

Eastern Metropolitan Regional Council

Red Hill Waste Management Facility Supplementary notes for contaminated waste disposal

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1 Introduction

The following information is provided to assist customers in regards to the contaminated waste acceptance process at the Red Hill Waste Management Facility (Red Hill). We highly recommend you contact an officer from the EMRC Environmental & Waste Compliance Team before lodging an application to assist in meeting the requirements of the waste application, assessment and approval process.

2 Waste Acceptance

2.1 Waste Application Process

If you wish to dispose of contaminated waste at Red Hill you will need to complete and submit a Waste Application Form, which can be provided on request by an EMRC Environmental & Waste Compliance officer. Information to be provided in the application includes:

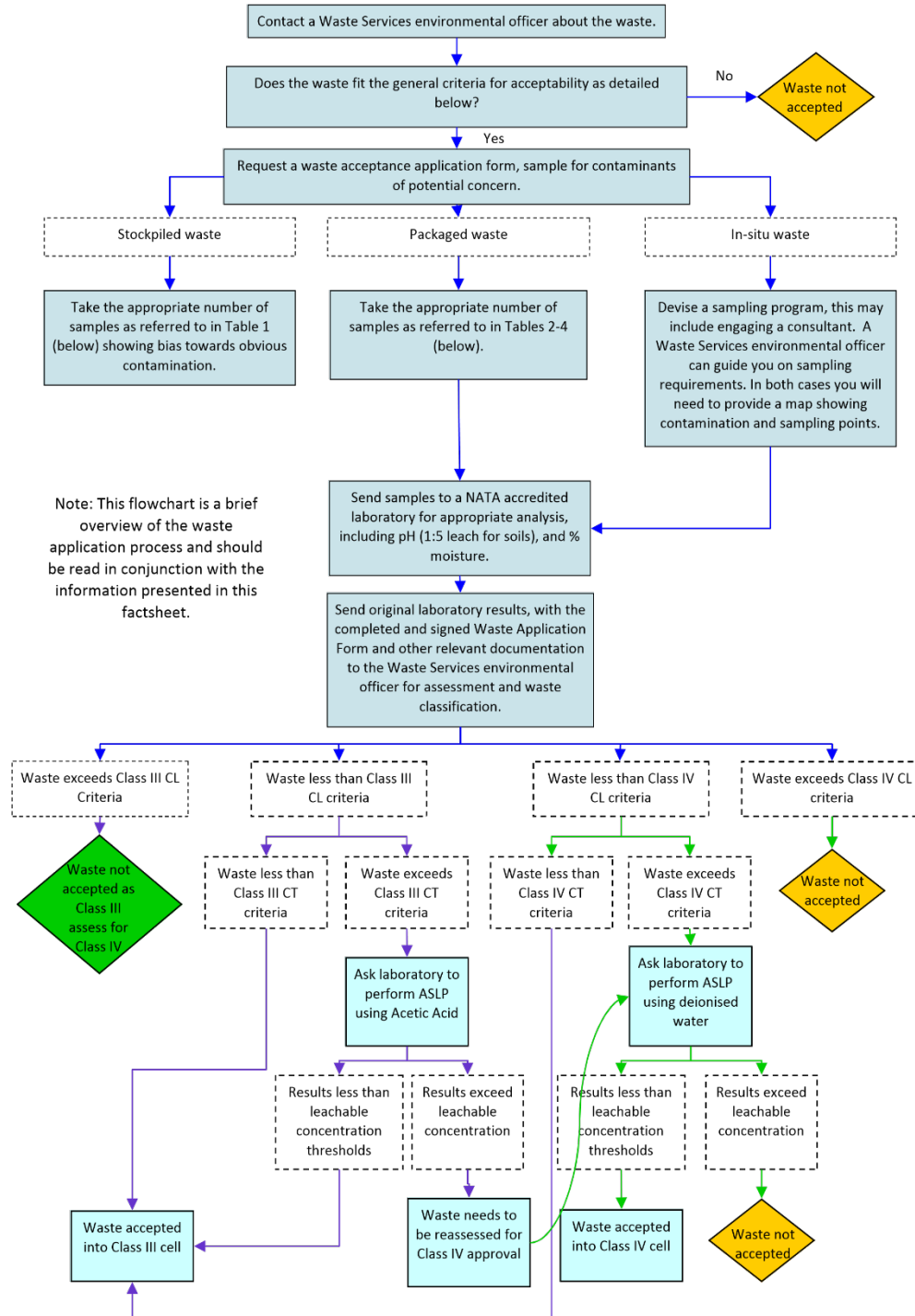
- A full description of the waste;
- Estimated quantity;
- Physical characteristics;
- Origin;
- Sampling procedure;
- Transport arrangements; and
- A copy of your NATA approved laboratory analysis.

Prior to disposal at Red Hill, contaminated waste must be analysed to determine the total concentration of contaminants (measured in mg/kg) and, if necessary, leachability. Following analysis, the contaminated waste is assessed by EMRC staff in accordance with the Department of Environment and Conservation's *Landfill Waste Classification and Waste Definitions 1996 (As amended 2019) (LWCWD 1996)*. If the waste is acceptable for disposal at Red Hill, a Waste Acceptance Approval will be issued.

Waste approvals are valid for the period as stated within each approval and must be handed to the Weighbridge Attendant with each load of waste taken to Red Hill. In the absence of a hard copy of the approval the Waste Acceptance Approval (WAA) number from the waste approval letter must be quoted to the Attendant prior to acceptance. Contaminated waste transported to Red Hill without a Waste Acceptance Approval or valid WAA number will not be accepted.

Wastes classified as Class IV are controlled wastes and require engaging a licensed controlled waste carrier to cart the waste to Red Hill. This waste will need to be accompanied by a completed Controlled Waste Tracking Form and a Waste Acceptance Approval or valid WAA number to be presented to the Weighbridge Attendant at site. Further information regarding controlled waste is available on the Department of Water and Environmental Regulation (DWER) website (www.dwer.wa.gov.au).

The Waste Application Process - An Overview



Wastes Accepted

The EMRC's Red Hill Waste Management Facility is a Class III and IV facility and is licensed by the DWER to accept Class I-IV waste. Wastes which can be accepted include a range of domestic and residential waste, contaminated wastes (contaminated soils and waste from industrial processes) and asbestos waste.

2.2 Wastes Not Accepted

Certain wastes are not acceptable for disposal at Red Hill due to varying chemical and physical characteristics that do not meet DWER landfill guidelines, licence requirements or Red Hill's standard operating procedures. These include:

- Liquids and sludges (material that is not spade-able and/or contains free liquid).
- Waste that has a pH that falls outside the acceptable range of 3.5 -10.0.
- Corrosive waste e.g. metal wastes, many lead assay slags.
- Reactive waste e.g. pool chlorine (strong oxidiser).
- Flammable waste e.g. high sulphur wastes > 20 w/w% • Radioactive waste.
- Infectious material (clinical and medical waste).
- Scheduled Organochlorine pesticide waste.
- Explosives such as fireworks, ammunition, or marine flares.
- Wastes which are dangerous when contacted with water e.g. bromine trifluoride, calcium carbide, sodium metal.
- Highly odorous waste (except where special arrangements are made with the Site Manager) e.g. dead or rotting animal waste, biosolids, tannery waste and highly contaminated hydrocarbon waste.
- Class IV PFAS impacted Waste.
- Selected controlled wastes.

2.3 Waste Application Form

A common mistake made by applicants is that not enough information is provided on the characteristics of the waste and the process generating the waste. At a minimum, a short paragraph explaining how the waste was created and the physical description plus any other relevant background information should be provided. The EMRC Environmental & Waste Compliance officer can then make an informed assessment and be confident that all contaminants have been identified.

Please note that the Waste Application Form must be signed for the application to be processed.

3 Sampling of the Waste

3.1 How to Take Samples

EMRC Environmental & Waste Compliance officers would generally ask that the samples be taken from the most contaminated areas to give the worst-case scenario. For in-situ sampling you will need to provide specific details on your sampling regime, which should include a map detailing the distribution of the contamination and the locations from which

the samples were taken. If you have limited experience in this area, you may wish to engage an environmental consultant to provide advice. A list of consultants can be found at www.eca.org.au.

Soil samples should be stored with no head space in a glass jar with cap which can be supplied upon request from most laboratories. Samples should be kept refrigerated and transported to a NATA accredited laboratory within 24 hours of sampling. A list of NATA accredited laboratories can be found at www.nata.com.au.

3.2 How Many Samples Need to be Taken

3.2.1 Bulk Waste

For bulk wastes the following table should act as a guide for the sampling requirements (From LWCWD 1996).

Table 1: Sampling requirements for bulk waste

Bulk Waste (Stockpiled)	Quantitative Assessment
<100m ³	3 samples
100m ³ to 200m ³	4 samples
200m ³ to 500m ³	6 samples
500m ³ to 1,000m ³	8 samples
1,000m ³ to 2,000m ³	11 samples
2,000m ³ to 3,000m ³	15 samples
3,000m ³ to 4,000m ³	18 samples
4,000m ³ to 5,000m ³	20 samples
5,000m ³ to 10,000m ³	24 samples
> 10,000m ³	Take 24 samples for volumes 5,000m ³ to 10,000m ³ , plus 4 more samples for each additional 10,000m ³ .

3.2.2 Packaged Waste

For packaged waste the number of samples required is determined by the amount of information that is known regarding the source of the waste and the contaminants. The sampling requirements outlined below are taken directly from the *LWCWD 1996*. Sufficient information will need to be provided to justify the scenario on which your sampling is based.

Regarding relatively homogenous waste materials, please refer to Figure 2 (<100m³), Figure 3 (<5,000m³), & Figure 4(>5,000m³) of the *LWCWD 1996*.

Table 2: Sampling requirements – No knowledge of source or composition

Number of Containers	Sampling Requirements	Value to be compared with waste classification criteria
1 to 3	Three per container – one top third, one middle third, and one bottom third from each container.	Mean of sample analysis.
More than 3	Three containers selected randomly and sampled as for 1 to 3 containers above. One sample from each other container, with depth selected randomly.	Mean of sample analysis plus one standard deviation.

Table 3: Sampling requirements – Source known, likely composition known, no analytical data on packaged waste

Number of Containers	Sampling Requirements	Value to be compared with waste classification criteria
1 to 3	One per container – Sampling depth selected randomly.	All analysis to be below criteria.
3 to 6	Four containers selected randomly, and one sample taken from each at a depth selected randomly.	
> 6	Three containers selected randomly, and one sample taken from each at a depth selected randomly. One sample from each set of three (or part thereof) remaining containers, with containers and depths selected randomly.	

3.2.3 In-situ Waste

For in-situ wastes please contact an EMRC Environmental & Waste Compliance officer, as an appropriate number of samples will need to be determined on a case-by-case basis.

4 Laboratory Analysis of Waste

4.1 Getting Samples Analysed

4.1.1 What contaminants do I test for?

Analytical requirements vary depending on the type of waste and what contaminants are likely to be present. It is recommended that guidance is sought from an EMRC Environmental & Waste Compliance officer regarding the necessary analysis to be conducted for your waste.

Regardless of the type of waste, you will always be required to provide the pH5 of the material. If you are required to test for hydrocarbons it is necessary to ask the laboratory to report the aromatic and aliphatic results separately. When analysing for chromium, it is necessary to provide the hexavalent chromium speciation. If the average result plus the standard deviation of the total concentration exceeds the contaminant thresholds given in the *LWCWD 1996*, a leaching procedure (ASLP) will need to be carried out on the sample. For both Class III and IV waste the ASLP will need to be carried out using acetic acid (pH5). Should the pH5 ASLP result(s) be above the acceptance criteria for Class IV disposal then it is acceptable to request a secondary pH7 Deionised Water ASLP on the material to assess if it is acceptable for Class IV disposal. The Class IV cell is a less acidic environment than the Class III/ General Waste Cells.

Please note that Red Hill is licenced to accept Class III PFAS impacted materials but not Class IV PFAS impacted materials. The assessment criteria for PFAS are found in Table 7 of the Heads of EPA (HEPA) PFAS National Environmental Management Plan, Version 2.0 – January 2020 (NEMP V2). Clay/ single composite lined Landfill type corresponds to Class III. Please note that DWER have supplied the EMRC with acceptance criteria for PFAS compounds other than PFOA and the Sum of PFOS & PFHxS, please contact the EMRC directly to discuss if necessary.

Regarding PFAS impacted material for disposal please note that solids analysis results in mg/kg are required as well as **BOTH** pH5 and pH7 ASLP analysis results, to assess for disposal.

4.1.2 Getting the Samples Analysed

Analysis must be performed by a NATA (National Association Testing Authority) approved laboratory. Details of approved laboratories can be found at www.nata.com.au. It is important to ensure that the laboratory of choice is NATA accredited for the actual tests required and ask the laboratory to display their NATA accreditation on the laboratory reports to be submitted to the EMRC. Under no circumstances will a preliminary report be accepted. It is required that you request all Quality Control data associated with the samples to be included in the laboratory report. A chain of custody detailing the transfer of samples from the sampling stage to being accepted at the laboratory also needs to be submitted to the EMRC with your application.

4.1.3 Holding Times

You will need to ensure that samples are analysed within the appropriate holding times for the analysis required. Results obtained that are determined outside the holding times may not be accepted. This may be of high importance if additional analysis is required and may, in some cases, result in the need for re-sampling to perform the additional analysis.

4.1.4 Interpretation of results

Once the laboratory results are obtained, they will be compared to the landfill criteria in *LWCWD 1996* and the NEMP V2 (if PFAS) by an EMRC Environmental & Waste Compliance officer.

If the analysis concentrations exceed the corresponding contaminant threshold (CT3/4) values, as presented in Table 3 of the *LWCWD 1996*, a pH5 leaching procedure (ASLP3/4) will need to be carried out on the sample. These results are then compared to the leachable concentration values as presented in Table 4 of the *LWCWD 1996*. Should the analysis results in mg/L be below the ASLP3/4 values and the concentration in mg/kg is below the corresponding Concentration Limit (CL3/4) value the material can be accepted as Class III/ Class IV waste material.

5 Exceptions to the Landfill Criteria

There are two occasions when waste meets the criteria for disposal in Class III landfill but cannot be accepted as Class III due to occupational health reasons. Under these circumstances waste may be disposed in the Class IV landfill and charged at the corresponding rate. These circumstances are detailed below.

5.1 The PPE Requirements of Class III

The Class III landfill is a highly active cell and the tip face is accessed not only by Red Hill operational staff but also by external contractors on a daily basis. To minimise potential health risks to Red Hill staff and other contractors, Class III contaminated waste that requires PPE beyond the standard Class III PPE will only be approved for Class IV disposal and associated charges will apply. Standard Class III PPE at Red Hill comprises of steel capped boots, high visibility vest, long sleeved shirt and long trousers. Nitrile gloves and safety/sunglasses are also used in Class III when required.

5.2 Asbestos Contaminated Soil

Asbestos contaminated soil can only be accepted in bulk without containment if the quantity of asbestos fibres have been quantified by a NATA certified laboratory as being less than 0.001 % (w/w).

All asbestos soil with greater than 0.001% or more asbestos fibres:

- Must be separated from other material for disposal where reasonably practicable.
- Be contained in a manner that prevents asbestos fibres escaping to the atmosphere during transport and disposal. This involves containing the material in sealed drums, bulka bags or an EMRC approved container.
- The container must be labelled as "Caution Asbestos" with writing no less than 50 mm high.
- All containers must be transported on pallets for easy unloading of the material into the landfill cell.

6 Asbestos Products

To ensure the correct disposal of all other asbestos products (e.g. sheets, pipes, lagging etc.) at Red Hill, customers are to be aware of the following conditions:

- Asbestos products must be separated from other material.
- Asbestos products are to be wrapped in bundles no higher than 1 m or 3 sheets, such that the bundles can be manually handled into the Asbestos Bin at the Transfer Station.
- A forklift is available for unloading larger bundles, but they must be transported on pallets or wooden cleats.
- Each bundle is to be double wrapped in heavy-duty black plastic and sealed with adhesive tape to prevent asbestos fibres entering the atmosphere during transport and disposal.
- Bundles are to be labelled with the words "CAUTION ASBESTOS" in letters not less than 50 mm high.

7 Consequences for the incorrect classification of waste

The EMRC reserves the right to sample and test any contaminated waste accepted at the Red Hill Waste Management Facility to verify the levels of contaminants present in the waste. Any waste that is found to be of a higher class than that originally indicated will be reported to DWER. The EMRC will also meet with the applicant to determine the reason for the non-conformance and may take other action as appropriate.

Regular reclassification of waste from a single customer, may lead to the EMRC banning waste from that customer. *For these reasons, the EMRC strongly encourages customers to ensure that the waste sampling methods and laboratory analysis adequately represent the waste, and that the application form depicts the true nature and origin of the waste.*