



2002 N. Lois Avenue, Suite 200
Tampa, FL 33607
tel: 813 281 2900

December 27, 2018

Philip J. Ciaravella, FDEP Permitting and Compliance
Assistance Program
2600 Blair Stone Road, MS 4565
Tallahassee, FL 32399

Subject: Southeast County Landfill, Hillsborough County, Florida
Waste Tire Processing Facility Permit Modification (Intermediate)
Permit No.: 126787-005-WT-02

Dear Mr. Ciaravella:

On behalf of Hillsborough County (County), CDM Smith is submitting this application for a modification of their existing Waste Tire Processing Facility (WTPF) permit. The existing waste tire storage pads are being shifted to the west to allow for the existing storage pads to be repurposed for use in the County's proposed Southeast County Landfill Biosolids Composting Facility. County no longer operates a shredder at this WTPF.

Since the new storage pads are moving to a site immediately adjacent (west) to the currently permitted WTPF, all previously submitted information in support of the existing facility related to the existing WTPF design, operation, closure and financial proof would still be applicable.

A copy of signed and sealed site plan, Sheet No. C-2, showing both the existing storage pads (on the east) and the proposed storage pads (3, 10,000 sq. ft. each) to the west, is attached. A copy of signed and sealed calculations for the supporting tire storage capacity is also attached.

As discussed with you, the proposed WTPF location continues to be within the existing Southeast Landfill site which is under controlled access, hence, no additional fence/gate is required.

Also, as discussed with you, this permit modification is considered "intermediate" and a check in the amount of \$625.00 (processing fee) is included in this application package.

Please let me know if you have any additional questions.

Sincerely,

Vipin Pangasa, P.E., BCEE
Principal Engineer
CDM Smith Inc.

cc: File





Florida Department of Environmental Protection

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

DEP Form #62-701.900(23)
Form Title: Waste Tire Processing
Facility Permit Application
Effective Date: January 6, 2010
Incorporated in Rule 62-711.530(6)

Waste Tire Processing Facility Permit Application

Permit No. 126787-005-WT/02

Renewal Modification Existing unpermitted facility Proposed new facility

Part I-General Information:

A. Applicant Information:

1. Applicant Name: Hillsborough County Public Works Department, Solid Waste Management Division

2. Applicant Street Address: 332 North Falkenburg Road

3. City: _____ County: Hillsborough Zip: 33619

4. Applicant Mailing Address: PO Box 1110

5. City: Tampa County: Hillsborough Zip: 33601

6. Contact person: Kimberly A. Byer Phone: (813) 612-7718 FEID No: _____

7. Have any enforcement actions been taken by the Department against the applicant relating to the operation of any solid waste management facility in this state? This includes any Complaint, Notice of Violation, or revocation of a permit or registration, as well as any Consent Order in which a violation of Department rules is admitted. It does not include a Warning Letter, Warning Notice, Notice of Noncompliance, or other similar document which does not constitute agency action.

Yes No If yes, attach a history and description of the enforcement actions.

B. Facility Information:

1. Facility Name: Waste Tire Processing Storage Facility

2. Facility Street Address (Main Entrance): 15960 CR 672

3. City: Lithia County: Hillsborough Zip: 33547

4. Facility Mailing Address: PO Box 1110

5. City: Tampa State: Florida Zip: 33601

6. Contact Person: Larry Ruiz Phone: (813) 671-7707

7. Facility Location Coordinates:

Section: 14 Township: 31S Range: 21E, 22E

Latitude: 27-46.43.7 Longitude: 82-10-47.1

8. Anticipated date for starting construction Feb. 2019 and for completion of construction Mar. 2019

9. Anticipated date for receipt of tires N/A and for start of processing Existing

Mail completed form to
appropriate district office listed below

Northwest District
160 Government Center
Pensacola, FL 32501-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. 200 B
Jacksonville, FL 32256-7590
904-807-3300

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

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

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33902-2549
239-332-6975

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

C. Land Owner Information (if different from applicant):

1. Owner's name: N/A
2. Land owner's mailing address: N/A
3. City: N/A State: N/A Zip: N/A
4. Authorized Agent: N/A Agent's phone (N/A)
5. Current lease expires: N/A

D. Facility Operator Information (if different from applicant):

1. Operator's name: N/A
2. Operator's mailing address: N/A
3. City: N/A State: N/A Zip: N/A
4. Contact person: N/A Phone: (N/A)

E. Preparer of Application:

1. Name of person preparing application: Vipin Pangasa, P.E. (CDM Smith)
2. Mailing address: 2002 N. Lois Avenue, Suite 200
3. City: Tampa State: Florida Zip: 33607
4. Phone: (813) 281-2900
5. Affiliation with facility: Authorized Agent/Consultant

Part II-Operations:

A. Facility type (check appropriate box):

- Waste tire processing facility.
- Waste tire processing facility with on -site disposal of processed tires or processing residuals.
- Waste tire processing facility with on -site consumption of waste tires or processing residuals.
- Permitted solid waste management facility modification to allow wa ste tire site and processing.

B. Type of processing facility (check as many as apply):

- Shredder Cutter Chopper Incinerator only Incinerator with energy recovery
- Pyrolysis Supplemental fuel user Other, explain Storage

C. Storage: Indicate the maximum quantities of whole waste tires, processed waste tires, and processing residuals, expressed in tons, to be stored at the facility, in accordance with Rule 62-711.530(2), F.A.C.

	Outdoor Storage(tons)	Outdoor Storage (sq.ft)	Indoor Storage (tons)	Indoor Storage (sq.ft)	Total Storage (tons)
Whole waste tires:	<u>1,560</u>	<u>30,000</u>	<u></u>	<u></u>	<u>1,560</u>
Processed tires:	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>
Processing residuals:	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>
TOTALS:	<u>1,560</u>	<u>30,000</u>	<u></u>	<u></u>	<u>1,560</u>

- D. For reporting quantity of tires in tons, tires will be: weighed on site weighed off site
 weights will be calculated
- E. Facilities that will not be disposing of processed tires or processing residual on the facility site must indicate the permitted solid waste management facility where processed tires or residuals will be disposed.
1. Name of facility N/A
2. Street address: N/A
3. City: N/A County: N/A Zip: N/A
- F. Facilities that will be delivering processed tires to consuming facilities must describe the existing or proposed markets for those processed tires.
- N/A
-
-
-

Part III-Attachments:

A. Facility design

NOTE: All maps, plan sheets, drawings, isometrics, cross sections, or aerial photographs shall be legible; be signed and sealed by a registered professional engineer responsible for their preparation; be of appropriate scale to show clearly all required details; be numbered, referenced to narrative, titled, have a legend of symbols used, contain horizontal and vertical scales (where applicable), and specify drafting or origination dates; and use uniform scales as much as possible, contain a north arrow and use NGVD for all elevations.

1. A topographic or section map of the facility, including the surrounding area for one mile, no more than one year old, showing land use and zoning within one mile of the facility
2. A plot plan of the facility on a scale of not less than one inch equals 200 feet. At a minimum, the plot plan shall include
 - a. The facility design, including the location and size of all storage and processing areas for used tires, unprocessed waste tires, processed waste tires, and waste tire processing residuals;
 - b. All wetlands and water bodies within the facility or within 200 feet of any storage area;
 - c. Stormwater control measures, including ditches, dikes, and other structures;
 - d. Boundaries of the facility, legal boundaries of the land containing the facility, and any easements or rights of way that are within the facility or within 200 feet of any storage area;
 - e. Location, size, and depth of all wells within the facility or within 200 feet of any storage area;
 - f. All structures and buildings that are, or will be, constructed at the facility; include those used in storage and processing operations;
 - g. All areas used for loading and unloading;
 - h. All access roads and internal roads, including firelanes;
 - i. Location of all fences, gates, and other access control measures; and
 - j. Location of all disposal areas within the facility.

B. Facility operation.

1. A description of the facility's operation, process and products including how waste tires will be received and stored.
2. A description of the equipment used for processing tires. This description shall include the make, model, and hourly capacity of each piece of equipment.
3. Description of the waste from the process, the amount of waste expected and how and where this waste will be disposed of.
4. Statement of the maximum daily throughput and the planned daily and annual throughput.
5. A description of how the operator will maintain compliance with each of the storage requirements of Rule 62 - 711.540, F.A.C.
6. A copy of the emergency preparedness manual for the facility with a statement of the on site and off site locations where that manual will be maintained.
7. A copy of the fire safety survey
8. A description of how 75% of the annual accumulation of waste tires will be removed for disposal or recycling.

C. Completed closing plan for the facility as required by Rule 62-711.700(2) and (3), F.A.C.

- D. Attach proof of financial responsibility as requirement by Rule 62 -711.500(3) OR a calculation showing that financial assurance documents, currently on file with the Department, are sufficient to assure closing of the waste tire site as well as any other solid waste management facility at that location.
- E. A letter from the land owner (if different from applicant) authorizing use of the land as a waste tire processing facility.
- F. If waste tires will be consumed or disposed of at the facility, attach a description of the other environmental permits that the applicant has for this use, including, permit number, date of issue, and name of issuing agency
- G. The permit fee as required in Rule 62-4, F.A.C.

Part IV-Certification:

A. Applicant:

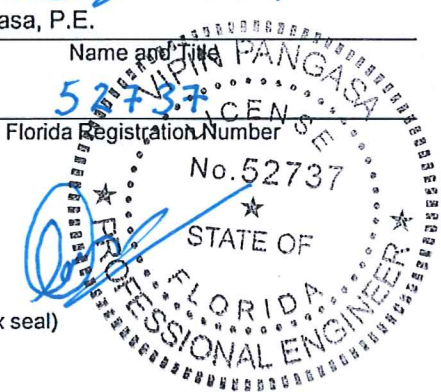
The undersigned applicant or authorized representative of Hillsborough Cnty Solid Waste Mgmt. Div.
 Is aware that statements made in this form and attached information are an application for a
modification of a Permit from the Florida Department of Environmental Protection and certifies that
 The information in this application is true, correct and complete to the best of his 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 Department will be notified prior to the sale or legal transfer
 of the facility.

Kimberly A. Byer Signature of Applicant or Authorized Agent
Kimberly A. Byer, Director Name and Title
12/21/18 Date

B. Professional Engineer registered in Florida.

This is to certify that the engineering features of this waste tire processing facility have been
 Designed/examined by me and found to conform to engineering principals 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 for proper maintenance and operation of the facility.

Vipin Pangasa Signature
12/21/18 Date
Vipin Pangasa, P.E. Name and Title
CDM Smith, 2002 N. Lois Avenue, Suite 200 Mailing Address
Tampa, FL 33607 City, State, Zip
813 -281-2900 Telephone number
12/21/18 Date



(please affix seal)

Enforcement Action History Hillsborough County Solid Waste Operations

FACILITY	ACTION	STATUS
Southeast County Landfill (SCLF)	FDEP Warning Letter Regarding Turbidity and Consent Agreement issued #WL02-2223SW29SWD 12/9/02	County responded 2/3/03. Measures implemented to reduce turbidity under evaluation for six months.
	FDEP SFCO #10-3622	Closed
	FDEP WL #10 005-SW29SWD	Closed
	FDEP SFCO #09-3117	Closed
	FDEP Consent Order No. 96-1649 for head over liner 8/5/1996	Leachate Management Plan Developed-Closed
	OGC-CO #09-3117	Closed 12/3/09
	Consent Agreement, OGC # 17-0058	Open – July 28, 2017
Hillsborough Heights/Taylor Road Landfills	EPA Consent Decree 6/15/83	Replaced with ROD and Consent Decree No. 98-239-CIV-T-25F
	EPC SFCO No. 09-3366DW	Closed
Northwest Landfill	DEP Consent Order No. 89-0108	Replaced with Water Quality Monitoring Permit No SF29-288170
	#WL92-0011SW29SWD	Closed
	FDEP – CO #08-2838	Open
Falkenburg Yard and WW	#WL92-0010SW29SWD	Closed
	#WL93-0006SW29SWD	Closed
	EPC WN#15372	Closed

FACILITY	ACTION	STATUS
Northwest Transfer Station	#WL93-0014SW29SWD	Closed
	#WL94-0012SW29SWD	Closed, replaced by general permit #126750-001-SO
South County Transfer Station	EPC Case #05-35153	Closed 8/12/09
Resource Recovery Facility	EPC Warning Notice #14629- Ash Residue Management - 1994	Closed
	EPC Warning Notice #14697	Closed
	EPC WL#16099 lead to CO #99-0721DML0261-Retrofit for Air Emissions	Closed
	EPC CO #03-0824AR0261 – Failure to inject carbon in MWC Unit Numbers 1 & 3	Closed
	EPC Warning Notice #2004-0506A – Failure to calibrate the opacity CEMs for EU2	Closed
Mango Clay Pit	FDEP – WL #29-8610483 – monitoring only – 10/14/1986	Closed
Sydney Mine	FDEP – CO #87-0627 – Source removal and pump and treat system in 1987 – lead to second Consent Decree – CD 801 – CV-2466-T-30TBM in 2004 for natural attenuation and continued monitoring	Open – Settlement Agreement
Gunn Highway Landfill	FDEP – CO#92-0622 – required to investigate LFG migration at property boundaries – SWMD currently monitors the site monthly	Open
Pleasant Grove Landfill	FDEP – CO #92-0683 – required contamination assessment and ground and surface water and LFG monitoring	Closed – Groundwater 8/10/2018 Closed – LFG Monitoring 10/15/15
	OGC-CO #15-0386 – Long Term Care Agreement effective 8/10/2018	Open

December 10, 2018
File No. 09215600.07

Mr. Vipin Pangasa, P.E.
CDM Smith, Inc.
2002 N. Lois Avenue, #200
Tampa, FL 33607

Subject: Waste Tire Processing Facility Permit Application
Tire Storage Capacity Calculations
Southeast County Landfill
Hillsborough County, Florida

Dear Vipin:

The attached tire storage capacity calculations have been prepared by SCS Engineers for the Hillsborough County Transportation and Utilities Services, Solid Waste Management Division waste tire processing facility permit application.

Please call us if you have any questions regarding the information contained herein, or if we can be of additional service.

Sincerely,



Kollan L. Spradlin, P.E.
Project Professional
SCS Engineers

Ken E. Guilbeault, P.G.
Project Director
SCS Engineers

KLS/KEG:kls

Attachments

Attachment 1
Tire Storage Capacity Calculations

CLIENT Southeast County Landfill (SCLF)	PROJECT Waste Tire Processing Facility	JOB NO. 09215600.07
SUBJECT Proposed Waste Tire Processing Facility Storage Capacity Calculations	BY AJO	DATE 11/28/2018
	CHECKED KLS	DATE 12/10/2018

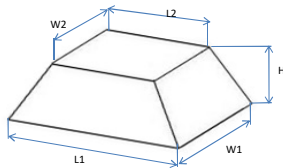
Objective:

To confirm the anticipated tire intake will comply with the maximum storage limits set forth in Rule 62-711, Florida Administrative Code (F.A.C.).

Regulations:

62-711.540 Storage Requirements. An outdoor waste tire pile shall have no greater than the following maximum dimensions (Reference 1):

1. Width: 50 ft
2. Area: 10,000 sf (0.23 ac)
3. Height: 15 ft

Volume:

$$Volume = \left(\frac{H}{3}\right) [(W1 \times L1) + (W2 \times L2) + \sqrt{(W1 \times L1) \times (W2 \times L2)}]$$

Side slope: 1.5 horizontal to 1 vertical

Calculations:

Whole Tire Storage Area (New)

Pads	1	2	3
Area (acre) ¹	0.23	0.23	0.23
Bottom (ft):			
Width W1	50.00	50.00	50.00
Length L1	200.00	200.00	200.00
Fill Height (ft)			
Height H	15.00	15.00	15.00
Top (ft):			
Width W2	5.00	5.00	5.00
Length L2	155.00	155.00	155.00
Pad Vol (ft³):			
Vol (ft ³)	67,794.41	67,794.41	67,794.41
Vol (yd ³)	2,510.90	2,510.90	2,510.90
Tires/Pad³			
Tires/Pad ³	25,109	25,109	25,109
Storage/Pad (lb)⁴			
Storage/Pad (lb) ⁴	1,114,841.42	1,114,841.42	1,114,841.42
Storage/Pad (ton)			
Storage/Pad (ton)	557.42	557.42	557.42

$$\begin{aligned} \text{Total Available Pad Volume (yd}^3\text{)} &= 7,532.71 \\ \text{Total Available Pad Storage (tons)} &= 1,672.26 \\ \text{Total Available Pad Storage Area (ft}^2\text{)} &= 30,000.00 \end{aligned}$$

Notes:

1. Refer to WTPF Site Plan and Layout Configurations for Pad Dimensions (Submitted by CDM Smith).
2. Pad Volume based on a frustum of a pyramid formula. Assume side slopes are 1.5 horizontal to 1 vertical.
3. Based on 10 tires/yd³ (Reference No. 2).
4. Storage/Pad based on a weight of 44.4 lbs per tire. Assume tires received include 25% truck and 75% passenger (Reference No.3)

Conclusion:

$$\begin{aligned} \text{Total Pad Capacity} &= 1,672.26 \text{ Tons} \\ \text{Anticipated Intake} &= 5.00 \text{ Tons per day} \\ \text{Anticipated Annual Intake} &= 1,560.00 \text{ Tons per year (6 operational days per week x 52 weeks per year)} \end{aligned}$$

Pad Capacity	>	Anticipated Annual Intake
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Regulatory Requirement (See Reference No. 1):

62-711.530 Waste Tire Processing Facility Requirements.

At least 75 percent of the whole tires, used tires, and processed tires that are delivered to or are contained on the site of the waste tire processing facility at the beginning of each calendar year shall be processed and removed for disposal or recycling from the facility during the year, or disposed of on the site at a permitted solid waste management facility. Processed tires stored for recycling or disposal shall meet the minimum size requirements specified in paragraph 62-711.400(3)(b), F.A.C., unless a demonstration is made as part of a permit application or modification that storage of a larger size will not adversely affect the environment or the public health or welfare, and that storage of a larger size is necessary for purposes of recycling or transportation. Initial cover shall not be required for stored, processed tires that are not in excess of the storage limit of the facility.

Reference No. 1
Waste Tire Permit Requirements
F.A.C. Chapter 62-711

**CHAPTER 62-711
WASTE TIRE RULE**

62-711.300	Waste Tire Permit Requirements
62-711.400	Waste Tire Prohibitions
62-711.500	Waste Tire Site Notification and Requirements
62-711.520	Waste Tire Collector Requirements
62-711.530	Waste Tire Processing Facility Requirements
62-711.540	Storage Requirements
62-711.550	Waste Tire Collection Center Requirements
62-711.700	Closing of Waste Tire Sites (Repealed)
62-711.801	General Permits

62-711.300 Waste Tire Permit Requirements.

(1) General provisions relating to solid waste management may be found in chapter 62-701, F.A.C., including statements of intent, definitions, prohibitions, general permitting requirements, alternate procedures, and forms. Except where the context indicates otherwise, these general provisions apply to this chapter.

(2) Waste tire processing facilities shall obtain a permit and shall meet the requirements for waste tire processing facilities in rule 62-711.530, F.A.C.

(3) Waste tire collection centers which are not exempt from permitting under subsection 62-711.300(9), F.A.C., shall obtain a permit and shall meet the requirements for waste tire collection centers in rule 62-711.550, F.A.C.

(4) Waste tire collectors shall register with the Department and shall meet the requirements for waste tire collectors in rule 62-711.520, F.A.C.

(5) In lieu of obtaining a separate waste tire processing facility permit or collection center permit, solid waste management facilities may submit existing permits for modification to authorize the storage and processing of waste tires if they maintain a waste tire site and process the waste tires for recycling or disposal. Conditions of certification for facilities certified before February 19, 1989, pursuant to chapter 403, part II, F.S., shall be automatically modified pursuant to the provisions of section 403.511(5)(a), F.S. No permit fee shall be required.

(6) Waste tire sites which are not an integral part of a waste tire processing facility shall be closed in compliance with rule 62-711.700, F.A.C.

(7) All permits issued under this rule, except for general permits pursuant to rule 62-711.801, F.A.C., must include an approved closing plan which meets the requirements of rule 62-711.700, F.A.C.

(8) All permit applications shall be accompanied by the appropriate permit fee, as specified in this chapter or in rule 62-4.050, F.A.C.

(9) A permit is not required under this chapter for tire storage at:

(a) A tire retreading business, unless 1,500 or more waste tires are stored on the business premises;

(b) A single facility that, in the ordinary course of business, removes tires from motor vehicles, unless 1,500 or more waste tires are stored on the business premises, or

(c) A retail tire-selling business which is serving as a waste tire collection center, unless 1,500 or more waste tires are stored on the business premises.

(10) Facilities which receive and consume processed tires for use as a fuel source or raw material shall not be required to obtain a waste tire processing facility permit for storage of this material, provided the following specifications and conditions are met:

(a) The processed tires conform to specifications for nominal one-inch chips, as specified in Table I, or conform to specifications for crumb rubber, as specified in Table II.

TABLE I Nominal 1-inch Processed Tire Chip		
Characteristic	Specification	Testing Procedure
Particle Size	≤ 10% by weight retained on a 2" square sieve	Sieve Analysis Procedure: ASTM D 422-63 (Reapproved 1990)

	≤ 5% total by weight passing through a # 4 sieve	
Wire Content	≤ 1% by weight free wire	No established procedure. Magnetically or physically separate and weigh free wire as a % of a sample weighing 15-25 pounds
	≤ 3% of the particles contain bead wire	No established procedure. Physically separate and count particles containing bead wire as a % of a sample of at least 100 particles

TABLE II Crumb Rubber		
Characteristic	Specification	Testing Procedure
Particle Size	0% by weight retained on a .05" square sieve	Sieve Analysis Procedure: ASTM D 422-63 (Reapproved 1990)
Wire Content	≤ 1% by weight free wire	No established procedure. Magnetically or physically separate and weigh free wire as a % of total sample weighing 15-25 pounds
Fabric Content	≤ 10% by weight	No established procedure. Physically separate and weigh fabric as % of a total sample weighing 15-25 pounds

(b) Storage of either nominal one-inch chips or crumb rubber shall conform to paragraphs 62-711.540(1)(b), (g) and (h), subsections (2) and (3), F.A.C., except that maximum pile height shall be limited to 10 feet.

(c) For facilities consuming nominal one-inch chips, the maximum processed tire inventory shall be limited to the following:

1. For facilities which have been in operation less than six months, one month's projected usage based on design capacity, or
2. For other facilities, two times the average actual monthly usage during the preceding six months.
3. For single project applications, the entire stockpile shall be consumed within 120 days of its initial formation.

(d) Processed tires, including those meeting the above specifications for nominal one-inch chips or crumb rubber, shall be transported only by a registered waste tire collector.

(e) Facilities which cut, shred, or otherwise alter whole waste tires, or accept processed tires for further processing, are considered waste tire processing facilities, and the processed tires produced will be considered waste tires, even if the resulting processed tire material meets the above specifications for nominal one-inch chips or crumb rubber. Facilities that receive, consume, or process whole waste tires or processed tires other than these specified types and sizes will continue to be regulated as waste tire processing facilities.

(f) Specific references to the following document is made in this rule: ASTM Method D 422-63 (Reapproved 1990), Standard Test Method for Particle-Size Analysis of Soils, Reapproved and editorial changes made September 1990. This document is adopted as a standard and is incorporated into this rule by reference. The reference document is available for inspection at any of the Department's district offices.

Rulemaking Authority 403.704, 403.717 FS. Law Implemented 403.707, 403.717 FS. History—New 2-19-89, Amended 11-7-90, 2-28-94, Formerly 17-711.300, Amended 12-17-96, 3-22-00.

62-711.400 Waste Tire Prohibitions.

(1) No person may maintain a waste tire site unless such site is an integral part of a permitted waste tire processing facility, except as provided in rule 62-711.500, F.A.C. For the purpose of this rule, "an integral part of a waste tire processing facility" means the waste tire site is on the same property as the processing facility.

(2) No person shall dispose of waste tires except at a permitted solid waste management facility which includes any facility permitted by the Department for the disposal of waste tires. Collection or storage of waste tires at a permitted waste tire processing facility or waste tire collection center prior to processing or use does not constitute disposal, provided that the collection and storage complies with rule 62-711.540, F.A.C. Collectors are advised that it has been the experience of the Department that local law enforcement officers frequently prosecute persons who illegally dispose of waste tires under section 403.413, F.S.

(3) Whole waste tires may not be disposed of in a landfill. Waste tires that have been cut into sufficiently small parts may be disposed of or used as initial cover at a permitted landfill.

(a) For use as initial cover, a sufficiently small part means that 70 percent of the waste tire material is cut into pieces of 4 square inches or less and 100 percent of the waste tire material is 32 square inches or less.

(b) For purposes of disposal, a sufficiently small part means that the tire has been cut into at least eight substantially equal pieces. Any processed tire which is disposed of in a landfill and which does not meet the size requirement of subsection (a), above, must receive initial cover, as defined in subsection 62-701.200(53), F.A.C., once every week.

(4) No person shall store waste tires unless the waste tires are:

(a) Collected and stored at a permitted waste tire collection center;

(b) Collected and stored before processing at a waste tire site which is an integral part of a permitted waste tire processing facility;

(c) Collected and stored before processing and recycling or disposal in a permitted solid waste management facility, or

(d) Collected and stored at a facility exempted under rule 62-711.300, F.A.C.

(5) No person may contract with a waste tire collector for the transportation, disposal, or processing of waste tires unless the collector is registered with the Department or exempt from registration requirements. Any person contracting with a waste tire collector for the transportation of more than 25 waste tires per month from a single business location shall maintain records for that location and make them available for review by the Department or by law enforcement officers. These records shall contain the date when the tires were transported, the quantity of tires, the registration number of the collector, and the name of the driver.

Rulemaking Authority 403.704, 403.717 FS. Law Implemented 403.717 FS. History--New 2-19-89, Amended 11-7-90, 9-8-92, 2-28-94, Formerly 17-711.400, Amended 3-22-00.

62-711.500 Waste Tire Site Notification and Requirements.

(1) The owner or operator of any waste tire site shall provide the Department with information concerning the site's size, location, and the quantity of waste tires accumulated at the site. Form 62-701.900(20) shall be used for such information, and shall include the following:

(a) Name of owner and operator;

(b) Mailing address of owner and operator, including the telephone number and county;

(c) Location, including the street address, township, range and section, latitude and longitude;

(d) Property size and the dimensions of the waste tire pile; and,

(e) Quantity of waste tires accumulated at the site.

(2) Owners or operators of waste tire sites shall meet the storage standards of rule 62-711.540, F.A.C.

(3) Owners or operators of waste tire sites shall provide closing cost estimates for the quantity of waste tires on their site or the quantity of waste tires that they are permitted to have on their site, whichever is greater. The cost estimate shall be the amount that would be expended to remove, process, and dispose of waste tires on the site and to close the site. The costs shall be based on a third party, who is not a subsidiary or parent company, performing the work, reported on a per unit basis. Quantity estimates shall be certified by a Professional Engineer. The cost estimate shall be re-estimated at least annually and submitted to the Department at least 60 days prior to the anniversary date of the instrument.

(a) Owners or operators of waste tire sites shall provide the Department with proof of financial assurance issued in favor of the State of Florida in the amount of the closing cost estimate for the facility. This proof, along with the closing cost estimate, shall be submitted to the Department as part of the permit application for the facility. Proof of financial assurance shall consist of one or more of the following financial instruments: surety bonds, including performance bonds or financial guarantee bonds; irrevocable letters of credit; insurance; and trust funds. Financial documents shall be submitted on forms provided by the Department in accordance with the requirements of paragraphs (c) and (d) of this subsection.

(b) Landfills which meet the financial assurance requirements of rule 62-701.630, F.A.C., or which are operating under a consent order that specifies how financial assurance shall be provided are not required to submit separate closing cost estimates or financial assurance documents under this rule.

(c) 40 C.F.R. PART 264 Subpart H, which contains the United States Environmental Protection Agency (EPA) rules on financial requirements for owners and operators of hazardous waste facilities, is adopted as the financial requirements for purposes of this rule and is incorporated by reference as it appears in 40 C.F.R. 264, revised as of July 1, 1988, except:

1. The following sections of 40 C.F.R. 264 Subpart H are specifically not adopted as part of this rule:
 - a. 264.140(a); 264.140(b); 264.141; 264.142; 264.143(f); 264.143(h); 264.144; 264.145; 264.146; 264.147; 264.149; 264.150; and 264.151.
 - b. All references to 40 C.F.R. Part 265.
 - c. All references to 40 C.F.R. Part 264 not contained in Subpart H.
 - d. All references to EPA Regions.
 - e. All references to RCRA, or Section 3008 of RCRA.
 - f. All references to Post-closure Care and Post-closure Cost Estimate.

2. References in 40 C.F.R. 264 Subpart H to EPA shall mean the State of Florida Department of Environmental Protection; to Regional Administrator shall mean the Secretary of the Department; to RCRA permits shall mean waste tire processing facility permits; to closure shall mean closing the waste tire site; to EPA identification number shall mean the Department identification number; to hazardous waste shall mean waste tires; and to hazardous waste treatment, storage or disposal facilities shall mean waste tire sites.

(d) Forms 62-701.900(5)(a), (b), (c), (d), (g), and (h), as adopted in rule 62-701.900, F.A.C., are incorporated by reference herein, and shall be used when submitting proof of financial assurance under this section.

(4) Any person owning or operating a waste tire site under a Consent Order with the Department which is less stringent than this rule shall modify the Consent Order to meet the requirements of this rule. The existence of such a Consent Order, unless modified, is not a defense to any enforcement action the Department may initiate for violations of this rule.

(5) Permitted solid waste management facilities which are not an integral part of a waste tire processing facility may maintain a waste tire site only if the site is used for the storage of waste tires prior to processing. If the facility has executed a bona fide contract with a waste tire processing facility or a mobile tire chopper, cutter, or shredder which assures that all waste tires on the site will be processed every three months, it is presumed that the site is used for storage prior to processing. If all waste tires are not processed every three months, the facility must demonstrate to the Department that the site is used for storage prior to processing rather than disposal.

Rulemaking Authority 403.704, 403.717 FS. Law Implemented 403.717 FS. History—New 2-19-89, Amended 2-28-94, Formerly 17-711.500, Amended 12-17-96, 3-22-00.

62-711.520 Waste Tire Collector Requirements.

- (1) The requirements of this section apply to collectors of waste tires.
- (2) Persons who use company-owned or company-leased vehicles to transport tire casings for the purposes of retreading between company-owned or company-franchised retail tire outlets and retread facilities owned or franchised by the same company are not considered waste tire collectors unless they also transport waste tires.
- (3) Any waste tire collector engaged in collecting or transporting waste tires for the purpose of storage, sale, recycling, reuse, disposal, or processing shall display on each vehicle used a current decal with the waste tire collector registration number obtained from the Department for that vehicle. The decal shall be affixed to the outside of the driver's front door of each vehicle used to transport waste tires. Common carriers displaying an Interstate Commerce Commission number may display decals on removable marking panels. The registered waste tire collector is responsible for all waste tire activities conducted through the use of his decal. Theft of a decal, as documented by a police report, will suspend this responsibility until the decal is recovered.
- (4) To obtain or renew a waste tire collector registration number and approval to transport waste tires, a collector shall submit an application on Form 62-711.900(18) to the Department. All waste tire collector registrations expire on April 1 each year, unless renewed. Renewal applications shall be submitted annually by March 1. For a new collector, the application shall be submitted at least 30 days before the collector intends to begin transporting waste tires. The application shall contain at least the following information:
 - (a) The business name of the collector, any other name the collector has used when collecting tires in the last three years, the mailing address of the collector, the street address where records are kept, the telephone number of the collector, and the Federal Employer Identification number (FEID) of the collector;
 - (b) The name and date of birth of the individual in charge of waste tire collection operations and, for a corporation, the state and date of incorporation. Non-Florida corporations shall also include the name and address of their Florida Registered Agent;
 - (c) A legible copy of the current motor vehicle registration showing the state of registration, the year, make, tag number, vehicle

identification number, and registered vehicle owner for each vehicle used for transporting waste tires, and, if the vehicle is not owned by the collector, the authorization of the vehicle owner for his vehicle to be registered for waste tire collection;

(d) The Interstate Commerce Commission number of the owner if the vehicle is to be operated as a common carrier;

(e) Where the waste tires will be collected, and where they will be delivered or deposited; and,

(f) For renewal applications, the annual report required in subsection (7), below.

(5) All vehicles operated by the same collector from a single location may be registered by a single application with separate listings for each vehicle.

(6) A waste tire collector shall record and maintain for three years the following information regarding its activities for each three month period of operation, which records shall be available for inspection by Department personnel during normal business hours:

(a) The total quantity of waste tires collected expressed in tons;

(b) Where or from whom the waste tires were collected and the quantity, in tons, collected from each;

(c) Where the waste tires were deposited and the quantity, in tons, deposited at each location. The waste tire collector shall keep receipts or other written materials documenting where all waste tires were deposited, stored or disposed of for at least three years.

(7) Waste tire collectors shall submit to the Department an annual report that summarizes the information collected under subsection (6), above. The information shall be submitted to the Department on Form 62-701.900(22), provided by the Department. This report shall be submitted to the Department annually by March 1 with the annual registration fee and renewal application as a condition of renewing and maintaining a registration.

(8) Any person who fails to comply with this rule is subject to having their waste tire collector registration denied, suspended, or revoked, as well as other penalties provided by law.

(9) When a waste tire collector registration expires or is surrendered, suspended or revoked, the applicant shall immediately remove all registration decals from all vehicles.

(10) A waste tire collector shall deposit waste tires for storage or disposal only at a permitted waste tire processing facility, a permitted or exempt waste tire collection center, a permitted solid waste management facility, or at another site permitted by the Department to receive waste tires. Waste tires which have been removed from their site of origin and are on board a motor vehicle are considered deposited if that motor vehicle has not moved over public highways in the previous seven days.

(11) An annual fee shall be submitted to the Department with the application for registration. The fee per vehicle is \$35.00. The replacement fee for a lost or destroyed registration decal is \$15.00.

(12) The Department shall, by letter, issue a restricted registration to allow a person to move waste tires from one specified location to a permitted facility within the state if necessary for the purpose of complying with an order of the Department, a court, or a local government. The original restricted registration shall be in the vehicle at any time that waste tires are being transported.

Rulemaking Authority 403.704, 403.717 FS. Law Implemented 403.717 FS. History—New 2-19-89, Amended 11-7-90, 2-28-94, Formerly 17-711.520, Amended 3-22-00.

62-711.530 Waste Tire Processing Facility Requirements.

(1) All waste tires shall be stored in accordance with the waste tire site requirements in Rule 62-711.500, F.A.C.

(2) A waste tire processing facility shall not accept any waste tires for processing if it has reached its permitted storage limit for any category of waste tires, or if the number of waste tires on the site exceeds the quantity estimate in the closing cost estimate. The maximum storage limits that will be set in a waste tire processing facility permit are:

(a) For the aggregate of whole waste tires, processed waste tires, and residuals, 60 times the daily through-put of the processing equipment being used; however, whole waste tires shall not exceed 30 times the daily through-put of the processing equipment being used; and,

(b) For used tires, 10,000 used tires stored separately from other waste tires.

(3) At least 75 percent of the whole tires, used tires, and processed tires that are delivered to or are contained on the site of the waste tire processing facility at the beginning of each calendar year shall be processed and removed for disposal or recycling from the facility during the year, or disposed of on the site at a permitted solid waste management facility. Processed tires stored for recycling or disposal shall meet the minimum size requirements specified in paragraph 62-711.400(3)(b), F.A.C., unless a demonstration is made as part of a permit application or modification that storage of a larger size will not adversely affect the environment or the public health or welfare, and that storage of a larger size is necessary for purposes of recycling or transportation.

Initial cover shall not be required for stored, processed tires that are not in excess of the storage limit of the facility.

(4) The owner or operator of a waste tire processing facility shall record and maintain for three years the following information regarding their activities, which records shall be available for inspection by Department personnel during normal business hours:

(a) For all waste tires shipped from the facility, the name and waste tire collector registration number of the waste tire collector who accepted the waste tires for transport, and the quantity of waste tires shipped with that collector; and if the waste tires were shipped with a person who is not a waste tire collector, the number of tires shipped, the person's name, address and telephone number; and the place where the waste tires were deposited;

(b) For all waste tires received at the facility, the name and waste tire collector registration number of the collector who delivered the waste tires to the facility, and the quantity of waste tires received from that collector; and if more than five waste tires were delivered by a person who is not a waste tire collector, the number of tires delivered and the person's name, address and telephone number; and,

(c) For all waste tires removed for recapping, the quantity and type removed, and the name and location of the recapping facility receiving the tires.

(5) Owners and operators of waste tire processing facilities shall submit quarterly reports to the Department that summarize the information collected under subsection (4), above. These reports shall be submitted by the 20th of the month following the close of each calendar quarter. The report shall be submitted to the Department on Form 62-701.900(21). In addition to the information required in subsection (4), above, the following information shall be included:

- (a) The facility name, address and permit number;
- (b) The quarter covered by the report;
- (c) The total quantity, by category, of waste tires received at the facility during the quarter covered by the report;
- (d) The total quantity, by category, of waste tires shipped from the facility during the quarter covered by the report;
- (e) The total quantity of waste tires processed during the quarter;
- (f) The total quantity, by category, of waste tires located at the facility on the last day of the quarter; and,
- (g) A list of all dates on which one or more category of waste tires exceeded the storage limit, which category was in excess, and how this condition was relieved or will be relieved.

(6) Applications for processing facility permits shall be submitted to the Department on Form 62-701.900(23).

(7) Processing facilities that will process less than 1,500 tires during any 30 days and store less than 1,500 waste tires on any day may be permitted as "Small processing facilities." The owner or operator of such a facility shall submit a permit application to the Department on Form 62-701.900(24). The application fee for a "Small processing facility" is \$500.00. A small processing facility is subject to the same requirements as a waste tire processing facility, but is exempt from the specific requirements of subsections 62-711.530(1), (2) and (6), and paragraph 62-711.540(3)(e), F.A.C.

Rulemaking Authority 403.704, 403.717 FS. Law Implemented 403.087, 403.717 FS. History—New 2-19-89, Amended 11-7-90, 2-28-94, Formerly 17-711.530, Amended 3-22-00.

62-711.540 Storage Requirements.

(1) All waste tire sites, collection centers, processing facilities, and disposal facilities which store waste tires shall comply with the following technical and operational standards:

(a) If the site receives waste tires from the public, a sign shall be posted at the entrance of the site stating operating hours, cost of disposal and site rules.

(b) No operations involving the use of open flames shall be conducted within 25 feet of a waste tire pile.

(c) An attendant shall be present when the site is open for business if the site receives waste tires from the public.

(d) Fire protection services for the site shall be assured through notification to local fire protection authorities. A fire safety survey shall be conducted at least annually and the survey report shall be made part of the next quarterly report.

(e) The operator of the site shall prepare and keep at the site an emergency preparedness manual. A copy of the current manual shall be kept at an off-site location designated by the operator. The manual shall be updated at least once a year and upon changes in operations at the site. The manual shall contain the following elements:

1. A list of names and numbers of persons to be contacted in the event of a fire, flood, or other emergency,
2. A list of the emergency response equipment at the site, its location, and how it should be used in the event of a fire or other emergency; and,

3. A description of the procedures that should be followed in the event of a fire, including procedures to contain and dispose of the oily material generated by the combustion of large numbers of waste tires.

(f) The operator of the site shall immediately notify the Department in the event of a fire or other emergency which poses an unanticipated threat to the public health or the environment. Within two weeks of any emergency, the operator of the site shall submit to the Department a written report on the emergency. This report shall describe the origins of the emergency, the actions that were taken to deal with the emergency, the results of the actions that were taken, and an analysis of the success or failure of the actions.

(g) The operator of the site shall maintain records of the quantity of waste tires received at the site, stored at the site, and shipped from the site.

(h) If the operator of the site is not the owner of the property, the operator shall obtain written authorization to operate the facility from the owner of the property.

(i) Communication equipment shall be maintained at the waste tire site to assure that the site operator can contact local fire protection authorities in case of a fire.

(j) The owner or operator shall provide for control of mosquitoes and rodents so as to protect the public health and welfare.

(k) An approach and access road to the waste tire site shall be kept passable for any motor vehicle at all times.

(2) All waste tire sites, collection centers, processing facilities, and disposal facilities which store waste tires indoors must comply with the following additional technical and operational standards:

(a) Tire piles may not be more than 50 feet in width, except that piles along a wall shall not be more than 25 feet in width.

(b) The width of main aisles between tire piles shall be not less than eight feet.

(c) The clearance from the top of storage to sprinkler deflectors or roof structures shall not be less than three feet.

(d) The clearance in any direction from unit heaters, radiant space heaters, duct furnaces, and flues shall not be less than three feet.

(e) When waste tires are stored up to 15 feet high, walls between adjacent warehouse areas and between manufacturing and warehouse areas shall have not less than a four-hour fire rating.

(f) When waste tires are stored over 15 feet high, walls between manufacturing and warehouse areas shall have a fire rating of not less than six hours and steel columns shall have one hour fireproofing. If the top of storage exceeds 20 feet in height, two-hour fireproofing shall be provided for the column and its connections with other structural members.

(g) An automatic sprinkler system installed in compliance with "The Standard for Storage of Rubber Tires," NFPA 231D, published by the National Fire Protection Association, Battery March Park, Quincy, Massachusetts, incorporated herein by reference, may be substituted for fire walls and column fireproofing.

(h) At any time when an attendant is not present, access to the site shall be controlled through the use of doors, fences, gates, natural barriers, or other means.

(3) All waste tire sites, collection centers and any processing or disposal facilities which store waste tires outdoors must comply with the following additional technical and operational standards:

(a) A waste tire site shall not be constructed, maintained or operated in or within 200 feet of any natural or artificial body of water, including wetlands within the jurisdiction of the Department, except bodies of water contained completely within the property boundaries of the facility which do not ordinarily discharge from the site to surface waters. A person may maintain a waste tire site within the 200-foot setback area upon demonstration to the Department, as part of a permit application or modification, that permanent control methods for residuals will result in compliance with water quality standards in chapters 62-302 and 62-520, F.A.C. Stormwater control methods shall meet stormwater requirements of chapters 62-25 and 62-330, F.A.C., as applicable. The site shall be managed in such a way as to divert stormwater or floodwaters around and away from the storage piles. This section shall not apply to artificial reefs constructed pursuant to Department permit.

(b) An outdoor waste tire pile shall have no greater than the following maximum dimensions:

1. Width: 50 feet,

2. Area: 10,000 square feet; and,

3. Height: 15 feet.

(c) A 50-foot wide fire lane shall be placed around the perimeter of each outdoor waste tire pile. Access to the fire lane for emergency vehicles must be unobstructed at all times.

(d) Access to the site shall be controlled through the use of fences, gates, natural barriers or other means.

(e) The site shall be bermed or given other adequate protection if necessary to keep liquid runoff from a potential waste tire fire from entering water bodies.

(f) The waste tire site shall be kept free of grass, underbrush, and other potentially flammable vegetation at all times.

(4) For all waste tire sites, collection centers, processing facilities, and disposal facilities which store processed waste tires, the temperature of any above-ground piles of compacted, processed tires over ten feet high shall be monitored and may not exceed 300 degrees Fahrenheit. Temperature control measures shall be instituted so that pile temperatures do not exceed 300 degrees Fahrenheit. Temperature monitoring and controls are not required for processed tires disposed of in permitted landfills.

(5) Any residuals from waste tire processing must be managed so as to be contained onsite, and must be controlled and disposed of in a permitted solid waste management facility or properly recycled.

(6) The Department shall approve exceptions requested by an applicant as part of a waste tire processing facility permit application or modification to the preceding technical and operational standards if:

(a) No waste tires are stored on that site for more than one month; and,

(b) The Department, after consultation with the local fire authority, is satisfied that the site owner or operator has sufficient fire suppression equipment or materials on site to extinguish any potential waste tire fire within an acceptable length of time.

Rulemaking Authority 403.704, 403.717 FS. Law Implemented 403.717 FS. History—New 2-19-89, Amended 11-7-90, 2-28-94, Formerly 17-711.540, Amended 3-22-00.

62-711.550 Waste Tire Collection Center Requirements.

(1) The owner or operator of a waste tire collection center shall meet the following requirements:

(a) Store no more than 1,500 waste tires at the collection center at any one time;

(b) At least once a year, remove all waste tires which are not used tires from the site for recycling, processing, or disposal; and

(c) Comply with the storage requirements in rule 62-711.540, F.A.C.

(2) Applications for collection center permits shall be submitted to the Department on Form 62-701.900(25). The application shall contain the following information:

(a) the name, address, FEID number, and telephone number of the owner and operator of the facility, and the name, address, and telephone number of the facility;

(b) A description of the general operation of the facility including quantities of waste tires received per month;

(c) A description of arrangements made to acquire fire protection services for the facility;

(d) The township, range, and section numbers and latitude and longitude of the facility; and,

(e) A description of how and where the waste tires will be disposed of.

(3) The permit for a collection center shall be valid for five years, unless revoked, suspended, or surrendered.

(4) The application fee for a collection center permit is \$500.00.

Rulemaking Authority 403.704, 403.717 FS. Law Implemented 403.717 FS. History—New 2-28-94, Formerly 17-711.550, Amended 3-22-00.

62-711.700 Closing of Waste Tire Sites.

Rulemaking Authority 403.704, 403.717 FS. Law Implemented 403.717 FS. History—New 2-19-89, Amended 11-7-90, 2-28-94, Formerly 17-711.700, Amended 3-22-00, Repealed 2-16-12.

62-711.801 General Permits.

(1) A person operating mobile waste tire processing equipment shall operate pursuant to a general permit for each processing unit and shall meet the applicable general permit requirements in rules 62-4.510 through 62-4.540, F.A.C., and comply with the following conditions:

(a) The processing equipment shall be located at:

1. A waste tire site that is at a permitted solid waste management facility or waste tire processing facility,

2. A waste tire site or waste tire collection center or any other site where waste tires are stored that is not accepting waste tires,

or

3. A waste tire collection center that is accepting waste tires if the mobile processing equipment has not operated at that site for more than three of the preceding 30 days,

(b) If the processing equipment is located at a waste tire site, the owner or operator of the waste tire site shall notify the Department as required by rule 62-711.500, F.A.C.; and,

(c) All processed tires and residuals shall be removed from the site for recycling or further processing, or shall be disposed of in a permitted solid waste management facility within 30 days after the completion of the chopping, cutting, or shredding operation.

(2) To obtain a general permit the owners and operators of the mobile equipment shall notify the Department on Form 62-701.900(19). The notification shall be submitted at least 30 days before the operation begins or the existing general permit expires. The notification shall contain the following information:

(a) The name, address, FEID number, and telephone number of the owner and operator of the mobile equipment; and,

(b) A description of the general operation of the equipment, including make, model, serial number, nameplate capacity, input size limitations, and product capabilities; and,

(c) A description of how and where the waste tires will be disposed of.

(3) Owners or operators of mobile processing equipment shall report to the Department every three months, describing each site at which the mobile equipment has operated. The owner or operator shall use Form Number 62-701.900(19) for such reports.

(4) The general permit for a mobile waste tire processing equipment shall be valid for one year. A general permit may be renewed by submission of the notification required in subsection (2), above.

(5) If mobile waste tire processing equipment operates at any site for more than 120 consecutive days, that site shall be considered a waste tire processing facility and shall require a permit pursuant to rule 62-711.530, F.A.C.

Rulemaking Authority 403.704, 403.717, 403.814 FS. Law Implemented 403.717, 403.814 FS. History—New 2-19-89, Amended 2-28-94, Formerly 17-711.801, Amended 3-22-00.

Reference No. 2
Tire Unit Volume

[Home](#) » [Tire Management](#) » [Waste Tire Enforcement](#) » [Inspections](#) » [Determining the Number of Tires](#)

Determining the Number of Tires

If you cannot determine the number of waste tires present using a direct count alone, the resources on this page will help you to determine the approximate number of tires at a site using volumetric estimation. Numbers of whole waste tires are estimated by volume (in cubic yards). Numbers of altered tires (in passenger tire equivalents) can be estimated by volume or by weight. When using waste tire volumes or weight to estimate the number of waste tires present, inspectors must **deduct 20% from every estimate to yield a conservative estimate with an adequate margin of error**. Before determining the number of waste tires, make sure you understand the [definitions of waste and other tires](#). For inspection purposes, only waste tires are counted toward total number of tires allowed.

- [Estimating Volume of Tire Piles](#)
- [Converting Cubic Feet to Cubic Yards](#)
- [Converting Cubic Yards to Number of Tires](#)
- [Converting Pounds to Passenger Tire Equivalents \(PTE\)](#)
- [Passenger Tire Equivalents Guide](#)

Estimating Volumes of Tire Piles

Use the [Waste Tire Math Reference](#) to estimate volumes of various shapes of waste tire piles you encounter in the field. Depending on the waste tire pile configurations you find, you may need to:

- Break up the pile(s) into separate volume shapes.
- Calculate the volume for each volume shape using the appropriate formula based on their shape.
- Combine the individual volumes for the total pile volume estimate.

Converting Cubic Feet to Cubic Yards

Once you have calculated the volume of the tire pile(s) in cubic feet, you need to convert the volume to cubic yards as follows:

$$\text{Volume (in cubic feet)} \div 27 = \text{Volume (in cubic yards)}$$

Converting Cubic Yards to Number of Tires

Once you have determined the volume of the waste tire pile(s) in cubic yards, multiply the cubic yards by the appropriate conversion factor as listed in the tables below for whole or altered tires. To use this table you will need to know the height of the tire pile, how the waste tires are stored, and approximately how long the waste tires have been stored.

Whole Passenger/Light Truck Tires

Storage Type	Height of Tire Pile		
	(<10 feet)	(10-15 feet)	(>15 feet)
(Stored less than 15 years)			
Loose	10 tires/cy	12 tires/cy	14 tires/cy
Barrel	12 tires/cy	14 tires/cy	16 tires/cy
Laced	14 tires/cy	16 tires/cy	18 tires/cy
(Stored 15 years or more)			
Loose	12 tires/cy	14 tires/cy	16 tires/cy
Barrel	14 tires/cy	16 tires/cy	18 tires/cy
Laced	16 tires/cy	18 tires/cy	20 tires/cy

$$(75\% \times 12 \text{ tires/cy} + 25\% \times 2.75 \text{ tires/cy} = \text{aprox. } 10 \text{ tires/cy})$$

Whole Semi-Truck Tires

Storage Type	Height of Tire Pile		
	(<10 feet)	(10-15 feet)	(>15 feet)
(Stored less than 15 years)			
Loose	2.5 tires/cy	2.75 tires/cy	3.0 tires/cy
Barrel	4.2 tires/cy	4.4 tires/cy	4.6 tires/cy

Laced	4.1 tires/cy	4.3 tires/cy	4.5 tires/cy
(Stored 15 years or more)			
Loose	3.0 tires/cy	3.5 tires/cy	4.0 tires/cy
Barrel	4.4 tires/cy	4.6 tires/cy	4.8 tires/cy
Laced	4.3 tires/cy	4.5 tires/cy	4.7 tires/cy

Altered Tires

Type	Tires/CY	Description
Sidewalls or treads	20 tires/cy	The photo below shows cut out sidewalls and treads.
Primary shreds	20 tires/cy	Tires that have been run through a shredder one time.
Shreds 2 inches or smaller	40 tires/cy	Tires that have been run through a shredder more than once to create pieces two inches or smaller.
Crumb rubber (less than ¼ inch in size)	NA	Not regulated by the California Department of Resources Recycling and Recovery.

Converting Pounds to Passenger Tire Equivalents (PTE)

If you know the weight of altered tires, you can convert directly to a number of passenger tire equivalents (PTE).

The California Code of Regulations, 14 CCR Section 17225.770 defines a "passenger tire equivalent" (PTE) as the total weight of altered waste tires, in pounds, divided by 20 pounds. 1 PTE = 1 Waste Tire. Total Known Weight (pounds) ÷ 20 pounds = PTE.

Passenger Tire Equivalents Guide

20 lbs = 1 PTE

1 whole tire = 2 sidewalls and 1 tread (regardless of tire size)

1 tread = 2 sidewalls (regardless of tire size)

1 sidewall = 25% of the weight of a tire (regardless of tire size)

4 passenger tire sidewalls = 1 PTE

1 tread = 50% of the weight of a tire (regardless of tire size)

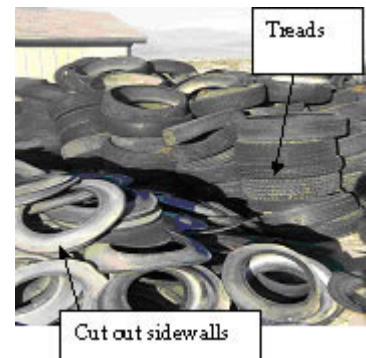
Semi-truck tires weigh 80-120 lbs. Calculate 1 semi-truck tire as 4 PTE

2 semi-truck tire sidewalls = 2 PTE

1 semi-truck tread = 2 PTE

1 motorcycle tire = 1 PTE

1 bale = 60 to 80 tires (ask the operator)



Last updated: October 17, 2018

Tire Enforcement <https://www.calrecycle.ca.gov/Tires/Enforcement/>

Northern California: [Kyle Emery](#). Central California: [Mark Umfress](#). Southern California: [Paul Saldana](#)

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Reference No. 3
Scrap Tire Characteristics

Search

Scrap Tire Characteristics

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SCRAP TIRES

- Scrap Tires and the Environment
- Scrap Tire Markets
 - Facts & Figures
 - Scrap Tire Characteristics
- Conferences and Events
- State Issues
- US-Mexico Border Issues

1. Typical Materials Composition of a Tire
2. Typical Composition by Weight
3. Densities of Shredded and Whole Tires
4. Rubber weight by tire component.
5. Steel Tire Cord Analysis

1. Typical Materials Composition of a Tire

This table lists the typical types of materials used to manufacture tires.

Typical Composition of a Tire
Synthetic Rubber
Natural Rubber
Sulfur and sulfur compounds
Silica
Phenolic resin
Oil: aromatic, naphthenic, paraffinic
Fabric: Polyester, Nylon, Etc.
Petroleum waxes
Pigments: zinc oxide, titanium dioxide, etc.
Carbon black
Fatty acids
Inert materials
Steel Wire

2. Typical Composition by Weight

This lists the major classes of materials used to manufacture tires by the percentage of the total weight of the finished tire that each material class represents.

Passenger Tire

Natural rubber	14 %
Synthetic rubber	27%
Carbon black	28%
Steel	14 - 15%
Fabric, fillers, accelerators, antiozonants, etc.	16 - 17%
Average weight:	New 25 lbs, Scrap 22.5 lbs. ←

Assume tire weight:

75% passenger tire
 75% (22.5 lbs) = 16.9 lbs

Truck Tire

Natural rubber	27 %
Synthetic rubber	14%
Carbon black	28%
Steel	14 - 15%
Fabric, fillers, accelerators, antiozonants, etc.	16 - 17%
Average weight:	New 120 lbs., Scrap 110 lbs. ←

25% truck tire

25% (110 lbs) = 27.5 lbs
44.4 lbs

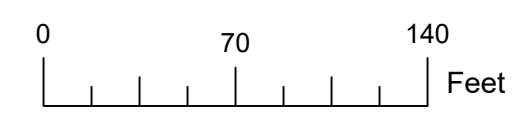
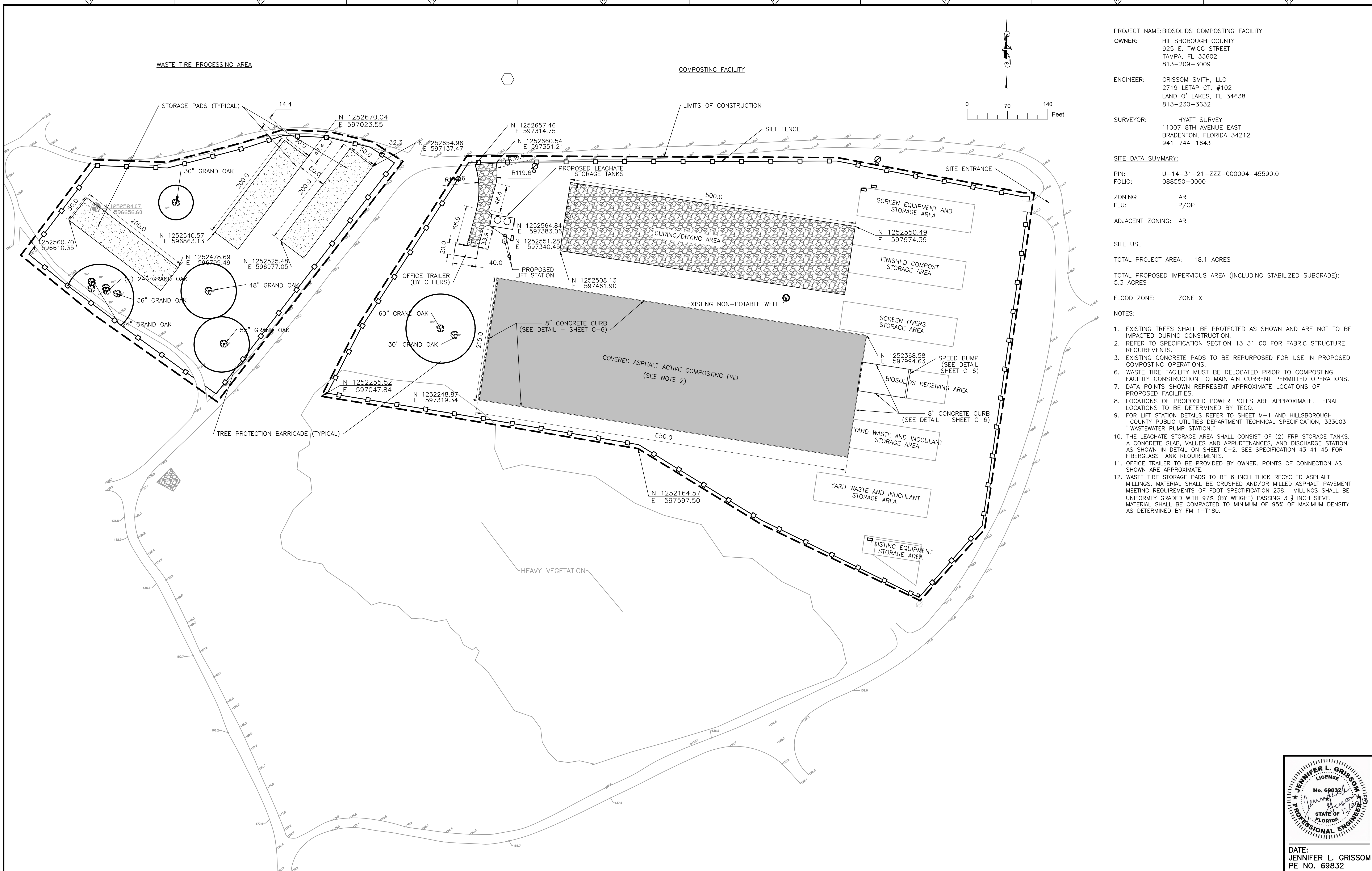
3. Densities of Shredded and Whole Tires

APPROXIMATE DENSITIES		
LOOSELY PACKED		DENSELY PACKED
550-600 lbs/yds	single pass	1220-1,300 lbs/yds
850-950 lbs/yds	2" shred	1,350-1,450 lbs/yds
1,000-1,100 lbs/yds	1 1/2" shred	1,500-1,600 lbs/yds
100/10Yds	WHOLE TIRES (PASSENGER/LIGHT TRUCK)	500/10Yds
	10 MESH- 29 lbs/ft ³	
	20 MESH- 28 lbs/ft ³	
	30 MESH- 28 lbs/ft ³	
	40 MESH- 27 lbs/ft ³	
	80 MESH- 25-26 lbs/ft ³	

4. Rubber weight by tire component.

A tire is manufactured from several separate components, such as tread, innerliner, beads, belts, etc. This table shows which components account for the rubber used to make the tire.

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PROJECT NAME: BIOSOLIDS COMPOSTING FACILITY
 OWNER: HILLSBOROUGH COUNTY
 925 E. TWIGG STREET
 TAMPA, FL 33602
 813-209-3009
 ENGINEER: GRISSOM SMITH, LLC
 2719 LETAP CT. #102
 LAND O' LAKES, FL 34638
 813-230-3632
 SURVEYOR: HYATT SURVEY
 11007 8TH AVENUE EAST
 BRADENTON, FLORIDA 34212
 941-744-1643

SITE DATA SUMMARY:
 PIN: U-14-31-21-ZZZ-000004-45590.0
 FOLIO: 088550-0000
 ZONING: AR
 FLU: P/QP
 ADJACENT ZONING: AR

SITE USE
 TOTAL PROJECT AREA: 18.1 ACRES
 TOTAL PROPOSED IMPERVIOUS AREA (INCLUDING STABILIZED SUBGRADE): 5.3 ACRES
 FLOOD ZONE: ZONE X
 NOTES:

- EXISTING TREES SHALL BE PROTECTED AS SHOWN AND ARE NOT TO BE IMPACTED DURING CONSTRUCTION.
- REFER TO SPECIFICATION SECTION 13 31 00 FOR FABRIC STRUCTURE REQUIREMENTS.
- EXISTING CONCRETE PADS TO BE REPURPOSED FOR USE IN PROPOSED COMPOSTING OPERATIONS.
- WASTE TIRE FACILITY MUST BE RELOCATED PRIOR TO COMPOSTING FACILITY CONSTRUCTION TO MAINTAIN CURRENT PERMITTED OPERATIONS.
- DATA POINTS SHOWN REPRESENT APPROXIMATE LOCATIONS OF PROPOSED FACILITIES.
- LOCATIONS OF PROPOSED POWER POLES ARE APPROXIMATE. FINAL LOCATIONS TO BE DETERMINED BY TECO.
- FOR LIFT STATION DETAILS REFER TO SHEET M-1 AND HILLSBOROUGH COUNTY PUBLIC UTILITIES DEPARTMENT TECHNICAL SPECIFICATION, 333003 "WASTEWATER PUMP STATION."
- THE LEACHATE STORAGE AREA SHALL CONSIST OF (2) FRP STORAGE TANKS, A CONCRETE SLAB, VALVES AND APPURTENANCES, AND DISCHARGE STATION AS SHOWN IN DETAIL ON SHEET G-2. SEE SPECIFICATION 43 41 45 FOR FIBERGLASS TANK REQUIREMENTS.
- OFFICE TRAILER TO BE PROVIDED BY OWNER. POINTS OF CONNECTION AS SHOWN ARE APPROXIMATE.
- WASTE TIRE STORAGE PADS TO BE 6 INCH THICK RECYCLED ASPHALT MILLINGS. MATERIAL SHALL BE CRUSHED AND/OR MILLED ASPHALT PAVEMENT MEETING REQUIREMENTS OF FDOT SPECIFICATION 238. MILLINGS SHALL BE UNIFORMLY GRADED WITH 97% (BY WEIGHT) PASSING 3 1/4 INCH SIEVE. MATERIAL SHALL BE COMPACTED TO MINIMUM OF 95% OF MAXIMUM DENSITY AS DETERMINED BY FM 1-T180.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J. GRISSOM
 DRAWN BY: N. SMITH
 SHEET CHK'D BY: V. PANGASA
 CROSS CHK'D BY: M. SMITH
 APPROVED BY: J. GRISSOM
 DATE: DECEMBER 2018

CDM Smith
 2002 N. Lois Avenue, Suite 200
 Tampa, FL 33607
 Tel: (813) 281-2900
 FL COA No. EB-0000020

GS GRISSOM SMITH
 Consulting Engineers
 2719 Letap Court, #102
 Land O Lakes, FL 34638
 Tel: (813) 230-3462
 FL COA No. 31605

HILLSBOROUGH COUNTY PUBLIC UTILITIES DEPARTMENT
 SOUTHEAST COUNTY LANDFILL
 BIOSOLIDS COMPOSTING FACILITY
 COUNTY CIP NO: 10281

SITE PLAN

JENNIFER L. GRISSOM
 LICENSE
 No. 69832
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER

DATE: JENNIFER L. GRISSOM
 PE NO. 69832

PROJECT NO. 6033-232031
 FILE NAME: C002

SHEET NO.
C-2

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTI, 2600 BLAIR STONE ROAD, TALLAHASSEE, FL 32399 US Vendor No. 69307

Invoice	Description	Date	Gross Amount	Discount	Net Amount Paid
CHKRQ 110818	PERMIT APP NEW COMPOST FACILITY V5329279	11/08/2018	\$625.00	\$0.00	\$625.00
Grand Totals			\$625.00	\$0.00	\$625.00

Detach at Perforation Before Depositing Check

THE FACE OF THIS DOCUMENT HAS A COLORED BACKGROUND ON WHITE PAPER, A VOID PANTOGRAPH AND MICROPRINTING. THE BACK OF THIS DOCUMENT HAS AN ARTIFICIAL WATERMARK - HOLD AT AN ANGLE TO VIEW.

CDM Smith

75 State Street, Suite 701
 Boston, Massachusetts 02109

Bank of America
 51-44/119

Check No. 1837388

Check Date
 11/13/2018

Check Amount
 \$ *****625.00

PAY *Six Hundred Twenty-Five AND 00/100*

TO THE ORDER OF
**FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTI
 2600 BLAIR STONE ROAD**

69307

TALLAHASSEE, FL 32399 United States

Erin A. [Signature]

⑈01837388⑈ ⑆011900445⑆ 000000019466⑈