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# Waste Acceptance Plan

## 1 EXECUTIVE SUMMARY

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*At this time Denver Zoo is not approved to accept any waste streams from external sources, other than the pre-approved landscape, woody debris waste generated by City and County of Denver Parks and Recreation Department (CCD-PR)*

*This plan was developed at the request of Colorado Department of Public Health and the Environment (CDPHE) to support a program for future waste acceptance of external sources. Until such time that Denver Zoo is approved to explore external waste partners, this plan will be updated to reflect any new information we gain regarding our fuel needs as the system progresses. In addition, before this plan is considered for implementation, Denver Zoo will submit to CDPHE and CCD-Department of Environmental Health (CCD-DEH) a proposed modification to the Engineering Design and Operation Plan (EDOP) with a request for approval to evaluate and accept a set of pre-approved external sources. This proposal will include any necessary approvals from City and County of Denver-Department of Parks and Recreation (including a revised zoning approval letter-appendix B of EDOP).*

*As of July 1, 2014- This plan is not in effect and will be labeled DRAFT until such time that we are actively considering outside waste streams for fuel.*

This document outlines Denver Zoo's waste acceptance procedure with any potential waste to energy customers that want to provide combustible waste materials for the zoo's waste to energy system. This document provides the waste acceptance criteria for combustible waste being consigned to Denver Zoo including details of the physical and packaging and transportation requirements that waste must comply with to be accepted.

This document should be read in conjunction with the Waste Acceptance Application and Waste Characterization Form, which should be completed by any customer interested in providing combustible waste materials. A process overview diagram, which provides a visual guide to the waste acceptance processes, and all other documents associated with Denver Zoo, is provided in this document as a quick reference tool.

If you need any assistance or have any questions regarding waste acceptance criteria or Denver Zoo's Waste to Energy system, please contact the Denver Zoo at 720-337-1500.



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# Waste Acceptance Plan

## 2 INTRODUCTION

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This document defines the waste acceptance criteria for utilization of combustible wastes by Denver Zoo for the generation of onsite renewable energy delivered in the form of both electrical and thermal energy to Denver Zoo's operations.

## 3 SCOPE

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The waste acceptance criteria represents the generic physical and chemical aspects that are desired for the waste to energy system. Additionally, this document will address *any procedures for the delivery and receipt of wastes at Denver Zoo*. The criteria in this plan applies to each consignment of waste to Denver Zoo.

## 4 PROCESS & WASTE ACCEPTANCE

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Customers interested in providing waste for Denver Zoo's Waste to Energy System will be asked to complete and submit a Waste Acceptance Application and Waste Characterization Form. Provided in both forms is a required generator certification statement and signature to be signed by the applicant. Due to the nature of this system and the approval process for any combustible materials to be considered fuel in the system, we appreciate that the forms be completed in their entirety.

For a waste to be accepted by Denver Zoo, it will be necessary to ensure that waste complies with the waste acceptance criteria provided below. Our waste approval process will be coordinated with review and approval from City and County of Denver-Department of Environmental Health, and Colorado Department of Public Health and Environment (CDPHE). Waste will only be accepted from customers in accordance with these Denver Zoo's waste acceptance procedures.

The criteria defined in this document do not necessarily represent the full range of acceptance criteria. Additional requirements may be defined in a formal response letter to the customer from Denver Zoo.

All customers are responsible for packaging, transportation and delivery of approved combustible wastes to Denver Zoo's Waste Management Facility located in City Park at 2300 Steele Street, Denver, CO 80205. Requirements for transportation and delivery will be provided to the approved customer in their formal response letter.



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# Waste Acceptance Plan

## 5 WASTE ACCEPTANCE CRITERIA

This section details the Waste Acceptance Criteria for Denver Zoo's Waste to Energy System.

### PHYSICAL AND CHEMICAL PROPERTIES

*Will complete specifics at a later date. Likely contain language associated with approved moisture content, BTU value, organic content, etc.*

### ACCEPTABLE SOLID COMBUSTIBLE WASTES

The following table outlines the solid materials that are generally accepted and those that are restricted for use in the Waste to Energy System:

Acceptable Solid Combustible Wastes	Provisionally Acceptable Solid Combustible Wastes	Restricted Solid Combustible Wastes
Virgin Wood	Plastics (non-halogenated)	Plastics (halogenated including PVC)
Paper		Rubber
Cardboard		Filters
Cloth-including cotton and PPE		Grease
Landscape wastes		Graphite
		Metal - including steel, lead, chromium, cadmium, mercury, beryllium, uranium metal, thorium metal, radioactive lightening conductors
		Any Glass
		Toxic materials-including mercury, PCBs, cyanides
		Biological, infectious or pathogenic materials
		Asbestos
		Concrete
		Blasting materials- including sand, grit, glass, beads, pearls
		Luminous items
		Fibreglass, mineral wool



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# Waste Acceptance Plan

## ACCEPTABLE LIQUID COMBUSTIBLE WASTES

The following table outlines the liquid materials that are generally accepted and those that are restricted for use in the Waste to Energy System:

Acceptable Liquid Combustible Wastes	Restricted Liquid Combustible Wastes
None at this time	Oils
	Synthetic fluids
	Chemical wastes including solvents
	Decontamination solutions
	Sludges
	Paint

## 6 PACKAGING AND TRANSPORT REQUIREMENTS

Waste to be consigned to Denver Zoo is best delivered to Denver Zoo with minimal packaging to support our Zero Waste efforts. If the customer cannot arrange for materials to be hauled in a dump truck, then considerations should be made as to whether the packaging meets our fuel requirements or can be reused by the customer for future deliveries. The following table outlines the packages that are generally acceptable.

Acceptable packaging	Not likely acceptable (unless recycled by customer)
Fibreboard Kegs	Metal drums
Cardboard based boxes/containers	Large plastic containers (Dolav Boxes, etc)- unless reused
<i>TBD</i>	block styrofoam
<i>TBD</i>	foam packing peanut

## MAXIMUM WEIGHT AND PACKAGING RESTRICTIONS

Denver Zoo may apply specific criteria to the maximum weight and volume of waste packages.

Limits may be imposed on the following:

- Weight of dry packaged waste;
- Single item volume;
- Package dimensions;
- Density of super-compacted waste

Customers are responsible for loading their waste so that, as far as reasonably practicable, waste is packaged in such a way as to maximize the use of the approved container and limits the number of vehicle miles on the road.



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# Waste Acceptance Plan

## TRANSPORT REGULATIONS

Customers are responsible for ensuring compliance with the transport regulations and the Certificate of Approval for the specific container design including the requirements of any associated packing and handling instructions.

## SITE RULES AND INSTRUCTIONS

When delivering waste to Denver Zoo's Waste Management Building, the customer's representatives must observe the site rules and instructions as provided by Denver Zoo. Customers shall review and sign Denver Zoo's Contractor Code of Conduct before conducting business with the zoo for waste consignment.

## TRANSPORT CONTAINER RETURN

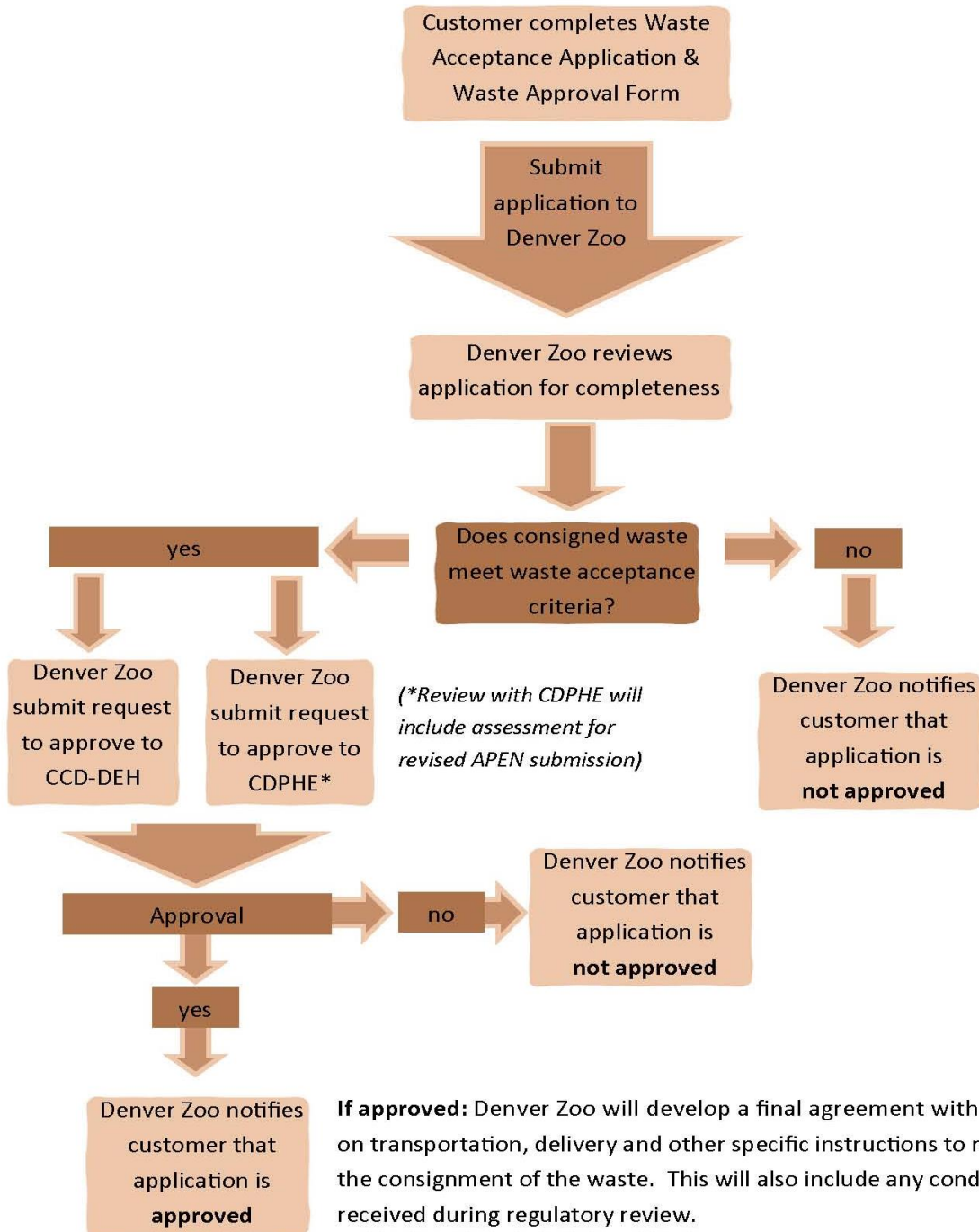
Where the transport container belongs to the customer, Denver Zoo, or its subcontractor, will unload the contents of the container into the waste to energy system and ensure that it is available for return, within the timescale agreed with the customer, in as good a condition as it was when delivered, subject to fair wear and tear



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# Waste Acceptance Plan

## PROCESS OVERVIEW DIAGRAM





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# Waste Acceptance Application Form

Please complete and sign this form and attach for each waste stream a Waste Characterization Form. Denver Zoo's waste approval process is documented in our Waste Acceptance Plan, under the Process Overview Diagram.

## WASTE GENERATOR:

Company

Contact

Mailing Address

Phone #

City, State, ZIP

Fax #

Address of Waste Generation (if different from above)

City

E-mail (optional)

## WASTE HAULER (if different from above):

Company

Contact

Mailing Address

Phone #

City, State, ZIP

Fax #

## WASTE STREAM INFORMATION

Name or description of waste:

Weight or volume of waste (if known):

Frequency of disposal:  One Time Only  Weekly  Monthly  Other \_\_\_\_\_

(double click box for option to check)

## GENERATOR CERTIFICATION

I, the undersigned, hereby certify, that to the best of my knowledge the information contained above is true and correct. Furthermore, I certify that, to the best of my knowledge, this waste is not a "hazardous waste" as defined by USEPA or Colorado Department of Public Health and Environment, that this waste does not contain regulated quantities of PCBs (Polychlorinated Biphenyls) *[May insert other chemicals here in future]* and that this waste does not contain regulated quantities of radioactive materials.

\_\_\_\_\_  
Generator Signature

\_\_\_\_\_  
Type or Print Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date



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# Waste Acceptance Application Form

## FORM INSTRUCTIONS

Information on this form is used to determine whether the waste described may be handled, transported, and used as fuel in Denver Zoo's Waste to Energy system. The information in this form will be shared with City and County of Denver, Department of Environmental Health as part of the review process for waste acceptance. Please allow for 30 days to receive a letter response from Denver Zoo.

Information must be printed in ink or typed. If you have questions concerning this form, please contact Denver Zoo Facility Department at 720-337-1500.

### Part I. Generator and Transport Information

1. Generator Name and Mailing Address – Enter the name of the facility (or person if a residential site) where the waste is generated. Enter the street address, city, and zip code to be used for written correspondence. Enter the name (contact) and phone number of the person who can answer any questions about the waste. Enter a FAX number or e-mail address if you would like your completed Waste Clearance returned to you by FAX or e-mail.
2. Hauler Name and Mailing Address – Enter the name, mailing address and phone number of the person or company that will be disposing of the waste, if different than the Generator.

### Part II. Waste Stream Information

1. Description of material to be utilized in Denver Zoo's fuel stream - enter the name generally descriptive of this waste (e.g., paper, cardboard, landscape wastes, etc).
2. Source of material - enter the physical address (not P.O. Box) of the building or structure where the waste is generated. If the generation address is the same as the generator's mailing address in Part I, above, enter "Same".
3. Weight or volume of material to be disposed – if known, enter an estimate of the amount to be delivered in a single trip, or for a monthly, quarterly or yearly period.
4. Frequency of disposal - double click on box to get option to add check-mark.

### Part III. Generator Certification

1. Signature – Generator or an authorized employee of the Generator.
2. Title - Enter employee's title, if applicable.
3. Name – Type or print.
4. Date - Enter the date submitted.
5. Return the completed form and completed **Waste Characterization Form** to:

**Denver Zoological Foundation  
Attn: Facilities Department/Special Projects  
2300 Steele Street, Denver, CO 80205**

You may also **fax** the forms to **720-337-1626** or e-mail it to [nmyers@denverzoo.org](mailto:nmyers@denverzoo.org).  
Please keep a copy of your completed application for your files.

Questions?  
Contact: 720-337-1500







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# Waste Characterization Form

**2. Does the waste contain any of the following? (circle any, provide concentrations if known)**

- |           |         |            |           |           |          |          |
|-----------|---------|------------|-----------|-----------|----------|----------|
| Antimony  | Arsenic | Barium     | Beryllium | Bromine   | Cadmium  | Chlorine |
| Chromium  | Cobalt  | Copper     | Dioxin    | Fluorine  | Iodine   | Lead     |
| Manganese | Mercury | Molybdenum | Nickel    | Potassium | Selenium | Silicon  |
| Silver    | Sodium  | Sulfur     | Thallium  | Vanadium  | Zinc     | PCB      |
| NONE      |         |            |           |           |          |          |

**Known Concentrations:**

\_\_\_\_\_

**3. Method used to determine composition.\***

Analytical Data  MSDS  Other: \_\_\_\_\_

\*Please provide a copy of the records for determining composition

SAMPLING INFORMATION (If Applicable)

1. **Source of Sample** (eg. drum, stockpile, sump/catch basin; tank)

2. **Sampling Method:**  Composite  Discrete/grab  Other: \_\_\_\_\_

3. **Number of samples:** \_\_\_\_\_

GENERATOR CERTIFICATION

By signing this Waste Characterization Form, the Generator certifies:

1. This waste is not a "Hazardous Waste" as defined by USEPA and/or CDPHE
2. This waste does not contain regulated radioactive materials or regulated concentrations of PCBs (Polychlorinated Biphenyls). (*This may be edited at a later date to contain more information*)
3. All information provided is a true and accurate description of the waste material. All relevant information regarding known or suspected hazards in the possession of the Generator has been disclosed.
4. This waste complies with the regulations of the Colorado Department of Public Health and Environment and the local solid waste division.
5. The analytical data presented herein, attached hereto, or otherwise submitted for the purpose of completing or supplementing any or all of the information on this form were derived from testing a representative sample taken in accordance with 40 CFR 261.20(c) or equivalent rules.
6. If any changes occur in the character of the waste (e.g., physical characteristics, chemical composition, process of generation, etc.), the Generator shall notify Denver Zoo

Signature: \_\_\_\_\_ Title: \_\_\_\_\_

(not required if submitted electronically)

Name: \_\_\_\_\_ Date: \_\_\_\_\_