY** | ***(Calculated)*** |

3. Calculate the tonnage projections and the anticipated lifespan for the Landfill.

**Medium BEBR Population Projections**
**Ag Plastic Landfill**

**(4) Disposal Volume Remaining ($V_R$) =** 204,481 CY *(Calculated)*

| Year | (1) Annual Waste Disposal Rate (Tons/year) | (2) Annual Growth Rate *(Reference 4)* (%/yr) | (3) Waste to Volume Ratio (T/CY) | [(1) x (3)] Volume of Waste Landfilled CY | (5) = Previous Volume Remaining - [(1)x(3)] Annual Volume Remaining (CY) |
|---|---|---|---|---|---|

**Explanation of Calculations:**

1 Estimated 2013/2014 Annual Waste Disposal Rate: The 2012/2013 waste disposal rate in tpy is estimated based on FY12–13 tonnage data provided by Highlands County (Attachment 1, Reference 2).

2 Annual Growth Rate: An annual growth rate is used in the design life calculation to model the annual increase in waste flow to the landfill due to increasing population. Using the population as the measure for the annual growth rate assumes that the average per capita waste production will remain constant. The annual growth rate calculations from 2012 to 2040 ranging from 0.5% to 1.1% (Attachment 1, Reference 4) are based on the University of Florida Bureau of Economic and Business Research (BEBR), Projections of Florida Population by County 2010–2040, Bulletin 162, March 2012.

3 Waste Weight-to-Volume Ratio: The waste weight-to-volume ratio (density) is used in the design life calculation to convert the waste tonnage landfilled into a volume for determining the volume remaining for each year of active landfilling. The density is calculated by dividing the total tonnage of waste placed between topographic surveys by the total volume of airspace used between topographic surveys.

The waste tonnage data and the annual volume consumed were provided by Highlands County (Attachment 1, Reference 3). The waste tonnage and yearly volume consumption report is dated October 25, 2012, and was retrieved from the FDEP OCULUS database.

The variation in waste densities shown is typical for changes in waste type and degree of compaction.

4 Disposal Volume Remaining: The volume remaining in the landfill is calculated using CADD software by estimating the volume between the 2013 topographic survey surface from the intermediate closure design surface (Attachment 1, Reference 1). The intermediate closure design was developed by Jones Edmunds based on permit conditions (minus 2 feet to account for the final cover thickness).

5 Annual Volume Remaining: The volume remaining for each year in the active life of the landfill is calculated for each year. The annual landfill volume remaining is calculated based on the estimated tonnage of waste landfilled (increased annually using the annual growth rate) converted to a volume by multiplying it by the waste density. The annual volume landfilled is then subtracted from the volume remaining in the previous year of the landfill's active lifespan.

6 Total Lifespan: The lifespan is the number of years calculated by iteratively subtracting the annual volume landfilled from the annual volume remaining until the volume remaining becomes zero or negative. If negative volume remains, the fraction of the year remaining is linearly interpolated.

7 Anticipated Closure Date: The closure date is determined based on the calculated lifespan starting from the survey date.

JONES EDMUNDS

**Attachment E4 - Reference 1**

| | | | |
|---|---|---|---|
| PROJECT NUMBER: | 08345-012-01 | SHEET: 1 OF 1 | |
| PROJECT NAME: | HIGHLANDS COUNTY | | |
| SUBJECT: | Capacity and Design Life Analysis | | |
| BY: | P. Upstill | Date: | 8/12/14 |
| CHECKED BY: | M. Pollman MCP | Date: | 12/19/14 |

## 08345-013-01 MC REPORTING Reference 1

**CADD Volume Calculations:**

| Landfill | 2D Area (acres) | Peak Elevation (feet) | Volume | Base Surface | Comparison Surface | Cut (CY) | Fill (CY) | Net (CY) |
|---|---|---|---|---|---|---|---|---|
| Class I* | 31 | 128 | Total | JE-SAND | intermediate-cover | 34 | 3,146,262 | 3,146,228 |
| Class I | 31 | 130 | Current | JE-SAND | Cell 1a and 1b | 4 | 1,984,533 | 1,984,529 |

* Net Fill calculated based on the Jones Edmunds final cover surface is very close to the value reported by Highlands County. Highlands County value of used in the analysis.

| Landfill | Area | Peak Elev | Volume | Base Surface | Comparison Surface | Cut (CY) | Fill (CY) | Net (CY) |
|---|---|---|---|---|---|---|---|---|
| C&DD | 11 | 127.5 | Total | je-bottom | je-cover-M2 | 41 | 554,243 | 554,201 |
| C&DD | 11 | | Current | je-bottom | C & D | 0 | 222,443 | 222,443 |

| Landfill | Area | Peak Elev | Landfill | Base Surface | Comparison Surface | Cut (CY) | Fill (CY) | Net (CY) |
|---|---|---|---|---|---|---|---|---|
| Ag Plastic | 6 | See 2004 | Total | BASE | plastic-cover | 0 | See 2004 permit app. | |
| Ag Plastic | 6 | | Current | BASE | Plastic avg top | 0 | 25,519 | 25,519 |

**Surface Notes**

### Class I

JE-SAND - Bottom surface derived from ARBUCKLE CREEK LANDFILL CELL 1A, 1B, 3A, 3B, & 3C VOLUME SUMMERY 9/26/13 drawings from Highlands County Engineering Department by merging 3 sand bottom surfaces.

Cell 1a and 1b - Top grades surface from ARBUCKLE CREEK LANDFILL CELL 1A, 1B, 3A, 3B, & 3C VOLUME SUMMERY 9/26/13 drawings from Highlands County Engineering Department.

Intermediate-cover - Intermediate Cover surface derived from sheet C-3 elevations shown in the Highlands County Solid Waste Management Center 2008 Permit Drawings.

### C&DD

1. Je-cover-M2 – Cover Surface derived from Highlands County Construction and Demolition Waste Landfill Closure Permit Drawings dated May 27, 1999 Sheet 5 Stage 2 and added 25 foot wide benches at elevation 95.0, peak cover elevation 129.5, then lowered 2 feet.

Je-bottom – Bottom surface derived from ARBUCKLE CREEK LANDFILL CELL C & D VOLUME REPORT 9/26/13 drawings from Highlands County Engineering Department and extended into Phase II by interpolating 3d lines.

C & D - Top grades surface from ARBUCKLE CREEK LANDFILL CELL C & D VOLUME REPORT 9/26/13 drawings from Highlands County Engineering Department.

### Ag Plastic

BASE - Base grades surface from Agricultural Plastic Disposal Unit Volume Report 9/26/13 drawings from Highlands County Engineering Department and added surrounding grades to top of existing berm.

Plastic avg top - Base grades surface from Agricultural Plastic Disposal Unit Volume Report 9/26/13 drawings from Highlands County Engineering Department.

Plastic-cover - Top grades surface 3:1 slopes from existing berm top to elevation 130.0 feet, designed by M Pollman at JE.

**Drawings Used**

\\jeacad\Drafting\08345 Highlands County\Capacity Analysis\012 MC Reporting\20140702\C + D\08345012vol20140702.dwg

\\jeacad\Drafting\08345 Highlands County\Capacity Analysis\012 MC Reporting\20140702\Class I\08345012vol20140702.dwg

\\jeacad\Drafting\08345 Highlands County\Capacity Analysis\012 MC Reporting\20140702\Plastic\08345012vol20140702.dwg

JONES EDMUNDS

PROJECT NUMBER: 08345-012-01 SHEET: 1 OF 1 **Attachment E4 - Reference 2**
PROJECT NAME: HIGHLANDS COUNTY
SUBJECT: Capacity and Design Life Analysis Data provided by Highlands County
BY: M. Pollman Date: 8/12/14

## Reference 2

Data provided by Highlands County used for initial annual tonnage disposed ($W_T$).

**Monthly Tonnages Received at Highlands County Landfills**
**FY 12-13**

| Highlands County Solid Waste Management Center | Residential Household Waste[1] | Commercial Waste[2] | Yard Waste (Including Grass Clippings[3]) | Tires[4] | Miscellaneous[5] (Class I Only) | White Goods (Including Recycled White Goods) | Ag - Plastic | C&D[6] | Sub-Totals | Road Base | Other Material & Transactions[6] | Total Tons |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FY 12/13 | 37,448.92 | 28,014.02 | 6,115.90 | 392.11 | 2,947.13 | 43.02 | 438.51 | 9,642.45 | 85,042.06 | 4,134.70 | 3,878.99 | **93,055.75** |
| | | | | | | | | | | | | |
| FY 11/12 | 38,394.04 | 27,956.30 | 6,717.29 | 350.74 | 2,931.11 | 30.73 | 634.09 | 9,468.32 | 86,482.62 | 3,613.38 | 5,637.54 | **95,733.54** |
| Percent Change from FY 11/12 | -2% | 0.206% | -9% | 12% | 1% | 40% | -31% | 2% | | 14% | | |
| | | | | | | | | Total Percent Change from FY 11-12: | **-1.67%** | | | **-2.80%** |

[1] Modified Residential Household Waste in FY 2011/2012 to NOT include Community Cleanup. Community Cleanup was included in FY2010/2011.
[2] Modified Commercial Waste in FY 2011/2012 NOT to include daily Recycling Trash and small C & D material brought in on Saturdays. Recycling Trash was included in FY2010/2011.
[3] Grass Clippings are received @ no charge according to adopted fee schedule.
[4] Tires include loads by tonnage, individual tires (EA), and Community/Illegal Cleanups.
[5] Miscellaneous = Garbage Arbuckle Creek, Seb Street Sweepings, Sewer Grit, Waste Water - R&B, Community Cleanup, Recycling Trash, Monitors (E-Waste), Animal Carcasses, Special Waste (Other), Contaminated Soil (Board Waived Fees), Contaminated Soil, Asbestos Containing Material, Waste Water Treatment Sludge, Septic Sludge, ASR.
[6] Begun Including Granite Sand (Code 56) and C&D Wastes (Code 250) in FY 2011/2012.
[7] Begun Including this category in FY 2011/2012 in order to account for 100% of tonnage & revenue as listed in the Transaction Daily Reports for each month.

| Highlands County Solid Waste Management Center | Residential Household Waste[1] | Commercial Waste[2] | Yard Waste (Including Grass Clippings[3]) | Tires[4] | Miscellaneous[5] (Class I Only) | White Goods (Including Recycled White Goods) | Ag - Plastic | C&D[6] | Sub-Totals | Road Base | Other Material & Transactions[6] | Total Revenue |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FY 12/13 | $ 1,687,320.30 | $ 1,256,964.79 | $ 149,195.65 | $ 38,116.20 | $ 26,785.75 | $ 299.60 | $ 19,750.35 | $ 159,612.42 | $ 3,338,045.06 | $ - | $ 8,706.55 | **$ 3,346,751.61** |
| | | | | | | | | | | | | |
| FY 11/12 | $ 1,730,036.80 | $ 1,259,209.10 | $ 151,464.50 | $ 34,549.70 | $ 25,448.10 | $ 182.20 | $ 28,542.35 | $ 148,960.30 | $ 3,378,393.05 | $ - | $ 4,792.55 | **$ 3,383,185.60** |
| Percent Change from FY 11/12 | -2% | 0% | -1% | 10% | 5% | 64% | -31% | 7% | | 100% | | |
| | | | | | | | | | **-1.19%** | | | **-1.08%** |

[1] Modified Residential Household Waste in FY 2011/2012 to NOT include Community Cleanup. Community Cleanup was included in FY2010/2011.
[2] Modified Commercial Waste in FY 2011/2012 NOT to include daily Recycling Trash and small C & D material brought in on Saturdays. Recycling Trash was included in FY2010/2011.
[3] Grass Clippings are received @ no charge according to adopted fee schedule.
[4] Tires Revenue based on charges listed under the Tire Code (300). Special Fees (EA depending on type) will be included under the main material type code and "Not Specified (999)" will be included in other specific codes.
[5] Miscellaneous = Garbage Arbuckle Creek, Seb Street Sweepings, Sewer Grit, Waste Water - R&B, Community Cleanup, Recycling Trash, Monitors (E-Waste), Animal Carcasses, Special Waste (Other), Contaminated Soil (Board Waived Fees), Contaminated Soil, Asbestos Containing Material, Waste Water Treatment Sludge, Septic Sludge, ASR.
[6] Begun Including this category in FY 2011/2012 in order to account for 100% of tonnage & revenue as listed in the Transaction Daily Reports for each month.

**Attachment E4 - Reference 3**

PROJECT NUMBER: 08345-012-01
PROJECT NAME: HIGHLANDS COUNTY
SUBJECT: Capacity and Design Life Analysis
Waste Density Calculations
BY: M. Pollman Date: 11/5/14

| | Annual Waste Tonnage (tons) | Waste Tonnage Reference | Annual Waste Volume Consumed (Cubic Yards) | Waste Volume Reference | Calculated Waste Density (TCY) | Calculated Waste Density (PCF) |
|---|---|---|---|---|---|---|
| Class I Landfill (FY12-13) | 65,463 | Table 1 | 93,447 | Table 5 | 0.70 | 52 |
| Class I Landfill (FY11-12) | 67,181 | FY11-12 | 95,840 | FY11-12 | 0.70 | 52 |
| | | | **Value used in Calculations[1]:** | | **0.70** | **52** |
| C&DD Landfill (FY12-13) | 9,642 | Table 1 | 6,633 | Table 7 | 1.45 | 108 |
| C&DD Landfill (FY11-12) | 4,862 | FY11-12 | 8,358 | FY11-12 | 0.58 | 43 |
| | | | **Value used in Calculations[2]:** | | **0.58** | **43** |
| Ag Plastic (FY12-13) | 634 | Table 1 | 2,883 | Table 8 | 0.22 | 16 |
| Ag Plastic (FY11-12) | 634 | FY11-12 | 2,922 | FY11-12 | 0.22 | 16 |
| | | | **Value used in Calculations[3]:** | | **0.22** | **16** |

Notes:
1 - Used average of FY12-13 and FY11-12 waste density calculations.
2 - Used FY11-12 waste density calculations because FY12-13 calculations are not realistic for a C&DD waste density.
3 - Used average of FY12-13 and FY11-12 waste density calculations.

# Table 1

## Summary of Solid Waste Received
## FY 2012 / 2013

| | | | |
|---|---|---|---|
| **Class I Wastes Received** | | | |
| Residential and Household Wastes | | 37,449 | |
| Commercial Wastes | | 28,014 | |
| Other Class I Waste | | 0 | |
| | **Sub-total** | **65,463** | **tons** |
| **C&D Wastes Received** | | | |
| Inert Debris | | 9,642 | |
| Site Clearing Vegetation | | 0 | |
| Clean Concrete, Roof Shingles, RSM for Landfill Road Base & Cover Material | | 5,053 | |
| | **Sub-total** | **14,695** | **tons** |
| **Other Wastes Received** | | | |
| Horticultural Waste | | 6,116 | |
| White Goods | | 8 | |
| Metals from Class I and C&D Landfills | | 36 | |
| Tires | | 392 | |
| Agricultural Plastic | | 634 | |
| Automobile Shredded Residue (ASR) | | 0 | |
| | **Sub-total** | **7,186** | **tons** |
| | **Total Wastes Received** | **87,344** | **tons** |
| **Recycled Materials** | | | |
| Horticultural Waste | | 6,116 | |
| White Goods | | 8 | |
| Metals from Class I and C&D Landfills | | 36 | |
| Tires | | 392 | |
| Agricultural Plastic | | 634 | |
| Clean Concrete, Roof Shingles, RSM for Landfill Road Base & Cover Material | | 5,053 | |
| Automobile Shredded Residue (ASR) | | 0 | |
| | **Total** | **12,239** | **tons** |
| | **Percent of Total** | **14.01%** | |
| **Landfilled Wastes** | | | |
| MSW | | 65,463 | |
| C&D | | 9,642 | |
| Ag - Plastic | | 634 | |
| | **Total** | **75,739** | **tons** |
| | **Percent of Total** | **86.71%** | |

# Table 8

## ANNUAL VOLUME CONSUMED
## AGRICULTURAL PLASTIC
## TOTAL DISPOSAL VOLUME: 230,128 CY

| Fiscal Year | Annual Volume Consumed | | Cumulative Volume Consumed Since Start of Operations (7/15/99) | |
|---|---|---|---|---|
| | Cubic Yards[2] | Percent of Total Disposal Volume[2] | Cubic Yards | Percent of Total Disposal Volume[2] |
| FY 06/07 | 4,806 | 2.09% | 15,703 [1] | 6.82% |
| FY 07/08 | 1,049 | 0.46% | 16,752 [1] | 7.28% |
| FY 08/09 | 3,194 | 1.39% | 19,946 [1] | 8.67% |
| FY 09/10 | 2,479 | 1.08% | 22,425 [1] | 9.74% |
| FY 10/11 | 1,215 | 0.53% | 23,640 [1] | 10.27% |
| FY 11/12[3] | (1,003) | -0.44% | 22,637 [1] | 9.84% |
| FY 12/13[3] | 2,883 | 1.25% | 25,519 [1] | 11.09% |
| | | | | |

(1) Based on topographic survey and computer analysis (actual).

(2) Tables modified by Ramon D. Gavarrete, P.E., on October 28, 2010 to allow excel to perform mathematical operations.

(3) Air space recovered due to compaction, decomposition, and settlement of ag-plastics waste.

PROJECT NUMBER: 08345-012-01 SHEET: 1 OF 1
PROJECT NAME: HIGHLANDS COUNTY
SUBJECT: Capacity and Design Life Analysis
BY: M. Pollman Date: 8/12/14

## Reference 4

| Year | BEBR Population Projections | | | | | |
|---|---|---|---|---|---|---|
| | Low | Percent Increase | Medium | Percent Increase | High | Percent Increase |
| 2011 | 98,955 | | 98,955 | | 98,955 | |
| 2012 | 98,955 | 0.0% | 98,955 | 0.0% | 98,955 | 0.0% |
| 2013 | 97,790 | -1.2% | 99,829 | 0.9% | 101,788 | 2.9% |
| 2014 | 96,638 | -1.2% | 100,711 | 0.9% | 104,702 | 2.9% |
| 2015 | 95,500 | -1.2% | 101,600 | 0.9% | 107,700 | 2.9% |
| 2016 | 95,916 | 0.4% | 102,696 | 1.1% | 109,480 | 1.7% |
| 2017 | 96,335 | 0.4% | 103,804 | 1.1% | 111,290 | 1.7% |
| 2018 | 96,755 | 0.4% | 104,924 | 1.1% | 113,129 | 1.7% |
| 2019 | 97,176 | 0.4% | 106,056 | 1.1% | 114,999 | 1.7% |
| 2020 | 97,600 | 0.4% | 107,200 | 1.1% | 116,900 | 1.7% |
| 2021 | 97,839 | 0.2% | 108,201 | 0.9% | 118,628 | 1.5% |
| 2022 | 98,078 | 0.2% | 109,212 | 0.9% | 120,382 | 1.5% |
| 2023 | 98,318 | 0.2% | 110,232 | 0.9% | 122,161 | 1.5% |
| 2024 | 98,559 | 0.2% | 111,261 | 0.9% | 123,967 | 1.5% |
| 2025 | 98,800 | 0.2% | 112,300 | 0.9% | 125,800 | 1.5% |
| 2026 | 98,880 | 0.1% | 113,167 | 0.8% | 127,437 | 1.3% |
| 2027 | 98,960 | 0.1% | 114,040 | 0.8% | 129,095 | 1.3% |
| 2028 | 99,040 | 0.1% | 114,920 | 0.8% | 130,775 | 1.3% |
| 2029 | 99,120 | 0.1% | 115,806 | 0.8% | 132,476 | 1.3% |
| 2030 | 99,200 | 0.1% | 116,700 | 0.8% | 134,200 | 1.3% |
| 2031 | 99,100 | -0.1% | 117,431 | 0.6% | 135,744 | 1.2% |
| 2032 | 99,000 | -0.1% | 118,166 | 0.6% | 137,306 | 1.2% |
| 2033 | 98,900 | -0.1% | 118,906 | 0.6% | 138,886 | 1.2% |
| 2034 | 98,800 | -0.1% | 119,651 | 0.6% | 140,484 | 1.2% |
| 2035 | 98,700 | -0.1% | 120,400 | 0.6% | 142,100 | 1.2% |
| 2036 | 98,479 | -0.2% | 121,033 | 0.5% | 143,569 | 1.0% |
| 2037 | 98,259 | -0.2% | 121,670 | 0.5% | 145,054 | 1.0% |
| 2038 | 98,039 | -0.2% | 122,310 | 0.5% | 146,554 | 1.0% |
| 2039 | 97,819 | -0.2% | 122,953 | 0.5% | 148,069 | 1.0% |
| 2040 | 97,600 | -0.2% | 123,600 | 0.5% | 149,600 | 1.0% |

Note: 2012, 2015, 2020, 2025, 2030, 2035 and 2040 population data based on data from University of Florida Bureau of Economic and Business Research (BEBR), Florida Population Studies, Bulletin 162 (Revised) March 2012, "Projections for Florida Populations by County, 2011 - 2040" . All other years are interpolated.

# PART F

# GENERAL CRITERIA FOR LANDFILLS

## 1 100-YEAR FLOODPLAIN

Previously submitted 2014 Class I Application, Part F, Figure F.1 provides a 100-year floodplain map showing that the HCSWMC Ag Plastic Landfill is not within any 100-year floodplain. Therefore, the Ag Plastic Landfill area satisfies the requirements of Rule 62-701.340(4)(b), FAC.

## 2 HORIZONTAL SEPARATION

The previously submitted drawings provided in 2004 Ag Plastic Application and 2009 Ag Plastic Application, Section 4 and 2014 Class I Application, Appendix B show that greater than 100 feet of horizontal separation exists between the nearest property boundary and the Ag Plastic Landfill. Therefore, the distance between the property boundary and the toe of the proposed final cover slope exceeds 100 feet, meeting the minimum separation requirement in Rule 62-701.340(3)(c), FAC.

# PART G

# LANDFILL CONSTRUCTION REQUIREMENTS

No construction is proposed with this permit renewal application; therefore, Part G is not applicable.

# PART H

# HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS

No new hydrogeological investigations were performed for this permit renewal application; therefore, Part H is not applicable.

# PART I

# GEOTECHNICAL INVESTIGATION REQUIREMENTS

No new geotechnical investigation was conducted for this permit renewal application; therefore, Part I is not applicable.

# PART J

# VERTICAL EXPANSION OF LANDFILLS

No vertical expansion of landfills is proposed with this permit renewal application; therefore, Part J is not applicable.

# PART K

# LANDFILL OPERATION REQUIREMENTS

An Operation Plan (Appendix A) includes the policies, procedures, and guidelines for operations of the Ag Plastic Landfill.

## 1 TRAINED OPERATOR

Refer to Section 1 of the Operation Plan included in Appendix A.

## 2 LANDFILL OPERATION PLAN

a. Operating and Maintenance Personnel

Refer to Section 2.1 of the Operation Plan included in Appendix A.

b. Emergency Preparedness

Refer to Section 2.2 of the Operation Plan included in Appendix A.

c. Waste Control

Refer to Sections 2.3 of the Operation Plan included in Appendix A.

d. Weighing of Waste

Refer to Section 2.4 of the Operation Plan included in Appendix A.

e. Traffic Control and Unloading

Refer to Section 2.5 of the Operation Plan included in Appendix A.

f. Filling Waste

Refer to Section 2.6 of the Operation Plan included in Appendix A.

g. Waste Compaction and Application of Cover

Refer to Section 2.7 of the Operation Plan included in Appendix A.

h. Gas, Leachate, and Stormwater Controls

Refer to Section 2.8 of the Operation Plan included in Appendix A.

i. Water Quality Monitoring

Refer to Section 2.9 of the Operation Plan included in Appendix A. Water quality monitoring is not required for the Ag Plastic Landfill.

j. Maintenance of Leachate Collection System

Refer to Section 2.10 of the Operation Plan included in Appendix A. The Ag Plastic Landfill has no leachate collection system.

# 3 DESCRIPTION OF THE LANDFILL OPERATION RECORD

Refer to Section 3 of the Operation Plan included in Appendix A.

# 4 WASTE RECORDS

Refer to Section 4 of the Operation Plan included in Appendix A.

# 5 METHODS OF ACCESS CONTROL

Refer to Section 5 of the Operation Plan included in Appendix A.

# 6 LOAD CHECKING PROGRAM

Refer to Section 6 of the Operation Plan included in Appendix A.

# 7 PROCEDURES FOR SPREADING AND COMPACTING WASTE

Procedures for spreading and compacting waste are described in the Operation Plan included in Appendix A.

a. Waste Layer Thickness and Compaction Frequencies

Refer to Section 7.1 of the Operation Plan included in Appendix A.

b. Special Considerations—First Layer

Although not applicable to current operations, refer to Section 7.2 of the Operation Plan included in Appendix A.

c. Slopes and Planned Lift Depths of the Working Face

Refer to Sections 7.3 of the Operation Plan included in Appendix A.

d. Width of the Working Face

Refer to Section 7.4 of the Operation Plan included in Appendix A.

e. Initial Cover

Refer to Sections 7.5 and 7.6 of the Operation Plan included in Appendix A.

f. Application Procedures of Initial Cover

Refer to Sections 7.5 and 7.6 of the Operation Plan included in Appendix A.

g. Application Procedures of Intermediate Cover

Refer to Section 7.7 of the Operation Plan included in Appendix A.

h. Time Frames for Applying Final Cover

Refer to Section 7.8 of the Operation Plan included in Appendix A.

i. Scavenging and Salvaging Control

Refer to Section 7.9 of the Operation Plan included in Appendix A.

j. Litter Policing Methods

Refer to Section 7.10 of the Operation Plan included in Appendix A.

k. Erosion Control Procedures

Refer to Section 7.11 of the Operation Plan included in Appendix A.

# 8 OPERATIONAL PROCEDURES FOR LEACHATE MANAGEMENT

Refer to Section 8 of the Operation Plan included in Appendix A. Leachate collection and management is not applicable to the Ag Plastic Landfill.

# 9 IMPLEMENTATION OF GAS MANAGEMENT SYSTEM

Refer to Section 9.0 of the Operation Plan included in Appendix A. Gas monitoring is not specifically required for the Ag Plastic Landfill.

# 10 OPERATING AND MAINTAINING STORMWATER MANAGEMENT SYSTEM

Refer to Section 10 of the Operation Plan included in Appendix A.

# 11 EQUIPMENT AND OPERATION FEATURE REQUIREMENTS

Refer to Section 11 of the Operation Plan included in Appendix A.

a. Sufficient Equipment

Refer to Sections 11.1 and 11.2 of the Operation Plan included in Appendix A.

b. Reserve Equipment

Refer to Sections 11.1 and 11.2 of the Operation Plan included in Appendix A.

c. Communications Equipment

Refer to Section 11.3 of the Operation Plan included in Appendix A.

d. Dust Control

Refer to Section 11.4 of the Operation Plan included in Appendix A.

e. Fire Protection and Emergencies

Refer to Section 11.5 of the Operation Plan included in Appendix A.

f. Litter Control Devices

Refer to Section 11.6 of the Operation Plan included in Appendix A.

g. Signs

Refer to Section 11.7 of the Operation Plan included in Appendix A.

# 12 ALL-WEATHER ACCESS ROAD, INSIDE PERIMETER ROAD, AND OTHER ROADS

Refer to Section 12 of the Operation Plan included in Appendix A.

# 13 ADDITIONAL RECORD KEEPING AND REPORTING

Refer to Section 13 of the Operation Plan included in Appendix A.

a. Permit Applications Records

Refer to Section 13.1 of the Operation Plan included in Appendix A.

b. Monitoring, Calibration, and Maintenance Records

Refer to Section 13.2 of the Operation Plan included in Appendix A.

c. Annual Estimates and Life Spans

Refer to Section 13.3 of the Operation Plan included in Appendix A.

d. Archiving and Retrieving Records

Refer to Section 13.4 of the Operation Plan included in Appendix A.

# PART L

# WATER QUALITY MONITORING REQUIREMENTS

No water quality monitoring is required for the Ag Plastic Landfill, and no new water quality monitoring is proposed with this permit renewal application; therefore, Part L is not applicable.

Water quality monitoring is performed as part of the HCSWMC Class I Landfill operations. Refer to the 2014 Class I Landfill Permit Number 0038570-030-SO/01 for the water quality monitoring plan.

# PART M

# SPECIAL WASTE HANDLING REQUIREMENTS

No special waste is accepted at the Ag Plastic Landfill, and no change is waste acceptance is proposed with this permit renewal application; therefore, Part M is not applicable.

Special waste is managed at the HCSWMC as part of the Class I Landfill operations.

The HCSWMC will handle special waste in accordance with Rule 62-701.520, FAC. Refer to the 2014 Class I Landfill Application Operation Plan – Appendix A, including the policies, procedures, and guidelines for special waste handling requirements.

# PART N

# GAS MANAGEMENT SYSTEM REQUIREMENTS

No special gas management system is required at the Ag Plastic Landfill, and no change to the gas management system is proposed with this permit renewal application; therefore, Part N is not applicable.

The typical plastic waste deposited in the Ag Plastic Landfill does not produce landfill gas.

The HCSWMC will manage and monitor landfill gas to minimize off-site odors, lateral migration of gases, and damage to vegetation. Refer to the 2014 Class I Landfill Application for the operation protocol for gas control.

# PART O

# LANDFILL FINAL CLOSURE REQUIREMENTS

## 1 CLOSURE PERMIT REQUIREMENTS

This permit application is for the operation of the active Ag Plastic Landfill. In accordance with Rule 62-701.600(2), FAC, the Highlands County Department of Solid Waste Management (HCDSWM) will obtain authorization from FDEP before initiating closure of the Ag Plastic Landfill or part of it. HCDSWM will request a modification of the permit to address substantive changes in the Closure Plan. Final closure is not expected to occur for the Ag Plastic Landfill for several years (refer to Part E); therefore, this section is not applicable and does not propose any changes to the closure design submitted previously as part of the 2004 Ag Plastic Application. However, the following closure requirements shall be met upon closure:

a. Application

HCDSWM will submit a closure application to FDEP before initiating closure of the Ag Plastic Landfill at least 90 days before final receipt of wastes. If the landfill is operating under an FDEP permit, the owner or operator' will request a modification of the permit in lieu of submitting a closure permit application.

b. Closure Plan Requirements

At the time of closure, the Closure Plan will be updated and will include the following:

(1) A closure report.

(2) A closure design with a project specific QA/QC.

(3) A closure operation plan.

(4) Closure procedures.

(5) A plan for long-term care.

(6) A demonstration that proof of financial responsibility for long-term care.

This Closure Plan will be in accordance with Section 62-701.600, FAC.

## 2 CLOSURE DESIGN PLAN

The Ag Plastic Landfill final cover will include 2-feet thick soil cover with sod. An updated Closure Design Plan will be provided at the time of closure and will include the following in accordance with Rule 62-701.600(3), FAC:

a. Closure phases.

b. Existing topography and final grading.

c. Closure provisions.

d. Final elevations before settlement.

e. Side slope design.

f. Final cover installation.

g. Final cover design requirements including:

(1) Protective soil layer design.

(2) Erosion control vegetation.

(3) Geomembrane barrier layer design.

(4) Cover system stability analysis.

h. Stormwater control.

i. Access control.

j. Gas management system.

# 3 CLOSURE OPERATION PLAN

The Closure Operation Plan will be provided at the time of closure and will include the following in accordance with Rule 62-701.600(4), FAC:

a. Closure Actions

Closure actions will consist of installing the landfill cap and stormwater management system. The landfill staff or contractor can complete the closure.

b. Time Schedule

The closure schedule will be provided at time of closure. In accordance with Rule 62-701, FAC, long-term care will be a minimum of 30 years.

c. Financial Responsibility

Refer to Part R for financial responsibility.

d. Water Quality Monitoring Plan (62-701.510, FAC)

A Water Quality Monitoring Plan will continue to be followed at closure.

e. Gas Management System (62-701.530, FAC)

A gas management system will be in place at closure.

# 4 CLOSURE CERTIFICATION

Certification of closure construction will include the following in accordance with Rule 62-701.600(6), FAC.

a. Survey Monuments

The final elevation of this landfill is more than 20 feet above the natural land surface, so no survey monuments are required.

b. Final Survey Report

A final survey will be submitted in accordance with Rule 62-701.610(3), FAC.

# 5 DECLARATION TO THE PUBLIC

After FDEP approves the closure, the landfill owner shall file a declaration to the public in the deed records office of the County Clerk in accordance with Rule 62-701.600(7), FAC.

# 6 OFFICIAL DATE OF CLOSING

The official date of closing shall be determined per Rule 62-701.600(8), FAC. Upon receipt of the documents required in Rule 62-701.600(6) and (7), FAC, FDEP shall within 30 days acknowledge by letter to the facility operator that notice of termination of operations and closing of the facility has been received. The date of this letter will be the official date of closing.

# 7 TEMPORARY CLOSURE PROCEDURES

If the landfill must be closed temporarily, Highlands County will follow the procedures in Rule 62-701.600(7), FAC. A 12-inch layer of soil and bahia sod will be placed over the waste in case of a temporary closure.

# PART P

# OTHER CLOSURE PROCEDURES

Information presented in this application is intended to provide the general intent of the closure procedures of the Ag Plastic Landfill. Detailed closure procedures will be provided with the closure application.

## 1 USE OF CLOSED LANDFILL AREAS

Once the Ag Plastic Landfill is closed, no other use will be allowed without prior consultation with FDEP in accordance with Rule 62-701.610(1), FAC. The facility owner at this time has no plans to use the closed landfill area.

## 2 RELOCATION OF WASTES

Once the Ag Plastic Landfill is closed, no relocation of waste within the footprint of the landfill will be allowed without a modification to the closure permit in accordance with Rule 62-701.610(2), FAC.

# PART Q

# LONG-TERM CARE

Information presented in this application is intended to provide the general intent of the proposed closure and long-term care of the Ag Plastic Landfill. More information concerning the closure and long-term care will be provided at the time of closure.

## 1 GAS COLLECTION AND MONITORING SYSTEM

The Ag Plastic Landfill does not accept putrescible waste and is not required to have a gas collection and monitoring system. This section is not applicable to the Ag Plastic Landfill.

## 2 STABILIZATION REPORTS

During the long-term care period, the County will submit a report to FDEP every 5 years addressing stabilization of the landfill. The stabilization report will address subsidence and stormwater management. Gas collection, gas management, and leachate management are not required for the Ag Plastic Landfill. Since the Ag Plastic Landfill is not closed, this section is not applicable.

## 3 PROPERTY ACCESS

The landfill owner or operator shall possess or acquire a sufficient interest in, or a right to use, the property for which a permit is issued, including the access route onto the property to carry out the requirements of this rule. The permittee shall retain the right of entry to the landfill property for the long-term care period, after termination of solid waste operations, for inspection, monitoring, and maintenance of the site.

## 4 REPLACEMENT OF MONITORING DEVICES

Monitoring is not specifically required for the Ag Plastic Landfill. Monitoring is performed as part of the other permitted landfills at the HCSWMC. If a monitoring well or other device required by the monitoring plan is destroyed or fails to operate for any reason, the landfill owner or operator shall notify FDEP in writing immediately upon discovery. Inoperative monitoring devices shall be replaced with functioning devices within 60 days of the discovery of the malfunctioning unit unless FDEP notifies the landfill owner or operator otherwise in writing.

## 5 COMPLETION OF LONG-TERM CARE

This section is not applicable to the active Ag Plastic Landfill. After the long-term care period for each solid waste management unit is completed, the owner or operator shall notify FDEP that a certification, signed and sealed by a Professional Engineer, verifying that long-term care has been completed in accordance with the Closure Plan, has been placed in the operating record.

# PART R

# FINANCIAL ASSURANCE

Information presented in this section will be used to describe the financial mechanism to be used to demonstrate proof of financial assurance to FDEP for the renewal of the Ag Plastic Landfill operations permit.

## 1 COST ESTIMATES

The closure and long-term care cost estimates prepared on FDEP Form 62-701.900(28) for the Ag Plastic Landfill are included as Attachment R.1-1. These cost estimates were prepared by a Professional Engineer for a third party performing the work on a per unit basis, with the source of the estimates indicated in accordance with Rule 62-701.630(3), FAC. Explanation of costs is included in Attachment R.2-2.

## 2 PROCEDURES FOR PROVIDING ANNUAL COST ADJUSTMENTS

HCSWMC will provide an annual closure and long-term care cost adjustment for inflation to FDEP in accordance with Rule 62-701.630(4), FAC. The closure and long-term care costs will be listed separately. HCSWMC uses and plans to continue the use of an escrow account to demonstrate financial responsibility.

## 3 FUNDING MECHANISMS

HCSWMC uses and plans to continue the use of an escrow account to demonstrate financial responsibility.

# Attachment R.1-1

# Financial Assurance Cost Estimate

# Form 62-701.900(28)

Print Form Reset Form

# Florida Department of Environmental Protection

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

DEP Form # 62-701.900(28), F.A.C.
Form Title: Closure Cost Estimating Form For Solid Waste Facilities
Effective Date: January 6, 2010
Incorporated in Rule 62-701.630(3), F.A.C.

## CLOSURE COST ESTIMATING FORM FOR SOLID WASTE FACILITIES

Date of DEP Approval: _____

### I. GENERAL INFORMATION:

Facility Name: HCSWMC - Ag Plastic Landfill WACS ID: 00074956
Permit Application or Consent Order No.: 0038570-23-SO/08 Expiration Date: 2/17/2015
Facility Address: 12700 Arbuckle Creek Road, Sebring, Florida 33870
Permittee or Owner/Operator: Highlands County Board of County Commisioners
Mailing Address: 12700 Arbuckle Creek Road, Sebring, Florida 33870

Latitude: 27 ° 30 ' 14 " Longitude: 81 ° 19 ' 4 "
Coordinate Method: Google Earth Datum: WGS 84
Collected by: M. Pollman Company/Affiliation: Jones Edmunds

Solid Waste Disposal Units Included in Estimate:

| Phase / Cell | Acres | Date Unit Began Accepting Waste | Active Life of Unit From Date of Initial Receipt of Waste | If active: Remaining life of unit | If closed: Date last waste received | If closed: Official date of closing |
|---|---|---|---|---|---|---|
| Ag Plastic | 6 | 2005 | 87* | 78* | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

*Active Life calculated based on estimated closure date of 2092 from Attachment E.4 of the Permit Renewal Application dated December 2014.

Total disposal unit acreage included in this estimate: Closure: 6 Long-Term Care: 6

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

### II. TYPE OF FINANCIAL ASSURANCE DOCUMENT (Check type)

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

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

## 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 www.dep.state.fl.us/waste/categories/swfr or call the Financial Coordinator at (850) 245-8706.

---

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

| Latest Department Approved **Closing Cost** Estimate: | | Current Year Inflation Factor, ***e.g. 1.02*** | | Inflation Adjusted Closing Cost Estimate: |
|---|---|---|---|---|
| _____ | × | _____ | = | _____ |

---

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

| Latest Department Approved Annual **Long-Term Care** Cost Estimate: | | Current Year Inflation Factor, ***e.g. 1.02*** | | Inflation Adjusted Annual Long-Term Care Cost Estimate: |
|---|---|---|---|---|
| _____ | × | _____ | = | _____ |

Number of Years of Long Term Care Remaining: × _____

**Inflation Adjusted Long-Term Care Cost Estimate:** = _____

---

**Signature by:** ☐ **Owner/Operator** ☒ **Engineer** (check what applies)

Harold Boudreau III
Signature

Harold S. Boudreau, III, PE, Project Engineer
Name & Title

12/19/2014
Date

352-377-5821
Telephone Number

730 NE Waldo Road
Address

Gainesville, FL 32641
City, State, Zip Code

hsboudreau@jonesedmunds.com
E-Mail Address

**IV. ESTIMATED CLOSING COST (check what applies)**

☒ **Recalculated Cost Estimate** ☐ **New Facility Cost Estimate**

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

| Description | Unit | Number of Units | Cost / Unit | Total Cost |
|---|---|---|---|---|
| **1. Proposed Monitoring Wells (Do not include wells already in existence)** | | | | |
| | EA | | | |
| | | | Subtotal Proposed Monitoring Wells: | $ - |
| **2. Slope and Fill** (bedding layer between waste and barrier layer - Existing at time of closure): | | | | |
| Excavation | CY | | | - |
| Placement and Spreading | CY | | | $ - |
| Compaction | CY | | | $ - |
| Off-Site Material | CY | | | $ - |
| Delivery | CY | | | - |
| | | | Subtotal Slope and Fill: | $ - |
| **3. Cover Material (Barrier Layer - Not Required):** | | | | |
| Off-Site Clay (see Item 4) | CY | | $ - | - |
| Synthetics -Geomembrane | SY | | | $ - |
| Synthetics - GCL | SY | | | - |
| Synthetics - Geonet | SY | | | - |
| Synthetics - Other (explain) | | | | - |
| | | | Subtotal Cover Material: | $ - |
| **4. Top Soil Cover** | | | | |
| Off-Site Material (2 ft) | CY | 24,490 | $ 8.51 | $ 208,413 |
| Delivery | CY | Included in Material | | - |
| Spread (includes compaction) | CY | 24,490 | $ 2.44 | $ 59,757 |
| | | | Subtotal Top Soil Cover: | $ 268,170 |
| **5. Vegetative Layer** | | | | |
| Sodding | SY | 35,138 | $ 1.28 | $ 45,065 |
| Hydroseeding | AC | - | $ - | - |
| Fertilizer | AC | - | $ - | - |
| Mulch | AC | - | $ - | - |
| Other (explain) | | | $ - | - |
| | | | Subtotal Vegetative Layer: | $ 45,065 |
| **6. Stormwater Control System** | | | | |
| Earthwork | CY | 56 | $ 4.36 | $ 244 |
| Grading | SY | Included in Earthwork | | - |
| Piping | LF | 500 | $ 40.89 | $ 20,445 |
| Ditches | LF | Included in Earthwork | | - |
| Berms | CY | 711 | $ 10.95 | $ 7,785 |
| Control Structures | EA | 2 , 2 | $2064, $1500 | $ 7,128 |
| Other (explain) | | | | |
| | | | Subtotal Stormwater Control System: | $ 35,602 |

| Description | Unit | Number of Units | Cost / Unit | Total Cost |
|---|---|---|---|---|
| **7. Passive Gas Control:** | | | | |
| Wells | EA | - | | - |
| Pipe and Fittings | LF | - | | - |
| Monitoring Probes | EA | - | | - |
| NSPS/Title V requirements | LS | - | | - |
| | | | Subtotal Passive Gas Control: | $ - |
| **8. Active Gas Extraction Control:** | | | | |
| Traps | EA | - | | - |
| Sumps | EA | - | | - |
| Flare Assembly | EA | - | | - |
| Flame Arrestor | EA | - | | - |
| Mist Eliminator | EA | - | | - |
| Flow Meter | EA | - | | - |
| Blowers | EA | - | | - |
| Collection System | LF | - | | - |
| Other (explain) | EA | - | | - |
| | | | Subtotal Active Gas Extraction Control: | $ - |
| **9. Security System** | | | | |
| Fencing | LF | - | | - |
| Gate(s) | EA | - | | - |
| Sign(s) | EA | - | | - |
| | | | Subtotal Security System: | $ - |
| **10. Engineering** | | | | |
| Closure Plan Report | LS | 1 | $ 35,000 | $ 35,000 |
| Certified Engineering Drawings | LS | 1 | $ 3,500 | $ 3,500 |
| NSPS/Title V Air Permit | LS | | | $ - |
| Final Survey | LS | 1 | $ 1,500 | $ 1,500 |
| Certification of Closure | LS | 1 | $ 3,500 | $ 3,500 |
| Other (explain) | LS | | - | |
| | | | Subtotal Engineering: | $ 43,500 |

| Description | Hours | Cost / Hour | Hours | Cost / Hour | TOTAL |
|---|---|---|---|---|---|
| **11. Professional Services** | | | | | |
| | Contract Management | | Quality Assurance | | |
| P.E. Supervisor | 20 | $ 165 | 20 | $ 165 | $ 6,600 |
| On-Site Engineer | 0 | $ 100 | 50 | $ 90 | $ 4,500 |
| Office Engineer | 20 | $ 100 | 0 | $ 100 | $ 2,000 |
| On-Site Technician | 0 | $ 85 | 200 | $ 80 | $ 16,000 |
| Other (explain) Contract Administrator | 20 | $ 60 | | $ 60 | $ 1,200 |

| Description | Unit | Number of Units | Cost / Unit | Total Cost |
|---|---|---|---|---|
| Quality Assurance Testing | LS | 1 | $ 5,000.00 | $ 5,000 |
| | | | Subtotal Professional Services: | $ 35,300 |

| | | | | |
|---|---|---|---|---|
| | | **Subtotal of 1-11 Above:** | $ | 427,637 |
| **12. Contingency** | 5 | % of Subtotal of 1-11 Above | $ | 21,382 |
| | | Subtotal Contingency: | $ | 21,382 |
| | | **Estimated Closing Cost Subtotal:** | $ | 449,019 |

| **Description** | | | | **Total Cost** |
|---|---|---|---|---|
| **13. Site Specific Costs** | | | | |
| Mobilization, Bonds, and Insurance | 5% | % of Subtotal of Items 1-9 Above | $ | 17,441.84 |
| Other (explain) | | | | |
| | | Subtotal Site Specific Costs: | $ | 17,442 |
| | | **TOTAL ESTIMATED CLOSING COSTS ($):** | **$** | **466,461** |

## V. ANNUAL COST FOR LONG-TERM CARE

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

(Check Term Length) □ 5 Years □ 20 Years ■ 30 Years □ Other, ___ Years

Notes: 1. Cost estimates must be certified by a professional engineer.
2. Cost estimates based on third party suppliers of material, equipment and labor at fair market value.
3. In some cases, a price quote in support of individual item estimates may be required.

**All items must be addressed.** Attach a detailed explanation for all items marked not applicable (N/A)

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

| Description | Unit | Number of Units / Year | Cost / Unit | Annual Cost |
|---|---|---|---|---|
| **5. Leachate Collection/Treatment Systems Maintenance** | | | | |
| Maintenance | | | | |
| Collection Pipes | LF | | | - |
| Sumps, Traps | EA | | | - |
| Lift Stations | DY | | | $ - |
| Cleaning | LF | | | $ - |
| Tanks | EA | | | - |

| Description | Unit | Number of Units / Year | Cost / Unit | Annual Cost |
|---|---|---|---|---|
| **5. (continued)** | | | | |
| Impoundments | | | | |
| Liner Repair | SY | | | $ - |
| Sludge Removal | DY | | | $ - |
| Aeration Systems | | | | |
| Floating Aerators | EA | | | - |
| Spray Aerators | EA | | | - |
| Disposal | | | | |
| Off-site (Includes transportation and disposal) | 1000 gallon | | | - |
| | | Subtotal Leachate Collection / Treatment Systems Maintenance: | | $ - |
| **6. Groundwater Monitoring Wells Maintenance** | | | | |
| Monitoring Wells | LF | | $ - | |
| Replacement | EA | | | |
| Abandonment | EA | | | |
| | | Subtotal Groundwater Monitoring Well Maintenance: | | $ - |
| **7. Gas System Maintenance** | | | | |
| Piping, Vents | EA | | | $ - |
| Blowers | EA | | | $ - |
| Flaring Units | EA | | | - |
| Meters, Valves | EA | | | - |
| Compressors | EA | | | - |
| Flame Arrestors | EA | | | - |
| Operation | LS | | | - |
| | | Subtotal Gas System Maintenance: | | $ - |
| **8. Landscape Maintenance** | | | | |
| Mowing *8* /year | AC | 6.6 | $ 21.82 | $ 1,152 |
| Fertilizer | AC | | | |
| | | Subtotal Landscape Maintenance: | | $ 1,152 |
| **9. Erosion Control and Cover Maintenance** | | | | |
| Sodding 0.22 AC | SY | 1,065 | $ 1.28 | $ 1,366 |
| Regrading | AC | 0.2 | $ 3,146.00 | $ 692 |
| Liner Repair | SY | | $ - | |
| Clay | CY | | | |
| | | Subtotal Erosion Control and Cover Maintenance: | | $ 2,058 |
| **10. Storm Water Management System Maintenance** | | | | |
| Conveyance Maintenance | ~~LS~~ CY | 1,200 | $ 1.68 | $ 2,016 |
| | | Subtotal Storm Water Management System Maintenance: | | $ 2,016 |
| **11. Security System Maintenance** | | | | |
| Fences | LS | | | - |
| Gate(s) | EA | | | - |
| Sign(s) | EA | | | - |
| | | Subtotal Security System Maintenance: | | $ - |

| Description | Unit | | Number of Units / Year | Cost / Unit | Annual Cost |
|---|---|---|---|---|---|
| **12. Utilities** | | LS | | | $ - |
| | | | | Subtotal Utilities: | $ - |
| **13. Leachate Collection/Treatment Systems Operation** | | | | | |
| Operation | | | | | |
| P.E. Supervisor | | HR | | | $ - |
| On-Site Engineer | | HR | | | $ - |
| Office Engineer | | HR | | | $ - |
| On-Site Technician | | HR | | | $ - |
| Materials | | LS | | | - |
| | | Subtotal Leachate Collection/Treatment System Operation: | | | $ - |
| **14. Administrative** | | | | | |
| P.E. Supervisor | | HR | 4 | $ 165.00 | $ 660 |
| On-Site Engineer | | HR | 8 | $ 90.00 | $ 720 |
| Office Engineer | | HR | 24 | $ 100.00 | $ 2,400 |
| Onsite Technician | | HR | 8 | $ 80.00 | $ 640 |
| Other | | HR | | | - |
| | | | | Subtotal Administrative: | $ 4,420 |
| | | | | **Subtotal of 1-14 Above:** | **$ 9,646** |
| **15. Contingency** | 5 | % of Subtotal of 1-14 Above | | | $ 482 |
| | | | | Subtotal Contingency: | $ 482 |

| Description | Unit | Number of Units / Year | Cost / Unit | Annual Cost |
|---|---|---|---|---|
| **16. Site Specific Costs** | | | | |
| | | | $ - | - |
| | | | | |
| | | | | |
| | | | Subtotal Site Specific Costs: | $ - |
| | | | **ANNUAL LONG-TERM CARE COST ($ / Year):** | **$ 10,128** |
| | | | Number of Years of Long-Term Care: | 30 |
| | | | **TOTAL LONG-TERM CARE COST ($):** | **$ 303,840** |

## VI. CERTIFICATION BY ENGINEER

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

Harold S Boudreau III

Signature

730 NE Waldo Road

Mailing Address

Harold S. Boudreau, III, PE, Project

Name and Title (please type)

Gainesville, FL, 32641

City, State, Zip Code

12/19/2014

Date

hsboudreau@jonesedmunds.com

E-Mail address (if available)

PE No. 77030

Florida Registration Number

(please affix seal)

HAROLD SHERWOOD BOUDREAU, III LICENSE No. 77030 STATE OF FLORIDA PROFESSIONAL ENGINEER

(352) 377-5821

Telephone Number

## VII. SIGNATURE BY OWNER/OPERATOR

Signature of Applicant

12700 Arbuckle Creek Rd.

Mailing Address

Ramon Gavarrete, PE, County Engin

Name and Title (please type)

Sebring, FL 33870

City, State, Zip Code

rgavarre@hcbcc.org

E-Mail address (if available)

(863) 402-7786

Telephone Number

# Attachment R.1-2

# Closure and Long-Term Care Cost Estimating Form for Solid Waste Facilities

# Justification and Sources of Estimates

# CLOSURE AND LONG-TERM CARE COST ESTIMATING FORM FOR SOLID WASTE FACILITIES
# JUSTIFICATION AND SOURCES OF ESTIMATES

## HIGHLANDS COUNTY SOLID WASTE MANAGEMENT CENTER FACILITY
## AG PLASTIC LANDFILL

## INTRODUCTION, GENERAL INFORMATION, AND ASSUMPTIONS

The following information provides justification for quantities and unit prices for the closure and long-term care cost estimates in accordance with Rule 62-701.630(3)(a). This information is provided in support of the cost estimate provided in the *Closure Cost Estimating Form for Solid Waste Facilities*, FDEP Form 62-701.900(28). The cost estimates are based on a third party performing the work on a per-unit basis with the source of the estimates indicated. "Number of Units" (quantities) and "Costs/Unit" (unit costs) are explained for each line item where applicable based on the final cover design presented in the May 28, 2004 Permit Application Document.

The final cover consists of, from top to bottom:

- Vegetative Cover (sod)
- Final Cover Soil: 24 inches (top 6 inches capable of supporting vegetation)
- Barrier Subgrade: 6 inches (existing at time of closure).

Table 1 presents the general information and assumptions used to calculate the closure and long-term care cost estimates:

**Table 1 General Information and Assumptions**

| | |
|---|---|
| Facility Name: | Highlands County Solid Waste Management Center Facility |
| Facility Type: | Ag Plastic Landfill |
| Landfill Footprint: | 6 acres (261,360 SF) |
| Closure Surface Area (3D): | 6.6 acres (287,496 SF) |
| Soil Loss Factor | 15% |
| Synthetics /Sod Loss Factor | 10% |
| Long-Term Care Period | 30 years |

Table 2 presents calculations for soil volumes used in the closure cost estimates:

**Table 2 Soil Volume Calculations**

| Thickness (ft) | Surface Area (SF) | Loss Factor (%) | Soil Volume (CF) | Soil Volume (CY) |
|---|---|---|---|---|
| 0.5 | 287,496 | 15% | 165,310 | 6,123 |
| 1.0 | 287,496 | 15% | 330,620 | 12,245 |
| 1.5 | 287,496 | 15% | 495,931 | 18,368 |
| 2.0 | 287,496 | 15% | 661,241 | 24,490 |

Table 3 presents calculations for surface area units such as sodding and maintenance:

**Table 3 Geosynthetic and Sod Area Calculations**

| 3D Surface Area | Unit | Loss Factor | Surface Area |
|---|---|---|---|
| 287,496 | SF | 10% | 316,246 |
| 31,944 | SY | 10% | 35,138 |
| 6.6 | AC | 10% | 7.2 |

Third-party unit costs quotes were obtained where possible. When third-party quotes were not available, unit costs were obtained from the following references:

- RS Means Online (*www.rsmeansonline.com*)
- FDOT Historical Cost Statewide Averages, Annual Statewide Averages – 2013–2014 (*http://www.dot.state.fl.us/specificationsoffice/Estimates/HistoricalCostInformation/HistoricalCost.shtm*)
- Jones Edmunds estimate based on recent, similar projects

Quotes and references for costs are attached. In some cases the Engineer's judgment was used to estimate unit costs based on experience. Table 4 defines the abbreviations used in the cost estimate.

**Table 4 List of Abbreviations**

| | | | |
|---|---|---|---|
| AC | Acre | LF | Linear foot |
| CF | Cubic foot ($ft^3$) | LS | Lump sum |
| CY | Cubic yard ($yd^3$) | MSF | 1,000 square feet |
| DY | Day | SF | Square foot ($ft^2$) |
| EA | Each | SY | Square yard ($yd^2$) |
| HR | Hour | YR | Year |

# IV. ESTIMATED CLOSING COST – RECALCULATED COST ESTIMATE

## 1. PROPOSED MONITORING WELLS (DO NOT INCLUDE WELLS ALREADY IN EXISTENCE.)

No additional monitoring wells will be installed at time of closure.

## 2. SLOPE AND FILL (BEDDING LAYER BETWEEN WASTE AND BARRIER LAYER)

The final cover will be placed over the existing intermediate cover. A minimum of 6 inches of intermediate bedding layer will remain before the 2-feet-thick final cover soil is placed. This cost is not included because the bedding layer will be placed before the time of closure.

## 3. COVER MATERIAL (BARRIER LAYER)

The final cover will include a 2-feet-thick soil layer included in Item 4. A barrier layer is not required for the unlined Ag Plastic Landfill.

## 4. TOP SOIL COVER

The final cover will consist of 2-feet-thick compacted soil layer. The top 6 inches of the 2-feet-thick final cover soil will support vegetation. The cost of delivery of the off-site soil is included in the unit cost.

### OFF-SITE MATERIAL

| Description | Unit | Number of Units | Cost/Unit | Cost Reference |
|---|---|---|---|---|
| Off-Site Material | CY | 24,490 | $8.51/CY | *FDOT: 0120 2 2 Borrow Excavation, truck measure* |

### DELIVERY

Delivery is included in Off-Site Material.

### PLACEMENT SPREADING AND COMPACTION

| Description | Unit | Number of Units | Cost/Unit | Cost Reference |
|---|---|---|---|---|
| Placement and Spreading | CY | 24,490 | $1.90/CY | *RS Means Online* |
| Compaction | CY | 24,490 | $0.54/CY | *RS Means Online* |
| Total | CY | 24,490 | $2.44/CY | |

## 5. VEGETATIVE LAYER

This item includes installing sod on the final cover soil. The quantity is calculated based on the closure area plus Sod loss factor as shown in Table 3.

### SODDING

| Description | Unit | Number of Units | Cost/Unit | Cost Reference |
|---|---|---|---|---|
| Sodding | SY | 35,138 | $1.28 | *Bid Average* |

### HYDROSEEDING

Hydroseeding is not proposed at the time of closure.

### FERTILIZER

Fertilizer is not proposed at the time of closure.

### MULCH

Mulch is not proposed for the vegetative layer.

### OTHER (EXPLAIN)

No other materials are proposed for the vegetative layer.

## 6. STORMWATER CONTROL SYSTEM

This item includes materials and installation costs for the stormwater control downcomer piping as shown on previously submitted drawings.

### EARTHWORK

This item is the cost to construct the downcomers, including trenching and filling to lay pipe. The cross-sectional area for pipe trench is assumed to be 3 SF for the downcomers (500 LF) and 24 SF for the terrace berm (800 LF).

| Description | Unit | Number of Units | Cost/Unit | Cost Reference |
|---|---|---|---|---|
| Downcomers | CY | 56 | $4.36/CY | *FDOT: 0120 1 Regular Excavation* |

### GRADING

Stormwater control system grading is included in Earthwork.

### PIPING

This item includes the cost of stormwater control piping that consists of terrace underdrains and let-down piping.

| Description | Unit | Number of Units | Cost/Unit | Cost Reference |
|---|---|---|---|---|
| FDOT Type II | LF | 500 | $40.89/LF | *FDOT: 0440 1 20 Underdrain, Type II* |

### DITCHES

Perimeter stormwater control system ditches are existing and are not included in the closure costs.

### BERMS

This item is the cost to construct the berm on the terrace. The cross-sectional area for the terrace berm is 24 SF (800 LF).

| Description | Unit | Number of Units | Cost/Unit | Cost Reference |
|---|---|---|---|---|
| Berms | CY | 711 | $10.95/CY | *RS Means Online* |

### CONTROL STRUCTURES

This item includes let-down drop inlets and energy dissipaters. We assumed that drop inlets are similar in cost to FDOT Type C Ditch Bottom Inlets.

| Description | Unit | Number of Units | Cost/Unit | Cost Reference |
|---|---|---|---|---|
| Drop Inlets | EA | 2 | $2,064/EA | *FDOT: 0425 1521 Inlets, DT BOT, TYPE C, <10'* |
| Energy Dissipaters | EA | 2 | $1,500/EA | *FDOT: 0430610129 U-Endwall, STD 261,1:2 SLP, 15"* |

### OTHER (EXPLAIN)

No other stormwater control structures are proposed.

## 7. PASSIVE GAS CONTROL

Because the Ag Plastic Landfill does not accept purtescible waste, gas controls are not required and this item is not included in the closure design.

## 8. ACTIVE GAS EXTRACTION CONTROL

Because the Ag Plastic Landfill does not accept purtescible waste, gas controls are not required and this item is not included in the closure design.

## 9. SECURITY SYSTEM

No additional security system including fencing, gates, and signs are proposed at the time of closure because the security system is existing.

## 10. ENGINEERING

This item includes costs for engineering associated with the design, permitting, and certification of the final closure including Closure Plan Report, Certified Engineering Drawings, Final Survey, and Certification of Closure. These costs are estimated by Jones Edmunds based on experience with similar projects and are typical for an engineering consultant performing these tasks.

### CLOSURE PLAN REPORT

This item is estimated to be a 10% of the closure costs for Items 1 through 9, based on Jones Edmunds' estimate to prepare a closure design and permit application.

### CERTIFIED ENGINEERING DRAWINGS

This item is estimated to be a 1% of the closure costs for Items 1 through 9, based on Jones Edmunds' estimate to prepare bid documents for closure construction.

### NSPS/TITLE V AIR PERMIT

This item is not required.

### FINAL SURVEY

This item is estimate to be cost $200/AC based on previous experience, plus a ground survey cost of 10%.

| Description | Unit | Number of Units | Cost/Unit | Cost Reference |
|---|---|---|---|---|
| Final Survey | AC | 6.6 | $200/AC | *Pickett & Associates, Inc. estimate for current topo* |

### CERTIFICATION OF CLOSURE

This item is estimated to be a 1% of the construction costs for Items 1 through 9, based on Jones Edmunds' estimate.

### OTHER (EXPLAIN)

No other engineering services are projected at this time.

## 11. PROFESSIONAL SERVICES

This item includes costs for professional services for closure construction including contract management and quality assurance. These costs are estimated by Jones Edmunds based on experience with similar projects and are typical for a consulting engineer performing these tasks.

### CONTRACT MANAGEMENT

Contract management efforts are estimated based on the Jones Edmunds hourly rates and experience with other landfill closures.

### QUALITY ASSURANCE

Quality Assurance efforts are estimated based on the Jones Edmunds hourly rates and experience with other landfill closures.

### QUALITY ASSURANCE TESTING

Construction quality assurance and quality control (CQA/CQC) responsibilities belong to the general contractor and geomembrane installation subcontractor. Costs shown in Quality Assurance Testing are the third-party CQA activities, which are assumed to be administered by the consulting engineer. These costs were estimated from experience with previous landfill closure projects in Florida.

## 12. CONTINGENCY

This item includes a 5% contingency of the estimated construction and engineering costs. This percentage is typical based on experience with similar landfill construction projects.

## 13. SITE-SPECIFIC COSTS

Site-specific costs include cost for mobilization, bonds, and insurance.

### MOBILIZATION

This item is 5% of the estimated construction costs (Items 1 through 9). This is a standard percentage in the construction industry.

| Description | Unit | Number of Units | Cost/Unit | Cost Reference |
|---|---|---|---|---|
| Contractor mobilization, bonds, and insurance | LS | 1 | 5% | *Jones Edmunds estimate* |

### OTHER ITEMS

No Other Item closure costs are required for Site-Specific Costs.

# V. ANNUAL COST FOR LONG-TERM CARE – RECALCULATED COST ESTIMATE

## 1. GROUNDWATER MONITORING [62-701.510(6), AND (8)(A)]

Groundwater monitoring is not required for the Ag Plastic Landfill.

## 2. SURFACE WATER MONITORING [62-701.510(4), AND (8)(B)]

Surface water monitoring is not required for the Ag Plastic Landfill.

## 3. GAS MONITORING [62-701.400(10)]

Gas Monitoring is not required for the Ag Plastic Landfill.

## 4. LEACHATE MONITORING [62-701.510(5), (6)(B) AND 62-701.510(8)C]

Leachate monitoring is not required by Rule 62-701, FAC, as of the August 12, 2012 rule revision, and is not applicable to the Ag Plastic Landfill.

## 5. LEACHATE COLLECTION/TREATMENT SYSTEMS MAINTENANCE

Leachate collection and treatment is not required for the Ag Plastic Landfill. The Ag Plastic Landfill does not have a bottom liner and leachate collection system.

## 6. GROUNDWATER MONITORING WELL MAINTENANCE

Groundwater Monitoring is not required for the Ag Plastic Landfill.

## 7. GAS SYSTEM MAINTENANCE

Gas collection and control systems are not required for the Ag Plastic Landfill. No putrescible waste is accepted at the Ag Plastic Landfill.

## 8. LANDSCAPE MAINTENANCE

This item includes cost of mowing the vegetative cover.

### MOWING

This item includes the cost of mowing the closed landfill. Mowing is assumed to occur 8 times per year.

| Description | Unit | Total Units | Frequency (Events / Year) | Number of Units/ Year | Cost /Unit | Cost Reference |
|---|---|---|---|---|---|---|
| Mowing | AC | 6.6 | 8/YR | 52.8 | $21.82 | *FDOT: 0107 2 Mowing* |

### FERTILIZER

Fertilizing is not proposed.

## 9. EROSION CONTROL AND COVER MAINTENANCE

This item includes the costs for erosion control and maintenance of the vegetative cover to control erosion by replacing sod as needed and regarding areas of settlement.

### SODDING

This item includes the cost of replacing sod over a portion of the final cover area. Sod replacement is assumed to be necessary for 1 acre per year.

| Description | Unit | Total Units | Frequency (Events/ Year) | Number of Units/ Year | Cost/Unit | Cost Reference |
|---|---|---|---|---|---|---|
| Sodding | SY | 1065 | 1/YR | 1065 | $1.28 | *Bid Average* |

### REGRADING

This item includes the cost of regrading for erosion control and cover maintenance. This cost assumes a 0.1-acre area.

| Description | Unit | Total Units | Frequency (Years/ Event) | Number of Units/ Year | Cost/Unit | Cost Reference |
|---|---|---|---|---|---|---|
| Regrading | AC | 0.22 | 1/YR | 0.22 | $0.65/SY ($3,146/AC) | *FDOT - 0162 1 11 Prepared Soil Layer, Finish Soil, 6”* |

### LINER REPAIR

Liner repair is not required.

## 10. STORMWATER MANAGEMENT SYSTEM MAINTENANCE

This item includes stormwater management system maintenance, specifically cleaning and clearing stormwater ditches.

### CONVEYANCE MAINTENANCE

This item includes the cost of maintaining stormwater conveyance. The cost is based on regrading and excavating 500 LF of ditch with a 63 square feet cross-sectional area each year.

| Description | Unit | Total Units | Frequency (Years/ Event) | Number of Units/ Year | Cost /Unit | Cost Reference |
|---|---|---|---|---|---|---|
| Stormwater Conveyance Maintenance | CY | 1200 | 1/YR | 1200 | $1.68 | *RS Means 312316420300* |

## 11. SECURITY SYSTEM MAINTENANCE

Maintenance of the security system is included in the Class I Landfill long-term care cost estimate and is not included in the Ag Plastic Landfill long-term care cost estimate.

## 12. UTILITIES

Utility costs are not required for the Ag Plastic Landfill.

## 13. LEACHATE COLLECTION/TREATMENT SYSTEM OPERATION

This item is not included for the Ag Plastic Landfill because leachate is not collected.

## 14. ADMINISTRATIVE

This item includes the personnel costs for annual inspections and stabilization reporting, permitting, and financial assurance submittals. The hours are based on Jones Edmunds experience with other landfills and Jones Edmunds hourly rates.

## 15. CONTINGENCY

A 5% contingency is included.

## 16. SITE-SPECIFIC COSTS

No site-specific costs are included with this cost estimate for long-term care.

# Supporting Information

Closure Item 4- Top Soil Cover - Off-Site Material
Closure Item 6 - Stormwater Control System - Berms



Florida Department of Transportation
Item Average Unit Cost
From 2012/12/01 to 2013/05/31

Contract Type: CC STATEWIDE
Displaying: VALID ITEMS WITH HITS
From: 0102 1 To: 9999999

| Item | | | No. of Conts | Weighted Average | Total Amount | Total Quantity | Unit Meas | Obs? | Description |
|---|---|---|---|---|---|---|---|---|---|
| 0104 | 11 | | 28 | $3.82 | $230,045.61 | 60,239.000 | LF | N | FLOATING TURBIDITY BARRIER |
| 0104 | 12 | | 13 | $4.89 | $46,980.41 | 9,604.000 | LF | N | STAKED TURBIDITY BARRIER- NYL REINF PVC |
| 0104 | 15 | | 21 | $1,375.60 | $104,545.34 | 76.000 | EA | N | SOIL TRACKING PREVENTION DEVICE |
| 0104 | 18 | | 56 | $73.33 | $236,862.48 | 3,230.000 | EA | N | INLET PROTECTION SYSTEM |
| 0104 | 19 | | 9 | $.34 | $18,762.77 | 55,215.000 | SY | N | CHEMICAL TREATMENT FOR EROSION CONTROL |
| 0107 | 1 | | 71 | $19.56 | $593,429.35 | 30,334.830 | AC | N | LITTER REMOVAL |
| 0107 | 2 | | 70 | $31.68 | $906,839.94 | 28,624.880 | AC | N | MOWING |
| 0109 | 71 | 2 | 3 | $63.50 | $37,149.10 | 585.000 | DA | N | FIELD OFFICE, 600 SQ FT |
| 0109 | 71 | 3 | 9 | $65.21 | $189,110.55 | 2,900.000 | DA | N | FIELD OFFICE, 900 SQ FT |
| 0110 | 1 | 1 | 74 | $11,003.78 | $11,957,913.06 | 1,086.710 | AC | N | CLEARING & GRUBBING |
| 0110 | 3 | | 18 | $31.37 | $3,789,821.03 | 120,809.000 | SF | N | REMOVAL OF EXISTING STRUCTURE |
| 0110 | 4 | | 42 | $11.34 | $998,336.59 | 88,005.900 | SY | N | REMOVAL OF EXISTING CONCRETE PAVEMENT |
| 0110 | 6 | | 2 | $2,276.25 | $9,105.00 | 4.000 | EA | N | PLUGGING WATER WELLS, NON-ARTESIAN |
| 0110 | 7 | 1 | 16 | $126.72 | $38,142.02 | 301.000 | EA | N | MAILBOX, F&I SINGLE |
| 0110 | 8 | | 1 | $12,500.00 | $25,000.00 | 2.000 | DA | N | UNDERWATER DEBRIS REMOVAL |
| 0110 | 12 | 1 | 1 | $200.00 | $1,022,800.00 | 5,114.000 | SY | N | HYDRODEMOLITION, REM OF DECK SURFACE |
| 0110 | 15 | 1 | 2 | $655.37 | $24,904.00 | 38.000 | EA | N | ARBORIST WORK, TREE TRIMMING- LIMBS/ROOT |
| 0110 | 15 | 4 | 3 | $935.63 | $14,970.00 | 16.000 | EA | N | ARBORIST WORK, RELOCATE TREE |
| 0110 | 20 | 1 | 1 | $13.21 | $30,224.48 | 2,288.000 | SF | N | REMOVAL OF EXISTING WALL, MSE WALL |
| 0110 | 20 | 3 | 1 | $49.85 | $43,369.50 | 870.000 | SF | N | REMOVAL OF EXISTING WALL, NOISE WALL |
| 0110 | 25 | 1 | 1 | $118,333.33 | $355,000.00 | 3.000 | LS | N | ASBESTOS ABATEMENT. PROJECT 42919815201 |
| 0110 | 71 | 1 | 2 | $252.38 | $419,968.00 | 1,664.000 | LF | N | BRIDGE FENDER SYSTEM, REMOVAL & DISPOSAL |
| 0110 | 73 | | 2 | $50.51 | $26,570.00 | 526.000 | LF | N | REMOVE EXISTING BULKHEAD |
| 0110 | 86 | | 10 | $2,323.51 | $27,882.13 | 12.000 | LS | N | DELIVERY OF SALVAGEABLE MATERIAL TO FDOT |
| 0120 | 1 | | 53 | $5.55 | $8,527,127.16 | 1,537,411.360 | CY | N | REGULAR EXCAVATION |
| 0120 | 2 | 2 | 19 | $8.51 | $586,821.88 | 68,954.500 | CY | N | BORROW EXCAVATION, TRUCK MEASURE |
| 0120 | 3 | | 1 | $2.64 | $12,846.24 | 4,866.000 | CY | N | LATERAL DITCH EXCAVATION |
| 0120 | 4 | | 13 | $6.55 | $301,676.49 | 46,062.300 | CY | N | SUBSOIL EXCAVATION |
| 0120 | 5 | | 1 | $26.00 | $59,124.00 | 2,274.000 | CY | N | CHANNEL EXCAVATION |
| 0120 | 6 | | 47 | $7.20 | $8,636,937.54 | 1,200,175.700 | CY | N | EMBANKMENT |
| 0120 | 71 | | 13 | $15,402.04 | $231,030.64 | 15.000 | LS | N | REGULAR EXCAVATION (3-R PROJECTS ONLY) |
| 0120 | 72 | | 1 | $64.65 | $31,419.90 | 486.000 | CY | N | GRAVEL FILL |
| 0120 | 74 | | 1 | $10.00 | $3,000.00 | 300.000 | CY | N | SURCHARGE EMBANKMENT |
| 0121 | 70 | | 14 | $148.31 | $711,160.44 | 4,795.020 | CY | N | FLOWABLE FILL |
| 0125 | 1 | | 4 | $46.06 | $726,024.44 | 15,763.000 | CY | N | EXCAVATION FOR STRUCTURES |
| 0125 | 3 | | 1 | $24.00 | $12,192.00 | 508.000 | CY | N | SELECT BEDDING MATERIAL |
| 0145 | 2 | | 2 | $2.22 | $199,414.82 | 89,883.000 | SY | N | GEOSYNTHETIC REINF FND OVER SOFT SOIL |
| 0145 | 71 | | 4 | $4.51 | $114,157.00 | 25,289.000 | SY | N | REINFORCEMENT GRID FOR SOIL STABILIZAT |
| 0145 | 72 | | 1 | $36.00 | $68,256.00 | 1,896.000 | SY | N | CELLULAR CONFINEMENT FOR SOIL STABILIZAT |
| 0160 | 4 | | 48 | $2.76 | $4,454,075.98 | 1,614,041.800 | SY | N | TYPE B STABILIZATION |

Closure Item 4
Material and Delivery

Closure Item 4 - Top Soil Cover - Placement and Spreading
Closure Item 6 - Stormwater Control System - Berms

Marion County Baseline Landfill
Year 2013 Quarter 2
Unit Detail Report

Prepared By:
Hal Boudreau
Jones Edmunds & Associates, Inc.

| LineNumber | Description | Quantity | Unit | Total Incl. O&P | Ext. Total Incl. O&P |
|---|---|---|---|---|---|
| **Division 31 Earthwork** | | | | | |
| 312323170020 | Fill, dumped material, spread, by dozer, excludes compaction | 1.00 | L.C.Y. | $1.90 | $1.90 |
| **Division 31 Earthwork Subtotal** | | | | | **$1.90** |

Marion County Baseline Landfill
Year 2013 Quarter 2
Unit Detail Report

Prepared By:
Hal Boudreau
Jones Edmunds & Associates, Inc.

| LineNumber | Description | Quantity | Unit | Total Incl. O&P | Ext. Total Incl. O&P |
|---|---|---|---|---|---|
| **Division 31 Earthwork** | | | | | |
| 312323235040 | Compaction, riding, vibrating roller, 4 passes, 6" lifts | 1.00 | E.C.Y. | $0.54 | $0.54 |
| **Division 31 Earthwork Subtotal** | | | | | **$0.54** |

Closure Costs - Item 5 - Vegetative Layer - Sodding
LTC - Item 9 - Erosion Control and Cover Maintenance - Sodding

**HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS**

**"AWARD TABULATION OF SEALED BIDS"**

**ITB 13-010 - SOD**

**BID OPENING 8-2-2012**

| VENDOR | DESCRIPTION OF SOD FIELD | BAHIA GRASS | | | FLORATAM GRASS | | |
|---|---|---|---|---|---|---|---|
| | | SOD | SOD HAULED & LAID | SOD HAULED LAID & ROLLED | SOD | SOD HAULED & LAID | SOD HAULED LAID & ROLLED |
| BEAR HOLLOW SOD (LV)<br>P.O. Box 954<br>Lake Placid, FL 33862<br>PH: 863-699-5300<br>E-Verify ID#442886 | 5000 W. Josephine Rd., Lake Placid, FL 33852 | 0.0450 | 0.1330 | 0.1350 | 0.2100 | 0.2800 | 0.2800 |
| HOWERTON FARMS (LV)<br>P.O. Box 642<br>Sebring, FL 33871<br>PH: 863-655-1593<br>E-Verify ID#592044144 | Section 3 TWP 355 RGE 31 E 2100 Bluff Hammock Rd., Lorida , FL 33871 | 0.0600 | 0.1470 | 0.1500 | 0.2000 | 0.2500 | 0.2500 |

NOTE: LOCAL VENDORS ARE INDICATED BY A DESIGNATION OF (LV).

Average = $0.1425/sf = $1.28/cy

RECOMMEND ACCEPTING ALL BIDS PER ADDITIONAL TERMS & CONDITIONS OF THE SPECIFICATIONS. THE LOWEST BIDDER WILL BE CONTACTED FIRST AT ALL TIMES. SHOULD THE LOW BIDDER BE INCAPABLE OF SUPPLYING THE SOD SERVICES REQUIRED, THE NEXT LOWEST BIDDER, AND SO ON, WILL BE CONTACTED UNTIL SOD REQUIREMENTS ARE MET. THE BID WILL BE FOR THE 12 MONTH PERIOD 10/01/2012 THRU 09/30/2013.

BID AWARD RECOMMENDATION APPROVED BY:

Jim Fisher 8/24/12
INTERIM COUNTY ADMINISTRATOR DATE

Judd Seroy 8/20/2012
ADMINISTRATIVE SERVICES DIRECTOR DATE

W. Kyle Green 8/15/2012
ROAD & BRIDGE SUPERINTENDENT DATE

# Closure Cost - Item 6 - Stormwater Control System - Earthwork



**Florida Department of Transportation**
**Item Average Unit Cost**
**From 2013/04/01 to 2014/03/31**

**Contract Type: CC STATEWIDE**
**Displaying: VALID ITEMS WITH HITS**
**From: 0102 1 To: 9999999**

| Item | | No. of Conts | Weighted Average | Total Amount | Total Quantity | Unit Meas | Obs? | Description |
|---|---|---|---|---|---|---|---|---|
| 0104 6 | | 1 | $50.00 | $6,600.00 | 132.000 | LF | N | TEMPORARY SLOPE DRAIN / RUNOFF CONT STR |
| 0104 7 | | 2 | $1,550.00 | $9,300.00 | 6.000 | EA | N | SEDIMENT BASIN / CONTAINMENT SYSTEM |
| 0104 9 | | 2 | $1,125.78 | $6,754.68 | 6.000 | EA | N | SEDIMENT BASIN / CONTAINMENT SY CLEANOUT |
| 0104 10 | 3 | 92 | $1.13 | $1,533,082.04 | 1,361,430.800 | LF | N | SEDIMENT BARRIER |
| 0104 11 | | 44 | $9.95 | $496,561.85 | 49,908.000 | LF | N | FLOATING TURBIDITY BARRIER |
| 0104 12 | | 25 | $4.58 | $91,534.66 | 19,968.800 | LF | N | STAKED TURBIDITY BARRIER- NYL REINF PVC |
| 0104 15 | | 23 | $1,503.50 | $126,294.11 | 84.000 | EA | N | SOIL TRACKING PREVENTION DEVICE |
| 0104 18 | | 91 | $78.51 | $414,858.06 | 5,284.000 | EA | N | INLET PROTECTION SYSTEM |
| 0104 19 | | 7 | $.52 | $8,961.63 | 17,095.000 | SY | N | CHEMICAL TREATMENT FOR EROSION CONTROL |
| 0107 1 | | 105 | $19.72 | $954,440.67 | 48,396.207 | AC | N | LITTER REMOVAL |
| 0107 2 | | 105 | $35.80 | $1,597,689.37 | 44,627.611 | AC | N | MOWING |
| 0109 71 | 1 | 1 | $23.00 | $8,280.00 | 360.000 | DA | N | FIELD OFFICE, 300 SQ FT |
| 0109 71 | 2 | 3 | $86.79 | $70,732.00 | 815.000 | DA | N | FIELD OFFICE, 600 SQ FT |
| 0109 71 | 3 | 15 | $75.28 | $372,631.40 | 4,950.000 | DA | N | FIELD OFFICE, 900 SQ FT |
| 0109 71 | 4 | 3 | $62.91 | $101,600.00 | 1,615.000 | DA | N | FIELD OFFICE,1200 SQ FT |
| 0109 71 | 5 | 2 | $94.36 | $143,420.00 | 1,520.000 | DA | N | FIELD OFFICE,1500 SQ FT |
| 0110 1 | 1 | 108 | $13,103.13 | $21,021,082.83 | 1,604.280 | AC | N | CLEARING & GRUBBING |
| 0110 3 | | 30 | $32.18 | $6,327,431.35 | 196,622.100 | SF | N | REMOVAL OF EXISTING STRUCTURE |
| 0110 4 | | 60 | $21.31 | $4,732,655.86 | 222,048.100 | SY | N | REMOVAL OF EXISTING CONCRETE PAVEMENT |
| 0110 6 | | 2 | $1,601.25 | $6,405.00 | 4.000 | EA | N | PLUGGING WATER WELLS, NON-ARTESIAN |
| 0110 7 | 1 | 32 | $110.67 | $81,783.24 | 739.000 | EA | N | MAILBOX, F&I SINGLE |
| 0110 12 | 1 | 1 | $354.63 | $231,573.39 | 653.000 | SY | N | HYDRODEMOLITION, REM OF DECK SURFACE |
| 0110 15 | | 4 | $28,336.18 | $113,344.70 | 4.000 | LS | N | ARBORIST WORK, COMPLETE |
| 0110 15 | 1 | 3 | $612.24 | $64,285.00 | 105.000 | EA | N | ARBORIST WORK, TREE TRIMMING- LIMBS/ROOT |
| 0110 15 | 2 | 2 | $1,947.18 | $5,841.54 | 3.000 | EA | N | ARBORIST WORK, TREE PRESERV RELOCATION |
| 0110 20 | 1 | 1 | $13.21 | $30,224.48 | 2,288.000 | SF | N | REMOVAL OF EXISTING WALL, MSE WALL |
| 0110 20 | 3 | 1 | $49.85 | $43,369.50 | 870.000 | SF | N | REMOVAL OF EXISTING WALL, NOISE WALL |
| 0110 71 | 1 | 1 | $307.00 | $314,368.00 | 1,024.000 | LF | N | BRIDGE FENDER SYSTEM, REMOVAL & DISPOSAL |
| 0110 73 | | 2 | $18.75 | $86,983.40 | 4,638.000 | LF | N | REMOVE EXISTING BULKHEAD |
| 0110 86 | | 21 | $2,431.95 | $58,366.73 | 24.000 | LS | N | DELIVERY OF SALVAGEABLE MATERIAL TO FDOT |
| 0120 1 | | 71 | $4.36 | $10,909,364.52 | 2,504,217.800 | CY | N | REGULAR EXCAVATION |
| 0120 2 | 2 | 30 | $12.00 | $1,193,977.21 | 99,492.000 | CY | N | BORROW EXCAVATION, TRUCK MEASURE |
| 0120 3 | | 1 | $2.64 | $12,846.24 | 4,866.000 | CY | N | LATERAL DITCH EXCAVATION |
| 0120 4 | | 15 | $9.09 | $1,125,618.31 | 123,846.000 | CY | N | SUBSOIL EXCAVATION |
| 0120 5 | | 2 | $30.51 | $121,259.00 | 3,974.000 | CY | N | CHANNEL EXCAVATION |
| 0120 6 | | 64 | $5.76 | $9,070,543.83 | 1,575,545.400 | CY | N | EMBANKMENT |
| 0120 71 | | 22 | $22,462.63 | $606,491.10 | 27.000 | LS | N | REGULAR EXCAVATION (3-R PROJECTS ONLY) |
| 0120 72 | | 4 | $52.41 | $138,303.80 | 2,639.000 | CY | N | GRAVEL FILL |
| 0120 74 | | 1 | $35.00 | $1,295.00 | 37.000 | CY | N | SURCHARGE EMBANKMENT |
| 0121 70 | | 16 | $88.94 | $432,612.66 | 4,863.920 | CY | N | FLOWABLE FILL |

Closure Cost Item 6 - Earthwork

Closure Costs - Item 6 - Stormwater Control System - Piping



**Florida Department of Transportation**
**Item Average Unit Cost**
**From 2013/04/01 to 2014/03/31**

**Contract Type: CC STATEWIDE**
**Displaying: VALID ITEMS WITH HITS**
**From: 0102 1 To: 9999999**

| Item | No. of Conts | Weighted Average | Total Amount | Total Quantity | Unit Meas | Obs? | Description |
|---|---|---|---|---|---|---|---|
| 0430982141 | 7 | $2,249.52 | $29,243.71 | 13.000 | EA | N | MITERED END SECT, OPTIONAL RD, 48" CD |
| 0430982142 | 3 | $4,390.25 | $17,561.01 | 4.000 | EA | N | MITERED END SECT, OPTIONAL RD, 54" CD |
| 0430982143 | 1 | $4,930.00 | $4,930.00 | 1.000 | EA | N | MITERED END SECT, OPTIONAL RD, 60" CD |
| 0430982625 | 6 | $986.20 | $21,696.40 | 22.000 | EA | N | MITERED END SECT, OPT - OTHER, 18" CD |
| 0430982629 | 6 | $1,356.81 | $23,065.84 | 17.000 | EA | N | MITERED END SECT, OPT - OTHER, 24" CD |
| 0430982633 | 1 | $1,454.00 | $1,454.00 | 1.000 | EA | N | MITERED END SECT, OPT - OTHER, 30" CD |
| 0430982638 | 3 | $2,519.78 | $10,079.12 | 4.000 | EA | N | MITERED END SECT, OPT - OTHER, 36" CD |
| 0430982640 | 1 | $3,368.26 | $6,736.52 | 2.000 | EA | N | MITERED END SECT, OPT - OTHER, 42" CD |
| 0430984120 | 1 | $765.00 | $8,415.00 | 11.000 | EA | N | MITERED END SECT, OPTIONAL RD, 8" SD |
| 0430984121 | 1 | $518.43 | $2,073.72 | 4.000 | EA | N | MITERED END SECT, OPTIONAL RD, 12" SD |
| 0430984123 | 7 | $526.44 | $18,425.30 | 35.000 | EA | N | MITERED END SECT, OPTIONAL RD, 15" SD |
| 0430984125 | 29 | $727.07 | $353,357.10 | 486.000 | EA | N | MITERED END SECT, OPTIONAL RD, 18" SD |
| 0430984129 | 23 | $892.94 | $178,587.23 | 200.000 | EA | N | MITERED END SECT, OPTIONAL RD, 24" SD |
| 0430984133 | 10 | $2,148.18 | $40,815.51 | 19.000 | EA | N | MITERED END SECT, OPTIONAL RD, 30" SD |
| 0430984138 | 6 | $3,316.88 | $69,654.56 | 21.000 | EA | N | MITERED END SECT, OPTIONAL RD, 36" SD |
| 0430984140 | 2 | $4,608.01 | $59,904.08 | 13.000 | EA | N | MITERED END SECT, OPTIONAL RD, 42" SD |
| 0430984141 | 2 | $5,098.66 | $25,493.28 | 5.000 | EA | N | MITERED END SECT, OPTIONAL RD, 48" SD |
| 0430984623 | 2 | $596.75 | $4,774.00 | 8.000 | EA | N | MITERED END SECT, OPTIONAL,OTHER,15" SD |
| 0430984625 | 16 | $881.79 | $258,364.83 | 293.000 | EA | N | MITERED END SECT, OPT / OTHER, 18" SD |
| 0430984629 | 10 | $1,503.20 | $163,848.29 | 109.000 | EA | N | MITERED END SECT, OPT / OTHER, 24" SD |
| 0430984633 | 5 | $2,134.11 | $49,084.51 | 23.000 | EA | N | MITER END SECT, OPT/ELLIP/ARCH, 30" SD |
| 0430984638 | 3 | $3,722.61 | $81,897.40 | 22.000 | EA | N | MITER END SECT, OPT/ELLIP/ARCH, 36" SD |
| 0430990 | 1 | $2,747.01 | $8,241.03 | 3.000 | EA | N | MITERED END SECT, REPLACE GRATE |
| 0431 1 1 | 3 | $139.06 | $169,649.35 | 1,220.000 | LF | N | PIPE LINER, OPTIONAL MATERIAL, 0-24" |
| 0431 1 2 | 1 | $215.03 | $18,492.58 | 86.000 | LF | N | PIPE LINER, OPTIONAL MATERIAL, 25-36" |
| 0431 1 5 | 1 | $996.49 | $131,536.68 | 132.000 | LF | N | PIPE LINER, OPTIONAL MATERIAL, 61" AND > |
| 0432 3 7 | 1 | $3,000.00 | $3,000.00 | 1.000 | EA | N | CHEM GROUT REPAIR, PIPE,NON-TEST,42" |
| 0436 1 1 | 7 | $137.26 | $195,874.40 | 1,427.000 | LF | N | TRENCH DRAIN, STANDARD |
| 0440 1 10 | 3 | $29.64 | $96,197.72 | 3,246.000 | LF | N | UNDERDRAIN, TYPE I |
| 0440 1 20 | 3 | $23.75 | $220,898.23 | 9,302.000 | LF | N | UNDERDRAIN, TYPE II |
| 0440 1 50 | 1 | $40.00 | $10,400.00 | 260.000 | LF | N | UNDERDRAIN, TYPE V |
| 0440 70 | 2 | $1,126.14 | $27,027.36 | 24.000 | EA | N | UNDERDRAIN INSPECTION BOX |
| 0440 73 1 | 1 | $100.00 | $1,500.00 | 15.000 | LF | N | UNDERDRAIN OUTLET PIPE, 4" |
| 0440 73 2 | 2 | $18.36 | $15,296.61 | 833.000 | LF | N | UNDERDRAIN OUTLET PIPE, 6" |
| 0440 73 3 | 2 | $28.30 | $8,065.33 | 285.000 | LF | N | UNDERDRAIN OUTLET PIPE, 8" |
| 0443 70 3 | 2 | $120.24 | $29,939.50 | 249.000 | LF | N | FRENCH DRAIN, 18" |
| 0443 70 4 | 4 | $124.64 | $1,142,928.00 | 9,170.000 | LF | N | FRENCH DRAIN, 24" |
| 0443 70 6 | 1 | $287.00 | $16,072.00 | 56.000 | LF | N | FRENCH DRAIN, 36" |
| 0444 70 11 | 1 | $151.17 | $3,023.40 | 20.000 | LF | N | DEEP WELL- OPEN HOLE, 24" |
| 0444 71 11 | 1 | $251.95 | $22,675.50 | 90.000 | LF | N | DEEP WELL CASING, 24" |

Closure Costs - Item 6 - Piping

Florida Department of Transportation
Item Average Unit Cost
From 2012/12/01 to 2013/05/31

Contract Type: CC STATEWIDE
Displaying: VALID ITEMS WITH HITS
From: 0102 1 To: 9999999

| Item | | No. of Conts | Weighted Average | Total Amount | Total Quantity | Unit Meas | Obs? | Description |
|---|---|---|---|---|---|---|---|---|
| 0425 | 1352 | 4 | $4,226.94 | $105,673.46 | 25.000 | EA | N | INLETS, CURB, TYPE P-5, >10' |
| 0425 | 1355 | 4 | $3,051.79 | $39,673.28 | 13.000 | EA | N | INLETS, CURB, TYPE P-5, PARTIAL |
| 0425 | 1361 | 17 | $3,881.78 | $520,157.92 | 134.000 | EA | N | INLETS, CURB, TYPE P-6, <10' |
| 0425 | 1362 | 2 | $3,622.28 | $54,334.14 | 15.000 | EA | N | INLETS, CURB, TYPE P-6, >10' |
| 0425 | 1365 | 4 | $3,307.02 | $62,833.33 | 19.000 | EA | N | INLETS, CURB, TYPE P-6, PARTIAL |
| 0425 | 1451 | 11 | $6,187.31 | $340,301.99 | 55.000 | EA | N | INLETS, CURB, TYPE J-5, <10' |
| 0425 | 1452 | 2 | $7,996.31 | $63,970.45 | 8.000 | EA | N | INLETS, CURB, TYPE J-5, >10' |
| 0425 | 1455 | 2 | $3,985.00 | $7,970.00 | 2.000 | EA | N | INLETS, CURB, TYPE J-5, PARTIAL |
| 0425 | 1461 | 8 | $6,826.84 | $177,497.82 | 26.000 | EA | N | INLETS, CURB, TYPE J-6, <10' |
| 0425 | 1462 | 2 | $5,076.48 | $25,382.40 | 5.000 | EA | N | INLETS, CURB, TYPE J-6, >10' |
| 0425 | 1471 | 2 | $4,325.17 | $47,576.87 | 11.000 | EA | N | INLETS, CURB, TYPE 7, <10' |
| 0425 | 1473 | 2 | $6,184.45 | $68,028.90 | 11.000 | EA | N | INLETS, CURB, TYPE 7, J BOT , <10' |
| 0425 | 1474 | 1 | $10,124.57 | $10,124.57 | 1.000 | EA | N | INLETS, CURB, TYPE 7, J BOT , >10' |
| 0425 | 1501 | 4 | $2,851.40 | $48,473.81 | 17.000 | EA | N | INLETS, DT BOT, TYPE A, <10' |
| 0425 | 1503 | 3 | $4,320.22 | $34,561.76 | 8.000 | EA | N | INLETS, DT BOT, TYPE A, J BOT, <10' |
| 0425 | 1505 | 1 | $2,100.00 | $2,100.00 | 1.000 | EA | N | INLETS, DT BOT, TYPE A, PARTIAL |
| 0425 | 1511 | 6 | $3,775.24 | $71,729.55 | 19.000 | EA | N | INLETS, DT BOT, TYPE B, <10' |
| 0425 | 1513 | 2 | $3,993.00 | $19,965.00 | 5.000 | EA | N | INLETS, DT BOT, TYPE B, J BOT,<10' |
| 0425 | 1519 | 1 | $4,500.00 | $4,500.00 | 1.000 | EA | N | INLETS, DT BOT, TYPE B, MODIFY |
| 0425 | 1521 | 11 | $2,064.70 | $119,752.76 | 58.000 | EA | N | INLETS, DT BOT, TYPE C, <10' |
| 0425 | 1523 | 4 | $2,968.05 | $17,808.32 | 6.000 | EA | N | INLETS, DT BOT, TYPE C,J BOT,<10' |
| 0425 | 1525 | 4 | $1,252.77 | $10,022.12 | 8.000 | EA | N | INLETS, DT BOT, TYPE C, PARTIAL |
| 0425 | 1529 | 2 | $1,690.64 | $3,381.27 | 2.000 | EA | N | INLETS, DT BOT, TYPE C, MODIFY |
| 0425 | 1531 | 4 | $2,771.30 | $116,394.55 | 42.000 | EA | N | INLETS, DT BOT, TYPE C MOD- BACK, <10' |
| 0425 | 1532 | 1 | $2,550.00 | $2,550.00 | 1.000 | EA | N | INLETS, DT BOT, TYPE C, MOD, >10' |
| 0425 | 1533 | 1 | $6,394.47 | $31,972.35 | 5.000 | EA | N | INLETS, DT BOT, TYPE C, MOD, J BOT, <10' |
| 0425 | 1541 | 14 | $2,468.72 | $187,622.99 | 76.000 | EA | N | INLETS, DT BOT, TYPE D, <10' |
| 0425 | 1543 | 4 | $5,712.62 | $57,126.20 | 10.000 | EA | N | INLETS, DT BOT,TYPE D, J BOT, <10' |
| 0425 | 1545 | 2 | $2,654.42 | $7,963.27 | 3.000 | EA | N | INLETS, DT BOT,TYPE D, PARTIAL |
| 0425 | 1549 | 4 | $4,213.80 | $46,351.76 | 11.000 | EA | N | INLETS, DT BOT, TYPE D, MODIFY |
| 0425 | 1551 | 10 | $3,193.66 | $293,816.44 | 92.000 | EA | N | INLETS, DT BOT, TYPE E, <10' |
| 0425 | 1553 | 2 | $2,400.72 | $9,602.88 | 4.000 | EA | N | INLETS, DT BOT, TYPE E, J BOT, <10' |
| 0425 | 1555 | 1 | $2,000.00 | $2,000.00 | 1.000 | EA | N | INLETS, DT BOT, TYPE E, PARTIAL |
| 0425 | 1559 | 3 | $5,960.49 | $23,841.96 | 4.000 | EA | N | INLETS, DT BOT, TYPE E, MODIFY |
| 0425 | 1561 | 5 | $3,137.43 | $50,198.82 | 16.000 | EA | N | INLETS, DT BOT, TYPE F, <10' |
| 0425 | 1563 | 1 | $7,240.00 | $7,240.00 | 1.000 | EA | N | INLETS, DT BOT,TYPE F, J BOT, <10' |
| 0425 | 1571 | 3 | $4,108.81 | $86,285.00 | 21.000 | EA | N | INLETS, DT BOT, TYPE G, <10' |
| 0425 | 1581 | 4 | $6,702.31 | $80,427.73 | 12.000 | EA | N | INLETS, DT BOT, TYPE H, <10' |
| 0425 | 1589 | 2 | $5,512.63 | $16,537.88 | 3.000 | EA | N | INLETS, DT BOT, TYPE H, MODIFY |
| 0425 | 1601 | 2 | $4,228.04 | $12,684.13 | 3.000 | EA | N | INLETS, DT BOT, TYPE J, <10' |

Closure Cost - Item 6 - Stormwater Control System - Inlet structure

**Florida Department of Transportation**
**Item Average Unit Cost**
**From 2012/12/01 to 2013/05/31**

**Contract Type: CC STATEWIDE**
**Displaying: VALID ITEMS WITH HITS**
**From: 0102 1 To: 9999999**

| Item | No. of Conts | Weighted Average | Total Amount | Total Quantity | Unit Meas | Obs? | Description |
|---|---|---|---|---|---|---|---|
| 0430175154 | 3 | $164.18 | $203,753.28 | 1,241.000 | LF | N | PIPE CULV, OPT MATL, ROUND, 54"S/CD |
| 0430175215 | 2 | $52.25 | $9,300.00 | 178.000 | LF | N | PIPE CULV, OPT MATL, OTHER, 15"S/CD |
| 0430175218 | 11 | $57.59 | $114,148.28 | 1,982.000 | LF | N | PIPE CULV, OPT MATL, OTHER, 18"S/CD |
| 0430175224 | 8 | $57.40 | $182,011.60 | 3,171.000 | LF | N | PIPE CULV, OPT MATL, OTHER, 24"S/CD |
| 0430175230 | 5 | $73.74 | $97,489.16 | 1,322.000 | LF | N | PIPE CULV, OPT MATL, OTHER, 30"S/CD |
| 0430175236 | 5 | $78.94 | $59,128.44 | 749.000 | LF | N | PIPE CULV, OPT MATL, OTHER, 36"S/CD |
| 0430175242 | 1 | $101.41 | $168,036.37 | 1,657.000 | LF | N | PIPE CULV, OPT MATL, OTHER, 42"S/CD |
| 0430175248 | 1 | $136.82 | $61,295.36 | 448.000 | LF | N | PIPE CULV, OPT MATL, OTHER, 48"S/CD |
| 0430200 25 | 1 | $1,553.83 | $3,107.66 | 2.000 | EA | N | FLARED END SECTION, CONCRETE, 18" |
| 0430602125 | 1 | $1,428.90 | $1,428.90 | 1.000 | EA | N | U-ENDWALL,W \GRATE,STD 260,1:4 SLP,18" |
| 0430602129 | 1 | $2,180.00 | $4,360.00 | 2.000 | EA | N | U-ENDWALL,W \GRATE,STD 260,1:4 SLP,24" |
| 0430610025 | 1 | $2,500.00 | $15,000.00 | 6.000 | EA | N | U-ENDWALL,STD 261,1:6 SLP, 18" |
| 0430610029 | 1 | $2,800.00 | $2,800.00 | 1.000 | EA | N | U-ENDWALL,STD 261,1:6 SLP, 24" |
| 0430610123 | 1 | $1,516.49 | $3,032.98 | 2.000 | EA | N | U-ENDWALL,STD 261,1:4 SLP, 15" |
| 0430610125 | 1 | $2,000.00 | $6,000.00 | 3.000 | EA | N | U-ENDWALL,STD 261,1:4 SLP, 18" |
| 0430610323 | 1 | $1,516.50 | $1,516.50 | 1.000 | EA | N | U-ENDWALL,STD 261,1:2 SLP, 15" |
| 0430610325 | 1 | $1,551.23 | $3,102.46 | 2.000 | EA | N | U-ENDWALL,STD 261,1:2 SLP, 18" |
| 0430610329 | 1 | $1,700.00 | $1,700.00 | 1.000 | EA | N | U-ENDWALL,STD 261,1:2 SLP, 24" |
| 0430611025 | 1 | $1,800.00 | $1,800.00 | 1.000 | EA | N | U-ENDWALL,STD 261,BAFFLES,1:6 SLP, 18" |
| 0430611029 | 1 | $2,100.00 | $2,100.00 | 1.000 | EA | N | U-ENDWALL,STD 261,BAFFLES,1:6 SLP, 24" |
| 0430611123 | 1 | $1,400.00 | $5,600.00 | 4.000 | EA | N | U-ENDWALL, BAFFLES,STD 261,1:4 SLP, 15" |
| 0430611125 | 5 | $1,666.29 | $109,975.37 | 66.000 | EA | N | U-ENDWALL, BAFFLES,STD 261,1:4 SLP, 18" |
| 0430611129 | 3 | $2,445.75 | $46,469.30 | 19.000 | EA | N | U-ENDWALL, BAFFLES,STD 261,1:4 SLP, 24" |
| 0430611225 | 3 | $1,775.47 | $5,326.40 | 3.000 | EA | N | U-ENDWALL, BAFFLES, STD 261,1:3 SLP,18" |
| 0430611325 | 1 | $1,800.00 | $19,800.00 | 11.000 | EA | N | U-ENDWALL, BAFFLES, STD 261,1:2 SLP,18" |
| 0430611329 | 1 | $2,200.00 | $2,200.00 | 1.000 | EA | N | U-ENDWALL, BAFFLES,STD 261,1:2 SLP,24" |
| 0430612029 | 1 | $1,999.62 | $3,999.24 | 2.000 | EA | N | U-ENDWALL, GRATE, STD 261,1:6 SLP,24" |
| 0430830 | 7 | $453.77 | $52,110.76 | 114.840 | CY | N | PIPE FILLING AND PLUGGING |
| 0430950 | 5 | $65.68 | $48,212.12 | 734.000 | CY | N | DESILTING CONCRETE BOX CULVERT, |
| 0430963 1 | 2 | $12.07 | $1,954.82 | 162.000 | LF | N | PVC PIPE FOR BACK OF SIDEWALK, 4" |
| 0430963 2 | 4 | $27.44 | $4,636.58 | 169.000 | LF | N | PVC PIPE FOR BACK OF SIDEWALK, NON STAND |
| 0430982123 | 1 | $1,575.01 | $4,725.03 | 3.000 | EA | N | MITERED END SECT, OPTIONAL RD, 15" CD |
| 0430982125 | 14 | $1,090.19 | $52,329.10 | 48.000 | EA | N | MITERED END SECT, OPTIONAL RD, 18" CD |
| 0430982129 | 7 | $1,006.37 | $35,222.91 | 35.000 | EA | N | MITERED END SECT, OPTIONAL RD, 24" CD |
| 0430982133 | 6 | $1,303.26 | $15,639.12 | 12.000 | EA | N | MITERED END SECT, OPTIONAL RD, 30" CD |
| 0430982138 | 6 | $1,719.62 | $20,635.38 | 12.000 | EA | N | MITERED END SECT, OPTIONAL RD, 36" CD |
| 0430982140 | 2 | $2,879.45 | $14,397.24 | 5.000 | EA | N | MITERED END SECT, OPTIONAL RD, 42" CD |
| 0430982141 | 3 | $2,150.76 | $19,356.83 | 9.000 | EA | N | MITERED END SECT, OPTIONAL RD, 48" CD |
| 0430982625 | 1 | $563.39 | $2,816.95 | 5.000 | EA | N | MITERED END SECT, OPT - OTHER, 18" CD |
| 0430982629 | 4 | $1,491.09 | $17,893.08 | 12.000 | EA | N | MITERED END SECT, OPT - OTHER, 24" CD |

Closure Costs - Item 6 - Stormwater Control System - Outlet Energy Dissipator

# LTC - Item 8 - Landscape Maintenance - Mowing

**CESPO05** 05/27/2013-07.13.01 **Page:** 1

**Florida Department of Transportation**
**Item Average Unit Cost**
**From 2012/05/01 to 2013/04/30**

**Contract Type: CC AREAS: 09**
**Displaying: VALID ITEMS WITH HITS**
**From: 0102 1 To: 9999999**

| Item | No. of Conts | Weighted Average | Total Amount | Total Quantity | Unit Meas | Obs? | Description |
|---|---|---|---|---|---|---|---|
| 0102 1 | 3 | $225.66 | $383,615.00 | 1,700.000 | DA | N | MAINTENANCE OF TRAFFIC |
| 0102 3 | 3 | $14.42 | $42,040.80 | 2,916.000 | CY | N | COMMERCIAL MATL FOR DRIVEWAY MAINT |
| 0102 60 | 3 | $.24 | $21,584.90 | 90,171.000 | ED | N | WORK ZONE SIGN |
| 0102 71 11 | 1 | $18.50 | $154,086.50 | 8,329.000 | LF | N | BARRIER WALL,TEMP,F&I,CONCRETE |
| 0102 71 14 | 2 | $25.28 | $71,305.00 | 2,821.000 | LF | N | BARRIER WALL,TEMP,F&I,TYPE K |
| 0102 71 21 | 1 | $4.00 | $5,356.00 | 1,339.000 | LF | N | BARRIER WALL,TEMP,REL,CONCRETE |
| 0102 71 24 | 1 | $5.00 | $9,630.00 | 1,926.000 | LF | N | BARRIER WALL,TEMP,REL,TYPE K |
| 0102 74 1 | 3 | $.14 | $89,984.27 | 644,900.000 | ED | N | TEMP BARR-TYPS I,II,DI,VP, DRUM, LC |
| 0102 74 2 | 3 | $.21 | $6,942.20 | 32,639.000 | ED | N | BARRICADE,TEMP,TYPE III, 6' |
| 0102 76 | 3 | $4.20 | $7,217.60 | 1,720.000 | ED | N | ARROW BOARD /ADVANCE WARNING ARROW PANEL |
| 0102 77 | 3 | $.21 | $4,052.18 | 19,658.000 | ED | N | HIGH INTENSITY FLASH LI,TEMP,TYP B |
| 0102 78 | 3 | $2.33 | $32,667.60 | 14,038.000 | EA | N | TEMPORARY RETROREFLECTIVE PAVT MARKER |
| 0102 79 | 2 | $.12 | $3,092.16 | 25,768.000 | ED | N | LIGHTS,BARR WALL MNT,TEMP,TYP C,STDY BRN |
| 0102 89 7 | 2 | $900.00 | $68,400.00 | 76.000 | LO | N | TEMPORARY CRASH CUSHION, REDIR OPT, NO C |
| 0102 99 | 1 | $12.00 | $16,704.00 | 1,392.000 | ED | N | PORTABLE CHANGEABLE MESSAGE SIGN,TEMP |
| 0104 10 3 | 3 | $.75 | $135,723.80 | 181,695.000 | LF | N | SEDIMENT BARRIER |
| 0104 11 | 2 | $8.00 | $14,656.00 | 1,832.000 | LF | N | FLOATING TURBIDITY BARRIER |
| 0104 12 | 2 | $5.25 | $3,881.80 | 740.000 | LF | N | STAKED TURBIDITY BARRIER- NYL REINF PVC |
| 0104 15 | 3 | $1,084.07 | $20,597.36 | 19.000 | EA | N | SOIL TRACKING PREVENTION DEVICE |
| 0104 18 | 2 | $113.64 | $1,250.00 | 11.000 | EA | N | INLET PROTECTION SYSTEM |
| 0107 1 | 3 | $18.43 | $178,365.91 | 9,676.400 | AC | N | LITTER REMOVAL |
| 0107 2 | 3 | $21.82 | $211,092.91 | 9,676.400 | AC | N | MOWING |
| 0110 1 1 | 3 | $888.15 | $336,322.46 | 378.679 | AC | N | CLEARING & GRUBBING |
| 0110 3 | 2 | $13.66 | $150,950.75 | 11,053.000 | SF | N | REMOVAL OF EXISTING STRUCTURE |
| 0110 7 1 | 2 | $167.07 | $501.22 | 3.000 | EA | N | MAILBOX, F&I SINGLE |
| 0120 1 | 3 | $3.73 | $1,595,033.05 | 427,629.000 | CY | N | REGULAR EXCAVATION |
| 0120 4 | 1 | $7.50 | $59,302.50 | 7,907.000 | CY | N | SUBSOIL EXCAVATION |
| 0120 5 | 1 | $8.40 | $24,561.60 | 2,924.000 | CY | N | CHANNEL EXCAVATION |
| 0120 6 | 3 | $5.54 | $4,433,636.65 | 800,376.000 | CY | N | EMBANKMENT |
| 0160 4 | 3 | $2.84 | $1,395,602.20 | 491,124.000 | SY | N | TYPE B STABILIZATION |
| 0285701 | 1 | $5.45 | $202,690.95 | 37,191.000 | SY | N | OPTIONAL BASE,BASE GROUP 01 |
| 0285702 | 1 | $6.45 | $108,147.15 | 16,767.000 | SY | N | OPTIONAL BASE,BASE GROUP 02 |
| 0285705 | 1 | $8.00 | $129,664.00 | 16,208.000 | SY | N | OPTIONAL BASE,BASE GROUP 05 |
| 0285709 | 1 | $10.15 | $1,058,939.35 | 104,329.000 | SY | N | OPTIONAL BASE,BASE GROUP 09 |
| 0285711 | 1 | $11.42 | $1,251,357.92 | 109,576.000 | SY | N | OPTIONAL BASE,BASE GROUP 11 |
| 0285712 | 1 | $12.50 | $584,462.50 | 46,757.000 | SY | N | OPTIONAL BASE,BASE GROUP 12 |
| 0286 1 | 3 | $13.65 | $78,609.47 | 5,761.000 | SY | N | TURNOUT CONSTRUCTION |
| 0327 70 1 | 1 | $1.00 | $1,689.00 | 1,689.000 | SY | N | MILLING EXIST ASPH PAVT, 1" AVG DEPTH |
| 0327 70 6 | 1 | $.70 | $68,156.20 | 97,366.000 | SY | N | MILLING EXIST ASPH PAVT,1 1/2" AVG DEPTH |
| 0327 70 11 | 2 | $1.13 | $120,296.00 | 106,904.000 | SY | N | MILLING EXIST ASPH PAVT,2 1/4" AVG DEPTH |

Long Term Costs - Item 8 - Landscape Maintenance - Mowing

# LT C - Item 9 - Erosion Control and Cover Maintenance - Regrading



**Florida Department of Transportation**
**Item Average Unit Cost**
**From 2012/12/01 to 2013/05/31**

**Contract Type: CC STATEWIDE**
**Displaying: VALID ITEMS WITH HITS**
**From: 0102 1 To: 9999999**

| Item | No. of Conts | Weighted Average | Total Amount | Total Quantity | Unit Meas | Obs? | Description |
|---|---|---|---|---|---|---|---|
| 0162 1 11 | 29 | $.65 | $641,807.35 | 992,402.000 | SY | N | PREPARED SOIL LAYER, FINISH SOIL, 6" |
| 0162 1 12 | 2 | $12.48 | $40,179.16 | 3,219.000 | SY | N | PREPARED SOIL LAYER, FINISH SOIL, 12" |
| 0210 1 1 | 2 | $2.44 | $15,375.96 | 6,302.000 | SY | N | REWORKING LIMEROCK BASE, 6" |
| 0210 1 9 | 2 | $5.11 | $27,265.79 | 5,330.600 | SY | N | REWORKING LIMEROCK BASE, 3" |
| 0210 2 | 3 | $28.00 | $25,730.61 | 919.000 | CY | N | LIMEROCK-NEW MATERIAL FOR REWORKING BASE |
| 0285701 | 36 | $9.68 | $1,172,692.55 | 121,130.600 | SY | N | OPTIONAL BASE,BASE GROUP 01 |
| 0285702 | 7 | $8.71 | $893,909.65 | 102,643.000 | SY | N | OPTIONAL BASE,BASE GROUP 02 |
| 0285704 | 11 | $8.96 | $1,850,232.39 | 206,536.000 | SY | N | OPTIONAL BASE,BASE GROUP 04 |
| 0285705 | 2 | $9.08 | $141,114.56 | 15,537.000 | SY | N | OPTIONAL BASE,BASE GROUP 05 |
| 0285706 | 8 | $12.77 | $352,203.33 | 27,584.000 | SY | N | OPTIONAL BASE,BASE GROUP 06 |
| 0285707 | 2 | $15.08 | $150,283.20 | 9,969.000 | SY | N | OPTIONAL BASE,BASE GROUP 07 |
| 0285708 | 2 | $15.59 | $96,926.00 | 6,218.000 | SY | N | OPTIONAL BASE,BASE GROUP 08 |
| 0285709 | 27 | $13.57 | $5,561,855.86 | 409,713.500 | SY | N | OPTIONAL BASE,BASE GROUP 09 |
| 0285710 | 8 | $16.80 | $1,219,613.18 | 72,588.000 | SY | N | OPTIONAL BASE,BASE GROUP 10 |
| 0285711 | 10 | $13.36 | $2,699,278.70 | 202,079.000 | SY | N | OPTIONAL BASE,BASE GROUP 11 |
| 0285712 | 7 | $14.37 | $3,365,610.96 | 234,161.000 | SY | N | OPTIONAL BASE,BASE GROUP 12 |
| 0285713 | 4 | $42.20 | $832,862.77 | 19,735.000 | SY | N | OPTIONAL BASE,BASE GROUP 13 |
| 0285714 | 1 | $92.00 | $69,828.00 | 759.000 | SY | N | OPTIONAL BASE,BASE GROUP 14 |
| 0285715 | 12 | $58.78 | $5,381,055.68 | 91,538.600 | SY | N | OPTIONAL BASE,BASE GROUP 15 |
| 0286 1 | 9 | $10.23 | $270,386.59 | 26,424.500 | SY | N | TURNOUT CONSTRUCTION |
| 0286 2 | 2 | $117.25 | $30,602.80 | 261.000 | TN | N | TURNOUT CONSTRUCTION-ASPHALT |
| 0327 70 1 | 31 | $1.49 | $1,224,395.38 | 824,330.100 | SY | N | MILLING EXIST ASPH PAVT, 1" AVG DEPTH |
| 0327 70 2 | 7 | $2.14 | $611,448.18 | 285,837.000 | SY | N | MILLING EXIST ASPH PAVT,3 1/2" AVG DEPTH |
| 0327 70 3 | 1 | $6.25 | $2,406.25 | 385.000 | SY | N | MILLING EXIST ASPH PAVT,4 1/2" AVG DEPTH |
| 0327 70 4 | 20 | $2.32 | $1,643,427.97 | 708,052.000 | SY | N | MILLING EXIST ASPH PAVT, 3" AVG DEPTH |
| 0327 70 5 | 21 | $1.86 | $2,256,367.46 | 1,216,096.000 | SY | N | MILLING EXIST ASPH PAVT, 2" AVG DEPTH |
| 0327 70 6 | 38 | $1.84 | $2,480,181.19 | 1,345,564.000 | SY | N | MILLING EXIST ASPH PAVT,1 1/2" AVG DEPTH |
| 0327 70 7 | 4 | $3.34 | $190,874.09 | 57,145.100 | SY | N | MILLING EXIST ASPH PAVT, 4" AVG DEPTH |
| 0327 70 8 | 14 | $2.86 | $903,843.89 | 315,718.000 | SY | N | MILLING EXIST ASPH PAVT,2 1/2" AVG DEPTH |
| 0327 70 11 | 10 | $1.72 | $1,373,550.17 | 798,182.000 | SY | N | MILLING EXIST ASPH PAVT,2 1/4" AVG DEPTH |
| 0327 70 12 | 6 | $1.11 | $73,554.66 | 66,231.000 | SY | N | MILLING EXIST ASPH PAVT,1 1/4" AVG DEPTH |
| 0327 70 13 | 12 | $3.00 | $923,132.81 | 307,290.000 | SY | N | MILLING EXIST ASPH PAVT,1 3/4" AVG DEPTH |
| 0327 70 15 | 10 | $1.35 | $1,175,427.13 | 870,970.000 | SY | N | MILLING EXIST ASPH PAVT,2 3/4" AVG DEPTH |
| 0327 70 16 | 2 | $2.17 | $94,906.92 | 43,712.000 | SY | N | MILLING EXIST ASPH PAVT, 1/2" AVG DEPTH |
| 0327 70 17 | 1 | $1.25 | $14,337.50 | 11,470.000 | SY | N | MILLING EXIST ASPH PAVT,3 1/4" AVG DEPTH |
| 0327 70 19 | 13 | $1.57 | $709,647.78 | 451,823.000 | SY | N | MILLING EXIST ASPH PAVT, 3/4" AVG DEPTH |
| 0327 70 20 | 1 | $2.66 | $16,313.78 | 6,133.000 | SY | N | MILLING EXIST ASPH PAVT,3 3/4" AVG DEPTH |
| 0327 70 21 | 1 | $8.00 | $8,632.00 | 1,079.000 | SY | N | MILLING EXIST ASPH PAVT, 7" AVG DEPTH |
| 0327 70 22 | 1 | $10.15 | $6,709.15 | 661.000 | SY | N | MILLING EXIST ASPH PAVT,4 1/4" AVG DEPT |
| 0327 70 23 | 1 | $7.45 | $72,607.70 | 9,746.000 | SY | N | MILLING EXIST ASPH PAVT, 6" AVG DEPTH |

LT - Item 9 - Erosion Control and Cover Maintenance - Regrading

5061 SE 66th Avenue
Ocala, Florida, 34480

Date: 19-Jul-13

Marion County Baseline Landfill
Year 2013 Quarter 2
Unit Detail Report

Prepared By:
Hal Boudreau
Jones Edmunds & Associates, Inc.

| LineNumber | Description | Quantity | Unit | Total Incl. O&P | Ext. Total Incl. O&P |
|---|---|---|---|---|---|
| **Division 31 Earthwork** | | | | | |
| 312316420300 | Excavating, bulk bank measure, 3 C.Y. capacity = 260 C.Y./hour, backhoe, hydraulic, crawler mounted, excluding truck loading | 1.00 | B.C.Y. | $1.68 | $1.68 |
| **Division 31 Earthwork Subtotal** | | | | | **$1.68** |

# Appendix A

# Operation Plan

CELEBRATING 40 YEARS

JONES EDMUNDS

INTEGRITY | KNOWLEDGE | SERVICE


# Landfill Operation Requirements (62-701.500, FAC)

## Operation Plan for the Agricultural Plastic Disposal Unit

## Permit Number: 0038570-023-SO/08

Highlands County Solid Waste Management Center, Sebring, FL | December 2014

# LANDFILL OPERATION REQUIREMENTS (62-701.500, FAC)
# OPERATION PLAN FOR THE
# AGRICULTURAL PLASTIC DISPOSAL UNIT

**Prepared for:**

HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS

600 S. Commerce Avenue

Sebring, Florida 33870

**Prepared by:**

JONES EDMUNDS & ASSOCIATES, INC.

730 NE Waldo Road

Gainesville, Florida 32641

December 2014

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# INTRODUCTION

The Highlands County Solid Waste Management Center (HCSWMC) receives approximately 500 and 1,000 tons per year of agricultural plastic film, plastic irrigation tubing, and piping from the caladium and strawberry fields in the County. The waste is delivered twice a year in the spring and fall. The amount received depends on whether a moratorium on field-burning is in place during the spring. All loads containing nothing but agricultural plastic film and soil are diverted from the scalehouse to the Florida Department of Environmental Protection (FDEP)-approved Agricultural Plastic Disposal Unit (Ag Plastic Landfill). A full-time spotter makes sure that the plastic film does not contain cardboard rolls, wood pallets, agricultural products, or garbage. Unacceptable agricultural waste is diverted to the Class I landfill for disposal.

# 1 TRAINING AND CERTIFICATION OF OPERATORS (62-701.500 (1), FAC)

Highlands County Department of Solid Waste Management (HCDSWM) maintains a policy that all personnel in the following positions will be trained and certified as landfill operators in the Florida in accordance with Rule 62-701.320(15), FAC, within 6 months after completing their initial probationary period as a new employee at the landfill as a condition of continued employment. Certification will be obtained through an FDEP-approved 24-hour initial training course. At all times when the landfill is in operation, a trained and certified landfill operator will be on site.

- Landfill Operations Manager
- Landfill Equipment Operators

Certified operators are required to maintain their certification by completing 16 hours of FDEP-approved continuing training education within the following 3 years.

Landfill spotters will be trained and certified in accordance with FAC Rule 62-701.320(15) through an FDEP-approved 8-hour training course and will maintain their certification by completing 4 hours of FDEP approved continuing training education within the following 3 years.

The Landfill Operations Manager is responsible for day-to-day operation of the landfill. At least one "certified landfill operator" will be present on site during all hours of operation that the HCSWMC receives solid waste. At least one trained spotter will be present at each landfill working face at all times that solid waste is dumped from collection vehicles to detect unauthorized wastes.

Documentation and proof of training, including continual training education, tests, or courses, will be maintained at the Facility and will be available for inspection by FDEP.

# 2 STANDARD LANDFILL OPERATIONS AND MAINTENANCE (62-701.500(2), FAC)

## 2.1 RESPONSIBLE PERSONS

The order of responsibility for operation of the Ag Plastic Landfill is as follows:

1. Board of County Commissioners for Highlands County, Florida
   600 S. Commerce Avenue
   Sebring, Florida 33870
   (863) 402-6500

2. June Fisher
   County Administrator
   County Government Center
   600 South Commerce Avenue
   Sebring, Florida 33870
   (863) 402-6500

3. Ramon Gavarrete, PE
   Highlands County Engineer
   505 South Commerce Avenue
   Sebring, Florida 33870
   (863) 402-6877 office
   (863) 402-6548 fax
   (863) 381-6875 cell

4. Richard "Dick" Gorman
   Landfill Operations Manager
   Highlands County Solid Waste Management Center
   12700 Arbuckle Creek Road
   Sebring, Florida 33870
   Mailing Address
   (863) 402-7786 office
   (863) 402-7785 fax
   (863) 381-7071 cell

The staffing levels at the landfill are shown on the organizational chart for the HCDSWM on file with the Class I Landfill Operation Permit Application.

## 2.2 CONTINGENCY OPERATIONS

If an emergency occurs or regulated hazardous wastes are identified by random load checking or are otherwise discovered to be improperly deposited at the landfill, the landfill operator will promptly notify FDEP by calling (850) 413-9911 or (800) 320-0519. During normal business hours, the permittee will call (239) 332-6975.

The contingency plan addresses the following four potential emergencies:

- Equipment Failure
- Alternative Landfills to Accept Waste
- Poor Weather Conditions
- Accidents

### 2.2.1 EQUIPMENT FAILURE

The HCSWMC is a self-sufficient operation that is funded through a solid waste enterprise fund that derives its revenue from landfill tipping fees, an annual non-ad-valorem assessment charged to households in the unincorporated areas of the County, and the sales of recyclable materials. The HCDSWM purchases, owns, and repairs all of its equipment. It replaces old equipment on a scheduled basis to modernize its fleet and keep equipment in reliable working order. The County has equipment to provide backup capability in case a key piece of equipment is down for service. Following is a list of the HCSWMC Equipment:

| HCSWMC Equipment: | Number |
|---|---|
| 42 ton steel wheel landfill compactor | 2 |
| Track type bulldozer | 4 |
| 750 John Deere bulldozer | 1 |
| Hydraulic tarping machine | 1 |
| Hydraulic excavating pan | 1 |
| Track type loader | 1 |
| Wheel type loader | 1 |
| 0.8 cubic yard track excavator with hydraulic grapple and auger | 1 |
| 2.0 cubic yard track excavator with stiff thumb | 1 |
| Motor grader | 1 |
| 4,000 gallon water truck with cannon | 1 |
| Truck tractor | 1 |
| Dump truck | 1 |
| 5,000 gallon leachate transport tanker | 1 |
| Low-boy equipment transport trailer | 1 |

The HCDSWM also has a mutual aid agreement with the County Road and Bridge Department to provide backup equipment from time to time as needed. This equipment includes: bulldozers, wheel loaders, excavators, dump trucks, and water trucks.

This available equipment provides ample backup equipment for any needs the landfill operators might have.

In addition to the equipment owned by Highlands County, the County has an annual bid in place at all times that permits renting equipment at a predetermined rate without special Board of County Commissioners' approval.

Operators are trained on all machines so that personnel changes do not adversely affect the solid waste operations. As a standard of operations, an overtime account is budgeted and the Landfill Operations Manager or the Recycling Program Manager has the authority to authorize overtime when it is needed. Additional Road and Bridge Department personnel are available by radio.

### 2.2.2 Alternative Landfill to Accept Waste

If Ag Plastic Landfill cannot receive waste, the waste will be left in the fields until the disposal facility reopens or diverted to the Class I Landfill or an alternative landfill. Under the Class I Landfill Operation Permit, Highlands County has an agreement with an alternate landfill for acceptance of waste in an emergency.

### 2.2.3 Poor Weather Conditions

The County may have to temporarily close the working face of the landfill due to locally severe weather conditions that would pose a safety hazard to operators and customers or to winds in excess of 35 mph that would prohibit safe waste-dumping conditions. The conditions that would warrant temporary closure of the landfill include the presence of nearby lightning strikes, high winds, intense on-site rainfall, or an approaching tornado. The landfill is tied into the DTN Satellite Weather Monitoring Network and Thorguard Lightning Prediction System to alert personnel in the landfill office of approaching electrical storms. This equipment is used to monitor the direction and speed of storms and to determine when the danger has passed and the working face can be re-opened.

The procedures for a temporary closure of the landfill are as follows:

1. The County Engineer, HCDSWM Landfill Operations Manager, or Landfill Operations Manager will declare a temporary shutdown and will direct the scalehouse operator to halt all incoming refuse collections trucks at the scalehouse until the severe weather condition passes. All County personnel and any refuse haulers present in the active disposal cell will cease work and take shelter off the cell. No one will remain on the landfill disposal cells during the storm.

2. The Landfill Operations Manager will telephone the County-franchised refuse collection contractors; the municipalities of Avon Park, Lake Placid, and Sebring; and farms using the Ag Plastic Landfill, when an emergency shutdown occurs. They will be notified again by phone once the landfill operations are resumed. Typical emergency shutdowns are expected to last 10 minutes to over 1 hour in duration.

3. The Landfill Operations Manager will direct the restart of landfill operations as soon as weather and site conditions permit. If landfill operations are halted by severe weather conditions that occur after 4:30 PM (normal closing time is 5:15 PM), the landfill will remain closed for the rest of the day and any refuse collection trucks arriving after 4:30 PM will be asked to return the next morning.

4. The landfill will document emergency shutdowns recording the date, time of day, and duration of the shutdown. A count will be made of the number of collection vehicles held up or turned away during the temporary shutdown. Typically, temporary landfill shutdowns do not occur more than 15 to 20 times per year.

The County may also close the entire HCSWMC for 1 or more days during a declared tropical storm or hurricane. Closure would occur when the sustained wind speed from an approaching tropical storm or hurricane reaches 45 mph. The landfill closure would be coordinated with the County Department of Emergency Management Services, and public announcements of the closure would be made over local radio and television stations. Closure of the landfill would also be coordinated with both County-franchised

refuse collection contractors and the municipalities of Avon Park, Lake Placid, and Sebring to occur concurrently with the cessation of refuse collection activities throughout the County as the storm passes over the area. Once the tropical storm or hurricane is over, the landfill will be reopened as soon as it is determined to be safe by the HCDSWM Landfill Operations Manager Arbuckle Creek Road is passable and not closed due to localized flooding.

### 2.2.4 ACCIDENTS

The following emergency or equipment procedures will be followed for the various types of accidents that may occur at the facility.

#### 2.2.4.1 Vehicular Accidents

- Determine if personal injury has occurred. If so, contact the Landfill Operations Manager.
- Determine if the vehicle(s) can be safely moved under its own power. If so, move the vehicle(s) out of the way of normal traffic flow.
- If the vehicle(s) cannot move under its own power and is interrupting traffic flow, push the vehicle(s) out of the way with site equipment or reroute traffic if serious injuries are involved.
- Notify the Landfill Operations Manager and the County Risk Manager (863-402-6792) of the details of the accident.
- Arrange to have disabled vehicles towed from the site to maintain operations.

#### 2.2.4.2 Personal Injury

- Determine the nature and extent of the injuries.
- If qualified, administer emergency first-aid techniques.
- Call 911 for outside emergency assistance.
- Report the incident to the Landfill Operations Manager and the County Risk Manager (863-402-6792).
- If injuries require non-emergency medical attention, arrange to transport victim(s) to a place of professional medical care (e.g., hospital emergency room, doctor's office, and clinic) by conventional means.

## 2.3 CONTROL/INSPECTION OF INCOMING WASTE

Large signs are posted at the entrance to the HCSWMC and at the scalehouse that alert the public of the types of waste not accepted at the Class I landfill, C&D waste landfill, and Ag Plastic Landfill. The County provides a household hazardous waste collection program for all households based at the County Recycling Facility. Hazardous materials removed from waste or brought into the landfill site separately by waste haulers or residents are transferred to the hazardous waste storage area at the Recycling Facility where they are inventoried and removed by a licensed hazardous waste collection company under contract to the County.

The scale operator questions the haulers regarding what their loads contain and then directs the hauler to the proper disposal area. Loads containing prohibited material can be rejected at this point.

If a significant amount of regulated hazardous wastes is discovered as the load is being dumped or spread or otherwise discovered to be improperly deposited at the landfill, the area will be immediately secured with barriers and the landfill operator will promptly notify the Florida Department of Environmental Protection (FDEP) by calling (239) 332-6975 and the branch office in Sebring at (863) 314-5975 during normal business hours. Outside normal business hours, FDEP will be notified by calling (850) 413-9911 or (800) 320-0519. Arrangements will be made with the generator to properly dispose of the material using the hazardous waste contractor.

## 2.4 WEIGHING OR MEASURING INCOMING WASTE

Incoming waste will be weighed at the scalehouse with inbound and outbound 60-ton electronic vehicle scales. The scalehouse is equipped with a computerized vehicle recording system and a security camera with color monitor. The scales are certified by the State and calibrated quarterly.

## 2.5 VEHICLE TRAFFIC CONTROL AND UNLOADING

All traffic entering the HCSWMC must pass the scalehouse. A full-time spotter will be employed to control the vehicles coming into the site, along with full-time heavy equipment operators. The spotter and the operators have the authority to direct traffic. The spotter is trained to identify unacceptable waste and is stationed at the working face to monitor the incoming waste.

## 2.6 METHOD AND SEQUENCE OF FILLING WASTES

Plastic waste will be placed in 10-foot lifts. A second lift will not begin until the first lift is completed within the perimeter dikes.

## 2.7 WASTE COMPACTION AND APPLICATION OF COVER

After completing a 10-foot lift, the waste will be covered with a 12-inch-thick layer of 50/50 mixture of soil and shredded yard waste as intermediate cover. The cover soil is blended on-site four to six times per year and stockpiled for use. Soil is obtained from on-site borrow pits.

The final cover system will be designed in accordance with Rule 62-701.600(5), FAC. The final cover will be placed as portions of the facility reach final grade. The final cover consists of a minimum of 24 inches of soil over the waste and a layer of sod.

## 2.8 OPERATION OF GAS, LEACHATE, AND STORM WATER CONTROLS

Only agricultural waste plastic film, waste plastic tubing, and waste plastic pipe can be disposed of in this facility. This disposal facility cannot accept degradable wastes. Since the waste is inert and not degradable, the facility does not have a landfill gas management or monitoring system or a leachate management system.

The stormwater system does not require routine operation. All stormwater flows by gravity from the perimeter ditches into the stormwater management system for the HCSWMC. The stormwater retention system is designed with a positive outflow control structure, which flows into a spreader swale. The retention system is designed to be a 35-acre productive wetlands marsh that needs no mowing or cleaning.

The maintenance of the stormwater system requires semi-annual mowing of the upland ditches and swales. Machine-cleaning of the ditches and swales is scheduled as needed.

## 2.9 WATER QUALITY MONITORING

No separate water quality monitoring is required for this disposal unit.

## 2.10 LEACHATE COLLECTION SYSTEM

This disposal unit has no leachate collection system.

# 3 OPERATING RECORDS (62.701.500(3), FAC)

Permits, drawings, and records required by 62-701.500(3), FAC, will be kept and maintained in the on-site HCSWMC office. The records are considered an integral part of the Operation Plan and are available during operating hours upon request by FDEP personnel. The HCDSWM Director, will be responsible for filing and storing all operational records. The minimum records to be kept as part of the official operating record are:

- Current permits and applications including supporting data and engineering drawings.
- Monthly waste disposal records.
- Inspection records.
- On-site rain gauge data.
- Monthly operating reports (FDEP monthly facility report).
- Annual estimates of remaining capacity (permitted disposal) in cubic yards.
- Regulatory agency inspection reports.
- Groundwater, surface water, and leachate sampling plan, including well construction information, sampling locations, and water quality sampling results.
- All official notifications to or from FDEP regarding the facility.
- Training verifications/certifications.

# 4 WASTE RECORDS (62.701.500(4), FAC)

The County keeps monthly records of waste tonnages for the following categories:

- Residential waste.
- Commercial waste.
- Tires.
- Yard waste.
- White goods.
- Agricultural plastic film.
- Non-friable asbestos.
- Contaminated soil.
- Leachate aeration basin sludge.
- Construction and demolition debris.

The HCSWMC waste records are compiled monthly sent to FDEP annually.

# 5 CONTROL OF ACCESS (62.701.500(5), FAC)

The landfill design includes methods to control access and provides a buffer designated into the overall landfill including the following:

- A fenced boundary to keep the general public from coming onto the site.
- A gated access point controlled at all times during landfill operations.
- A raised and vegetated berm around the boundary of the site to prevent any adverse visual impacts.
- Internal locked gates on site roads to limit access inside the facility.

The HCSWMC operates and accepts waste Monday through Saturday from 7:30 AM to 5:15 PM for franchised hauler compactor vehicles. All other vehicles must be off the landfill site by 5:00 PM.

# 6 MONITORING OF WASTE (62.701.500(6), FAC)

## 6.1 LOAD CHECKING PROGRAM

A full-time spotter and full-time heavy-equipment operators control the vehicles coming onto the site. The spotter and the operators have the authority to direct traffic. The spotter is trained to identify unacceptable waste and is stationed at the working face to monitor the incoming waste. The spotters visually inspect all dumped loads as the loads are discharged from the collection vehicles and as the load is spread into 2-foot layers by the compactor or bulldozer. Prohibited materials are removed when found. If unauthorized wastes are found, the owner or shipper of the wastes will be contacted to determine the identity of the waste sources.

## 6.2 HANDLING HAZARDOUS WASTES

No hazardous wastes will be accepted at the facility for disposal. If an emergency occurs or regulated hazardous wastes are identified by random load checking or are otherwise discovered to be improperly deposited at the landfill, the landfill operator will promptly notify FDEP as described in Section 2.3.

The area where the wastes are deposited shall immediately be cordoned off from public access. If the generator or hauler cannot be identified, the landfill operator will ensure the cleanup, transportation, and disposal of the waste at a permitted hazardous waste management facility. Subsequent shipments from sources found or suspected to be previously responsible for shipping regulated hazardous waste will be subject to precautionary measures before the facility accepts the wastes.

## 6.3 RECORDING INSPECTION RESULTS

Results from inspections will be recorded in writing and retained at the landfill for at least 3 years. This information will include date and time of inspection, name of hauling firm, name of driver of the vehicle, vehicle license plate number, source of waste as stated by the driver, and observations made by HCSWMC personnel during the inspection. The inspector will sign the written record.

## 6.4 EMPLOYEE TRAINING FOR DETECTION OF UNAUTHORIZED MATERIAL

Inspectors, solid waste technicians, and attendants are trained to identify unauthorized wastes or hazardous materials. Each scalehouse attendant and spotter is trained to identify unacceptable waste. Large signs are posted at the entrance of the landfills that alert the public of the types of waste not accepted in the landfill. A household hazardous waste collection program is available to all households in Highlands County.

If unauthorized material is transported to the facility, the HCDSWM Director will be notified immediately and appropriate actions taken to remove any unauthorized materials or wastes from the facility (see Section 2.3).

If an emergency occurs, the hazardous material response team with the Highlands County Department of Emergency Management will be notified at (863) 385-1112.

# 7 WASTE HANDLING REQUIREMENTS (62.701.500(7), FAC

## 7.1 LAYER THICKNESS AND COMPACTION FREQUENCIES

The waste plastic will be spread in 2-foot layers and compacted to achieve 10-foot lifts.

## 7.2 FIRST LAYER ABOVE LINER

The disposal area will not have a liner, so the first layer has no special considerations.

## 7.3 WORKING FACE AND SIDE GRADE SLOPES AND LIFT DEPTHS

The working face will be maintained at a slope no greater than 3:1. The side slopes of the working area will be maintained at a slope no greater than 3:1. The maximum lift is 10 feet.

## 7.4 WORKING FACE MAXIMUM WIDTH

The working face will have a typical width of 100 feet but will be subject to change to accommodate the volume of incoming traffic and to maintain safe operating conditions.

## 7.5 INITIAL COVER

No initial cover will be applied to this plastic waste.

## 7.6 INITIAL COVER APPLICATION PROCEDURE

This plastic waste does not require initial cover.

## 7.7 INTERMEDIATE COVER APPLICATION PROCEDURE

Intermediate cover includes the soil / yard waste blend (Section 2.7) applied over 10-foot lifts and exterior slopes.

## 7.8 FINAL COVER APPLICATIONS PROCEDURES

Two feet of final cover soil and sod will be applied to the outer slopes at final grade. Freshly-laid sod will be irrigated until the sod is established.

## 7.9 SCAVENGING

Scavenging is not permitted at any time. The HCSWMC is fenced, and the gates are locked when the HCSWMC is closed. When the HCSWMC is open, staff monitor the disposal areas and are authorized to stop any scavenging.

## 7.10 LITTER POLICING METHODS

Due to the nature of the agricultural waste plastic film, tubing, and piping, litter is not a problem. All litter blown and found on the ground surface outside the landfill is picked up by hand within 24 hours of when the litter is generated. County staff also patrols all on-site roads for litter daily. During winter, when passing cold fronts cause strong northeast winds, County staff, with the help of the Sheriff's Department, also conduct litter patrols along Arbuckle Creek Road from Lorida to Highlands Avenue.

## 7.11 EROSION CONTROL PROCEDURES

Exterior berms and intermediate and final cover slopes will be graded and sodded to control erosion.

# 8 LEACHATE MANAGEMENT (62.701.500(8), FAC)

This disposal facility does not have a leachate management system. Only agricultural waste plastic film, waste plastic tubing, and waste plastic pipe can be disposed of in this facility.

# 9 GAS MONITORING (62.701.500(9), FAC)

This disposal facility cannot accept degradable wastes and is not required to have a landfill gas management or monitoring system.

# 10 STORMWATER SYSTEM MANAGEMENT (62.701.500(10), FAC)

The landfill will use the following stormwater best management practices (BMPs):

- Side swales
- Grass
- Sod
- Perimeter ditches

The stormwater management system operation and maintenance will include the following:

- All stormwater conveyance systems will be inspected periodically or after major storm events.
- Accumulated sediment will be removed as necessary.

The stormwater management system will be operated and maintained as necessary to meet applicable standards of Chapters 62-302 and 62-25, FAC.

# 11 EQUIPMENT AND OPERATION FEATURES (62.701.500(11), FAC)

## 11.1 ON-SITE EQUIPMENT

The landfill will be operated with the landfill equipment noted in Section 2.2.1. Most of this equipment is under warranty with service provided by the vendor. The remaining equipment is maintained by trained heavy-equipment mechanics that work for the County. The County mechanics are also equipped with service trucks. A standing agreement between the County Road and Bridge Department and HCDSWM also provides for work to be done on landfill equipment.

Equipment replacement is a budgeted part of the HCDSWM. The tipping fee schedule has an adequate amount budgeted for equipment replacement when a machine has reached its useful life span. The older machines are often kept as a backup to the newer machines, as long as they are serviceable, economical to run, and safe.

Standard safety equipment are maintained in the same operating condition as when it was delivered. This equipment meets all OSHA requirements. A safety inspection is made of all equipment, once a quarter, by the County Safety Department and County Shop Supervisor. The County Shop Supervisor notes any deficiencies and necessary repairs are scheduled.

## 11.2 RESERVE EQUIPMENT

Reserve equipment is available from the County Road and Bridge Department by agreement and by rental with pre-approved rental rates. Reserve equipment can be on site within 24 hours.

## 11.3 COMMUNICATION EQUIPMENT

The landfill has phones in the office, scalehouse, and maintenance building. In addition to the phone system, the scalehouse and landfill office are equipped with a base radio station can contact the Landfill Operations Manager's vehicle and handheld radios assigned to the operators and spotters. The Landfill Operations Manager is also equipped with a cell phone.

## 11.4 DUST CONTROL DEVICES

HCSWMC includes dust-free paved roads or roads vegetated with grass or other cover to prevent any dust problem. The 1,000-foot buffer area will also keep any dust from migrating off site. If necessary, the landfill's large-capacity water system can be used to eliminate any dust problems. The County uses a pressurized 4,000-gallon water truck capable of delivering a 60-foot-wide spray of water for dust control on unpaved roads.

## 11.5 FIRE PROTECTION AND FIRE FIGHTING FACILITIES

The HCSWMC is equipped with multiple methods of fire protection and suppression, including a 6-inch water supply pipeline capable of delivering a sustained flow of 200 gallons per minute at 40-psi pressure from a hydrant in the equipment staging area about 100 feet from the entrance to Cell I B. The County may also use the 4,000-gallon water trucks equipped with water cannons for fire suppression. An 8-inch-diameter dry hydrant (drafting hydrant) will provide fire suppression next to the north bank of the west borrow pit, less than 300 feet from the future waste tire stockpile area. The hydrant meets the County Fire Marshal's requirement of providing a minimum sustained flow of 1,000 gallons per minute for 3 hours to fight a tire pile fire. A second drafting hydrant has been installed in the west bank of the west firing range pond about 200 feet north of the gas blower and flare facility. The facility is also equipped with two landfill

compactors and three bulldozers with enclosed cabs and large trash blades that can be used to dig out and smother a landfill fire.

If a landfill fire occurs during the day, the Landfill Operations Manager or his designee will call 911 to report the fire and solicit the support of the Lorida Volunteer Fire Department and backup firefighting resources from the Sebring Volunteer Fire Department as required. When the landfill is closed, area residents or motorists on Arbuckle Creek Road may report the fire to 911. The County Department of Emergency Management Services monitors all calls and will notify the HCDSWM Director and Landfill Operations Manager at home of the report of a fire. The HCDSWM Director and Landfill Operations Manager will immediately report to the landfill to direct fire-fighting operations and will summon landfill operations staff as required to help contain and extinguish any refuse fire in the landfill disposal cells.

Any fire in the landfill waste will be initially hosed down to suppress the flames and reduce the rate of the lateral spread of the burn area. Then the landfill heavy equipment will rapidly excavate the burning or smoldering waste and shove it away from the burn area onto an adjacent area of the landfill that is sealed with a layer of intermediate cover soil. As the burning or smoldering waste is spread out in a thin layer on the surface of the intermediate cover, it will be hosed down and track-rolled to extinguish the fire. The waste will then be turned over with the heavy equipment so it can be hosed down and track-rolled a second time. Waste in the burn area showing evidence of having been charred by the fire will be excavated from the burn area and hosed down.

Charred or burning waste excavated from the landfill will be isolated from the landfill by a physical firebreak. This waste will be allowed to cool down for a minimum of 12 hours to make sure that the fire is entirely extinguished before the waste is pushed back into the landfill, compacted, and covered.

The Lorida Volunteer Fire Department would respond to any structural fires that occur at the landfill site. This Fire Department has a standing "Automatic Aid" agreement with 13 other fire departments, if needed.

## 11.6 LITTER CONTROL DEVICES

As a part of the daily operation of the landfill, the landfill operator inspects the lands around the landfill and any litter is picked up before it can be blown over into the buffer area. The property fence line is inspected regularly to make sure that no debris from the landfill accumulates at the fence.

## 11.7 SIGNS

At the entrance to the landfill, signs are posted indicating the operating authority as the Board of County Commissioners; traffic directions and speed limit; disposal areas; hours of operation (7:30 AM to 5:00 PM, Monday through Saturday); and tip fees and disposal restrictions for hazardous waste, biohazardous waste, containers with liquids, and construction and demolition debris. Signs also indicate the route to the Ag Plastic Landfill.

# 12 ACCESS ROADS (62.701.500(12), FAC)

## 12.1 ALL-WEATHER ROAD

The access road to the landfill is asphalt pavement. This road's drainage is part of the original design. The paved road will be maintained with standard road maintenance equipment and resurfaced as required to maintain a good all-weather access road.

## 12.2 PERIMETER AND OTHER ONSITE ROADS

Internal roads will be inspected periodically and repaired in a timely manner.

# 13 RECORDKEEPING (62.701.500(13), FAC)

## 13.1 PERMIT APPLICATION DOCUMENTATION

Records of all information used to develop or support the permit applications and any supplemental information submitted to comply with Chapter 62-701, FAC pertaining to construction of the facility will be kept throughout the life of the facility. Records pertaining to the operation of the landfill will be kept for the life of the facility.

## 13.2 MONITORING INFORMATION

Records of all monitoring, including maintenance records and copies of all reports required by permit, will be retained for at least 10 years. Background water quality records will be kept for the life of the facility.

## 13.3 REMAINING LIFE AND CAPACITY ESTIMATE

An annual estimate will be made to determine the remaining capacity and design life at the existing constructed HCSWMC landfills. Annual estimates will be based on a design capacity and surveyed elevations. The estimate will be made and reported annually to FDEP as part of the annual update to the closure and long-term care cost estimates.

## 13.4 ARCHIVING AND RETRIEVING RECORDS

All records pertaining to the operation of the facility will be retained throughout the design life of the landfill. All monitoring records and calibration and maintenance records and reports required by the landfill operation permit will be retained for at least 10 years.