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Landfill Acceptance Criteria and Guide

General Comments:

1. Letter of request from the Owner or Owner's Consultant is required for the disposal of contaminated soil/material at the Townsville City Council Landfill facility.
2. All applications to be submitted to: Group-TWS-RegWasteAssessment@townsville.qld.gov.au. Applications not submitted to this email may result in a delay to the processing period.
3. Applications may take up to 8 days to process.
4. All applications attract an application fee. This fee will be charged at the time of disposal. In the event that your application is not approved, payment will need to be made via our customer service centre 13 48 10. Current fees and charges schedule is available via our website www.townsville.qld.gov.au or
5. The letter of request must be accompanied by:
 - Relevant site contamination reports;
 - TLCP results for the soil/material;
 - Contaminant results for the soil/material;
 - Volume of soil/material;
 - Environmental Protection Agency Section 424/739 approval for removal off-site if required; and
 - Tentative date for disposal.



Phil Gausden
Technical Officer

TOWNSVILLE CITY COUNCIL LANDFILL ACCEPTANCE CRITERIA

BACKGROUND INFORMATION

Selected solid industrial wastes and contaminated soils which are known to contain hazardous constituents are accepted for disposal, provided these wastes comply with strict acceptance criteria defined by the Townsville City Council.

This criteria is for **solid waste only**. It refers to the regulated and non-regulated waste permitted to be disposed of at Stuart Waste Facility in accordance with Environmental Licence Number EPPR00927313, dated 22 January 2020.

Four characteristics are used to identify the hazardous nature of wastes and their suitability for disposal to landfill:

- ignitability
- corrosivity
- reactivity
- toxicity.

1. **Ignitability**

Solid industrial wastes that are capable of causing a fire when ignited through friction, absorption of moisture, or spontaneous chemical changes under standard temperature and pressure are hazardous.

2. **Corrosivity**

Solid industrial wastes which on dissolution exhibit a pH of 2 or less or 12.5 or greater are hazardous.

Treated and tested Acid Sulfate Soils may be accepted subject to volume. Please phone Townsville Waste Services for acceptance requirements.

3. **Reactivity**

Solid industrial wastes are hazardous if they have any of the following reactive properties:

- react violently with water;
- form potentially explosive mixtures with water;

- generate toxic gases, vapours, or fumes dangerous to human health or the environment when mixed with water;
- contain substances which generate toxic gases, vapours, or fumes when exposed to pH conditions between 2 and 12.5;
- are capable of detonation or explosive reaction when subjected to a strong initiating source or if heated under confinement;
- are readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure.

4. **Toxicity**

Solid industrial wastes will be classified as hazardous and require special management if:

- leaching contaminant levels in the solid waste when measured in accordance with the USEPA Toxicity Characteristic Leaching Procedure (TCLP Test) exceed the allowable concentrations as specified in table 1.

Other regulated wastes approved for disposal are:

- asbestos waste (for special burial);
- tyres;
- abattoir effluent (dewatered solids only);
- bacterial sludges (septic tank and sewage) (dewatered solids only);
- Fish processing wastes (liquid waste streams to be prohibited);
- Food processing wastes (liquid waste streams to be prohibited);
- Grease interceptor trap effluent and residues (dewatered solids only);
- Potentially Infectious clinical and related wastes which have been effectively treated to render them non-infectious;
- Poultry processing wastes (liquid waste streams to be prohibited); and
- Solid pharmaceutical products rendered unrecognisable (other than any substances listed under Schedule 8 of the Poisons Regulations 1978 and cytotoxic wastes).

Prohibited Wastes

The following wastes are not accepted at the landfill:

- Liquescent waste streams or any waste capable of yielding free liquids;
- Untreated infectious and chemical wastes and liquid pharmaceuticals from clinical and related waste stream;
- Cytotoxic waste;
- Untreated sharps;
- S8 pharmaceuticals;
- All radioactive wastes, unless otherwise approved under the Radioactive Substances Act 1958;
- Pyrophoric wastes (where co-disposed with other potentially combustible);
- Explosives, ammunition, pyrotechnics or propellants; and
- Any substances which fall into the categories of ignitability, corrosivity, reactivity and radioactivity.

Special Handling

Because of the nature of material containing hazardous constituents whether deemed regulated or not, will attract a site handling fee charged on a daily basis.

Soils

All soils (whether regulated, non-regulated, levyable or non levy) greater than 5000m³ will be subject to additional handling charges should they be accepted at the facility. Price for disposal will be determined upon application.

Regulated Waste

Regulated and non-Regulated Waste is defined in Schedule 9 of the Environmental Protection Regulation 2019 and should be referred to in the first instance.

www.legislation.qld.gov.au/view/pdf/inforce/current/sl-2019-0155

Waste Levy

Subject to the category of waste, (based upon default or threshold limits), the waste will attract a State Waste Levy. Refer to *Waste Reduction and Recycling (Waste Levy) Amendment Regulation 2019* for applicable levy costs associated wastes.

Note: should the waste be assessed as being suitable for disposal at the Stuart Waste Facility you will be advised of current fees and levy category in an issued approval letter.

<https://www.legislation.qld.gov.au/view/pdf/asmade/sl-2019-0033>

Waste Tracking and Default categories of Waste

A substance is trackable waste if it is regulated waste of a type mentioned in *Schedule 17 of Environmental Protection Regulation 2019*.

www.legislation.qld.gov.au/view/pdf/inforce/current/sl-2019-0155

Environmental Protection Regulation 2019 also stipulates default categories of waste (either Category 1 or Category 2).

www.legislation.qld.gov.au/view/pdf/inforce/current/sl-2019-0155

Table 2 provides a guide to correct tracking codes and default waste category. Reference should always be made to the regulation for confirmation of substances default category and current tracking codes.

Table 1 Acceptance Criteria

Note 1: Threshold columns are extracts from Schedule 9 of the Environmental Protection Regulation 2019 and should be referred to in the first instance. Other contaminants are listed in the Regulation Table that may not be listed as part of TCC criteria.

Note 2: Should contaminants be under the threshold for non-regulated levels additional TCLP may also be requested by Council to enable full assessment and compliance with Acceptance Criteria as specified in EA Environmental Licence Number EPPR00927313

Attribute	Not Regulated	Category 2	Category 1
pH	6.5 - 9	2 – 6.5 or 9 – 12.5	<2 or >12.5 (not accepted at TCC)

Contaminant Analysis	Maximum Contaminant Concentration In Solid Waste (Mg/Kg)	Allowable Leaching Contaminant Levels (Mg/L)	Threshold for category 1 (If > than level mg/kg)	Non Regulated Threshold (if < than level mg/kg)
PFOS (Perfluoro-octanoic sulphate) (LOR .2ug/kg)	6		0	Na
PFOA (Perfluoro-octanoic acid). (LOR .2ug/kg)	16		0	Na
Total fluoro organic compounds (excluding PFOS/PFOA. (LOR .2ug/kg)	10		0	Na
Total fluorinated organic compounds (if leachate not reused on or off-site) (LOR .01ug/kg)		.05	0	Na
Metals/Non-Metals				
Antimony		5.0	36	9
Arsenic		5.0	1,200	300*
Barium		100.0	18,000	4,500
Boron			80,000	20,000
Cadmium		.5	360	90*
Chromium		5.0	1,200	300*
Cobalt		5.0	Na	
Copper		100.0	880	220
Lead		5.0	1,200	300
Mercury		.1	320	80*
Molybdenum		1.0	468	117
Nickel		5.0	4,800	1,200*

Contaminant Analysis	Maximum Contaminant Concentration In Solid Waste (Mg/Kg)	Allowable Leaching Contaminant Levels (Mg/L)	Threshold for category 1 (If > than level mg/kg)	Non Regulated Threshold (if < than level mg/kg)
Selenium		1.0	2,800	700
Silver		5.0	468	117
Thallium		1.0	Na	Na
Tin		3.0	Na	Na
Vanadium		5.0	468	117
Zinc		500.0	1,600	400
Inorganic Ions				
Bromide		50.0	Na	Na
Chloride		6000	Na	Na
Cyanide (total)		5.0	960	240
Fluoride		150.0	3,720	930
Sulphate		4000	Na	Na
Nitrate		1000	Na	Na
Monocyclic Aromatic Hydrocarbons (MAH)				
Benzene	20	1.0	20	5
Ethyl Benzene	1000	50.0	68	17
Toluene	600	30.0	5,880	1,470
Xylene	500	20.0	696	174
Total MAH	1000	50.0	Na	Na
Polycyclic Aromatic Hydrocarbons (PAH)				
Anthracene		0.7	Na	Na
Benzo (a) anthracene		0.05	Na	Na
Benzo (a) phenanthrene		0.05	Na	Na
Benzo (a) pyrene		0.02	12	3
Benzo (b) floranthene		0.05	Na	Na
Benzo (k) floranthene		0.05	Na	Na
Chrysene		0.1	Na	Na
Dibenz (a,h) anthracene		0.02	Na	Na
Dibenz (a,h) pyrene		0.1	Na	Na
Dimethylbenz (a) anthracene		0 .05	Na	Na
Fluoranthene		0.2	Na	Na

Contaminant Analysis	Maximum Contaminant Concentration In Solid Waste (Mg/Kg)	Allowable Leaching Contaminant Levels (Mg/L)	Threshold for category 1 (If > than level mg/kg)	Non Regulated Threshold (if < than level mg/kg)
Indeno (1,2,3-Cd) pyrene		0.1	Na	Na
Napthalene		0.7	Na	Na
Phenanthrene		0.1	Na	Na
Pyrene		0.7	Na	Na
Total PAH		1.0		
Phenolic Contaminants				
<u>Non halogenated compounds</u>				
Phenol	250	10	Na	Na
m-Cresol	500	20	Na	Na
o-Cresol	500	20	Na	Na
p-Cresol	500	20	Na	Na
Total non-halogenated phenol	500		160,000	40,000
<u>Halogenated phenols</u>				
Chlorophenol	5	.1	Na	Na
Trichlorophenol (245/246)	20	1.0	7,560/76	1,890/19
Pentachlorophenol	20	1.0	Na	Na
Total halogenated phenol	20		Na	Na
Chlorinated Hydrocarbons				
<u>Chlorinated Aliphatic Compounds</u>				
Carbon Tetrachloride	10	0.3	8	2
1,2 Dichloroethane	20	1.0	6	540
1,1 Dichloroethylene	1	0.03	276	69
Tetrachloroethene	20	1.0	96	6
Trichloroethene	25	3.0	9,720	2,430
Total chlorinated aliphatic	50		Na	Na
<u>Chlorinated Aromatic Compounds</u>				
Chlorobenzene	200	10	336	84
Hexachlorobenzene	1	.02	Na	Na
Total chlorinated aromatic	200		Na	Na

Contaminant Analysis	Maximum Contaminant Concentration In Solid Waste (Mg/Kg)	Allowable Leaching Contaminant Levels (Mg/L)	Threshold for category 1 (If > than level mg/kg)	Non Regulated Threshold (if < than level mg/kg)
Pesticides				
<u>Organochlorine</u>				
Aldrin		.01	40	10
Chlordane		.06	Na	Na
Chlorpyrifos		.03	Na	Na
Dieldrin (& Aldrin total)		.01	40	10*
DDT		.03	Na	Na
Endrin		.01	Na	Na
Heptachlor		.03	Na	Na
Lindane		1.0	Na	Na
Methoxychlor		1.0	Na	Na
Toxaphene		0.05	Na	Na
Total organochlorine pesticides	50		Na	Na
<u>Herbicides</u>				
2,4-D		1.0	Na	Na
2,4-DB		2.0	Na	Na
MCPA		2.0	Na	Na
2,4,5-T		.02	Na	Na
Total herbicides	50		Na	Na
<u>Carbamates</u>				
Carbaryl		0.6	Na	Na
Carbofuran		0.3	Na	Na
Total carbamate pesticides	50			
<u>Organophosphorus</u>				
Diazinon		0.1	Na	Na
Parathion		0.3	Na	Na
Methyl Parathion		0.06	Na	Na
Total organophosphorus pesticides	50		Na	Na
Atrazine		0.03	Na	Na
Simazine		0.03	Na	Na



Contaminant Analysis	Maximum Contaminant Concentration In Solid Waste (Mg/Kg)	Allowable Leaching Contaminant Levels (Mg/L)	Threshold for category 1 (If > than level mg/kg)	Non Regulated Threshold (if < than level mg/kg)
Petroleum Hydrocarbons				
Total Petroleum Hydrocarbons C6-C9)	1,000		3,800	950
Total Petroleum Hydrocarbons (C10-C14)	10,000		21,200	5,300
Total Petroleum Hydrocarbons (C15-C28)	50,000			
Total Petroleum Hydrocarbons (C28 -C36)	50,000			
Total Petroleum Hydrocarbons (TCLP)		50		

Table 2 Waste Tracking codes and default categorization

Note: A substance is trackable waste if it is regulated waste of a type mentioned in this Table.

If a substance falls under more than 1 item in this list, and the code for one of the items is marked with an asterisk, the code for the substance is the code marked with an asterisk.

Type of Regulated Waste	Waste Code	Category Default Classification
acidic solutions and acids in solid form	B100	2
animal effluent and residues, including abattoir effluent and poultry and fish processing wastes	K100	2
antimony and antimony compounds	D170	1
arsenic and arsenic compounds	D130	1
Asbestos	N220	2
barium compounds, other than barium sulphate	D290	1
basic (alkaline) solutions and bases (alkalis) in solid form	C100	2
beryllium and beryllium compounds	D160	1
boron compounds	D310	1
cadmium and cadmium compounds	D150	1
chemical waste arising from a research and development or teaching activity, including new or unidentified material and material whose effects on human health or the environment are not known	T100	1
chlorates	D35	1
chromium compounds (hexavalent and trivalent)	D140	1
clinical and related waste	R100*	1
copper compounds	D190	1
cyanides (inorganic)	A130	1
cyanides (organic)	M210	1
encapsulated, chemically fixed, solidified or polymerised wastes	N160	2
ethers	G100	1
filter cake, other than filter cake waste generated from the treatment of raw water for the supply of drinking water	N190	1
fire debris and fire washwaters	N140*	1
Fluorinated organic compounds	M160	1
fly ash	N150	1
Food processing waste (other than liquid food		2

Type of Regulated Waste	Waste Code	Category Default Classification
processing waste)		
grease trap waste	K110	1
halogenated organic solvents	G150	1
highly odorous organic chemicals, including mercaptans and acrylates	M260	1
inorganic fluorine compounds, other than calcium fluoride	D110	1
inorganic sulfides	D330	2
isocyanate compounds	M220	1
liquid food processing waste	K200	2
lead and lead compounds	D220	1
Lead acid batteries intact		2
material containing polychlorinated biphenyls (PCBs), polychlorinated naphthalenes (PCNs), polychlorinated terphenyls (PCTs) or polybrominated biphenyls (PBBs)	M100	1
mercury and mercury compounds	D120	1
metal carbonyls	D100	1
mineral oils	J100	2
nickel compounds	D210	1
non-toxic salts	D300	2
oil and water mixtures or emulsions, or hydrocarbons and water mixtures or emulsions	J120	2
organic phosphorous compounds	H110	1
organic solvents, other than halogenated solvents	G110	1
organohalogen compounds, other than another substance stated in this schedule	M160	1
Oxidising agents		1
per- and poly-fluoroalkyl substances (PFAS)	M270	1
perchlorates	D340	1
Pesticides, including organochlorine		1
pharmaceuticals, drugs and medicines	R120*	1
phenols and phenol compounds, including chlorophenols	M150	1
phosphorus compounds, other than mineral phosphates	D360	2
polychlorinated dibenzo-furan (any congener)	M170	1
polychlorinated dibenzo-p-dioxin (any congener)	M180	1
Quarantine waste		1
residues from industrial waste treatment or disposal operations	N205	1
selenium and selenium compounds	D240	1
sewage sludge and residues, including nightsoil and septic tank sludge	K130	2
surface active agents (surfactants) containing	M250	2

Type of Regulated Waste	Waste Code	Category Default Classification
principally organic constituents, whether or not also containing metals and other inorganic materials		
tannery wastes, including leather dust, ash, sludges and flours	K140	1
tarry residues arising from refining, distillation or any pyrolytic treatment	J160	1
tellurium and tellurium compounds	D250	2
thallium and thallium compounds	D180	2
triethylamine catalysts for setting foundry sands	M230	2
tyres	T140	2
vanadium compounds	D270	1
Vegetable oils		2
waste containing peroxides other than hydrogen peroxide	E100	2
waste from a heat treatment or tempering operation that uses cyanides	A110	1
waste from surface treatment of metals or plastics	A100	2
waste from the manufacture, formulation or use of—		
• inks, dyes, pigments, paints, lacquers or varnish	F100	2
• biocides or phytopharmaceuticals	H100	1
• organic solvents	G160	1
• photographic chemicals or processing materials	T120	2
• resins, latex, plasticisers, glues or other adhesives	F110	1
• wood-preserving chemicals	H170	1
waste from the manufacture or preparation of pharmaceutical products	R140	1
waste of an explosive nature, other than an explosive within the meaning of the Explosives Act 1999	E120	1
wool-scouring wastes	K190	2
zinc compounds	D230	1

Appendix 1 - Waste that is not regulated waste Division 1

Types of waste

1. intact or partly disassembled televisions
2. intact or partly disassembled electronic equipment designed to be used with a television Examples— video players, DVD players, games units, set-top boxes
3. intact or partly disassembled computers Examples— desktop computers, notebook computers, laptop computers, tablets
4. intact or partly disassembled equipment designed to be used with computers Examples— keyboards, mice, hard drives, scanners, printers, multi-function devices, speakers, web cameras
5. intact or partly disassembled internal computer components Examples— network or graphics cards, motherboards, optical drives
6. intact or partly disassembled automotive equipment Examples— vehicles, engines, transmissions, differentials
7. mobile phones
8. mobile phone accessories Example— mobile phone chargers
9. batteries typically used in small electronic devices or handheld devices Examples of handheld devices— mobile phones, digital cameras, keyboards, toys and torches
10. whitegoods
11. treated timber, other than sawdust or shavings

12. groundwater or treated groundwater necessarily or unavoidably brought to the surface of the earth as part of an industrial process, if the groundwater—

(a) has a pH of at least 6 but not more than 10.5; and

(b) has an electrical conductivity of less than 15,000 μ S/cm

13. waste architectural and decorative paints collected, stored and transported in accordance with a product stewardship, unless the paint—

• is a bagged render
• is texture coating
• contains isocyanates
• is paint stripper
• is an industrial paint
• is anti-fouling paint

14. containers of waste architectural and decorative paints mentioned in item 13 that are collected, stored and transported in accordance with a product stewardship, unless the paint is in a spray pack

15. tallow

16. treated clinical waste

17. related waste that has been treated to render it non-infectious