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Mekatek Ltd

Waste Recovery and Recycling Facility

SITE ENVIRONMENTAL MANAGEMENT PLAN

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## 1. INTRODUCTION

Mekatek Ltd ('The Company' hereafter) will own and operate a Waste Recovery and Recycling Facility located at Unit C, Maerdy Industrial Estate, Rhymney, NP22 5PY ('The Site' hereafter).

The waste recovery and recycling facility has been designed to predominantly process waste electrical and electronic equipment (WEEE), selected source segregated packaging materials, plastics and metals. The site will accept 30,999 tonnes per annum and include the receipt, storage, segregation and mechanical processing into various grades of granular metals and plastics for sale as recovered product.

All recovered / processed materials are then stored within dedicated storage bays ready for off-site transfer and sale. Any waste materials that are not able to be recycled on site are stored pending off site transfer to other licensed waste management facilities for further processing or disposal.

All physical and mechanical processing takes place within the main processing building. The only external activities are the storage of wooden pallets which are stored before being collected and transferred off site and the storage of surplus waste skips containing recycled material or products prior to being transferred off site. All storage is in accordance with the Fire Prevention Plan guidance.

The waste management facility will be permitted by the Natural Resources Wales as a Waste Operation and will be operated in accordance with the EPR Regulations 2016.

This document forms the working plan and has been prepared in accordance with the following requirements:

- The Environmental Permitting Regulations 2016; and
- Environmental Permit.

This working plan has been prepared to provide an account of the operational practices and environmental considerations for the reception and handling of waste and the processes carried out by Mekatek Ltd.

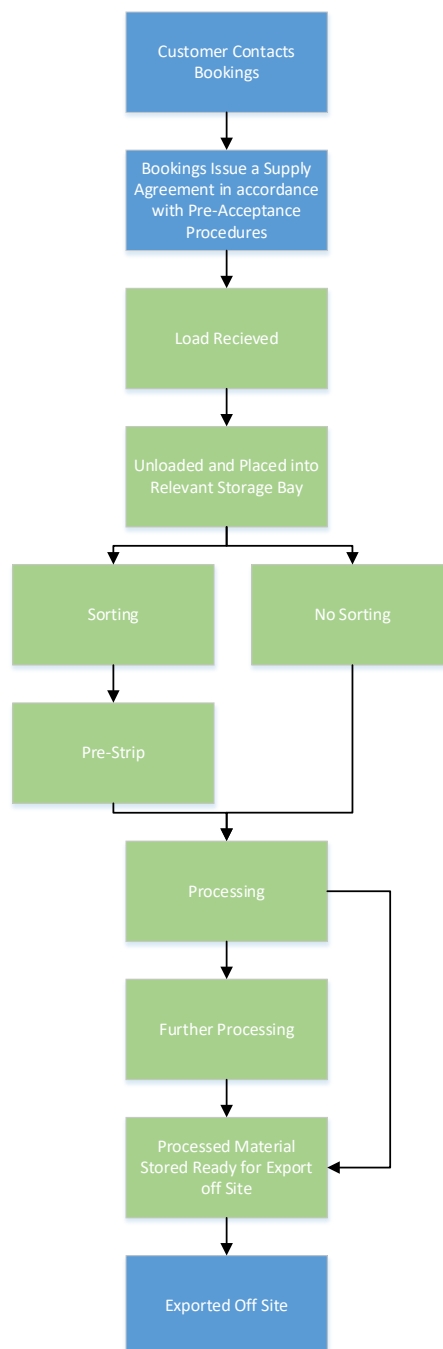
A sign which provides the necessary site and operations information is positioned at the entrance to the site. The sign provides all the necessary site information, contact details and relevant waste codes as required by the sites Environmental Permit.

A copy of the Environmental Permit and the Management System will be kept in the site office at all times.

## 2. PROCESS DESCRIPTION

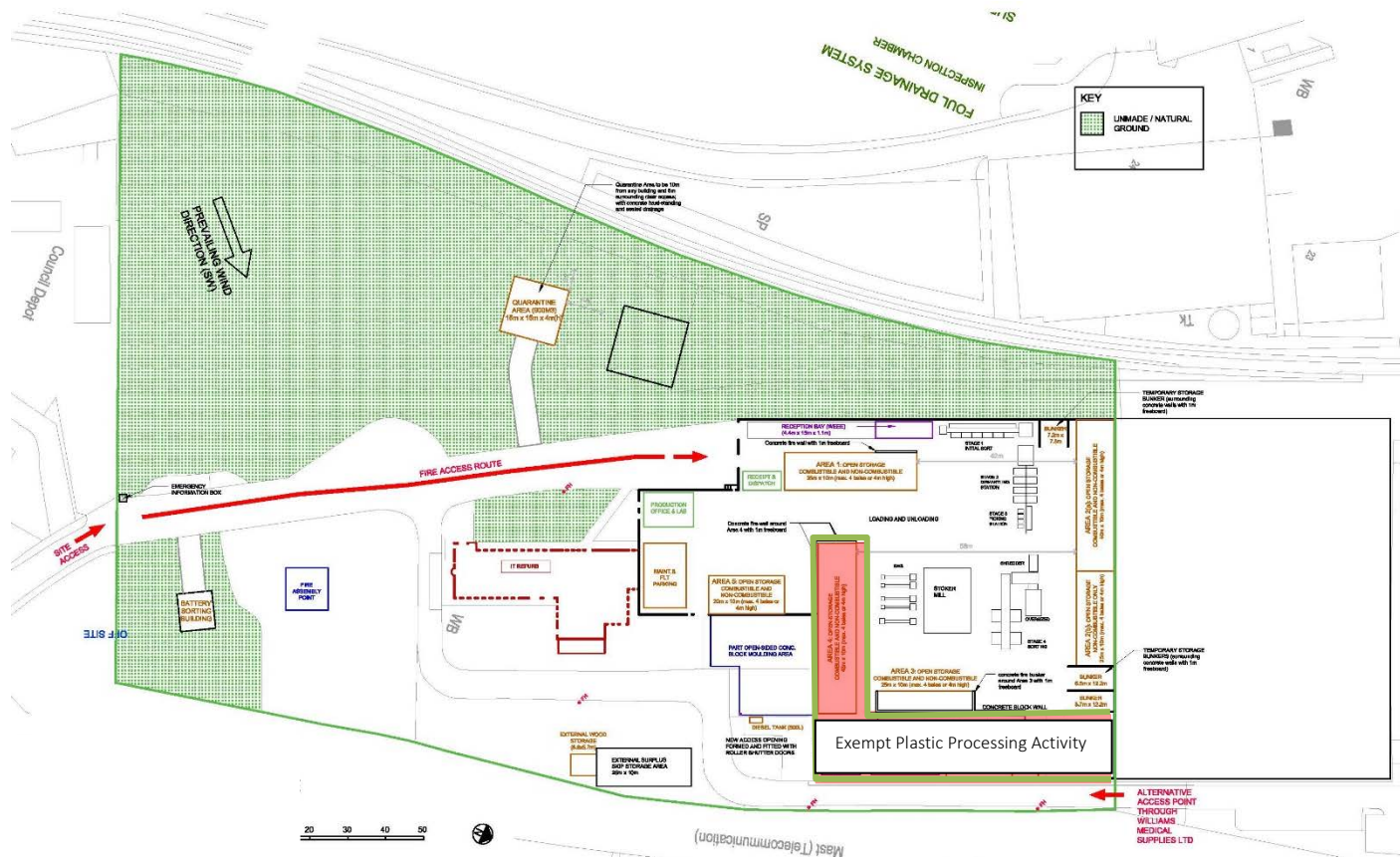
### 2.1 Process Schematic

The schematic below provides a broad overview of the process flow through the facility. Further detail of each stage is provided within each of the specific working procedures in use at the sites and within the further sections of this working plan.



## 2.2 Site Layout

The plan below provides an overview of the layout of the installation indicating the location of the key plant and equipment, plant and process areas.



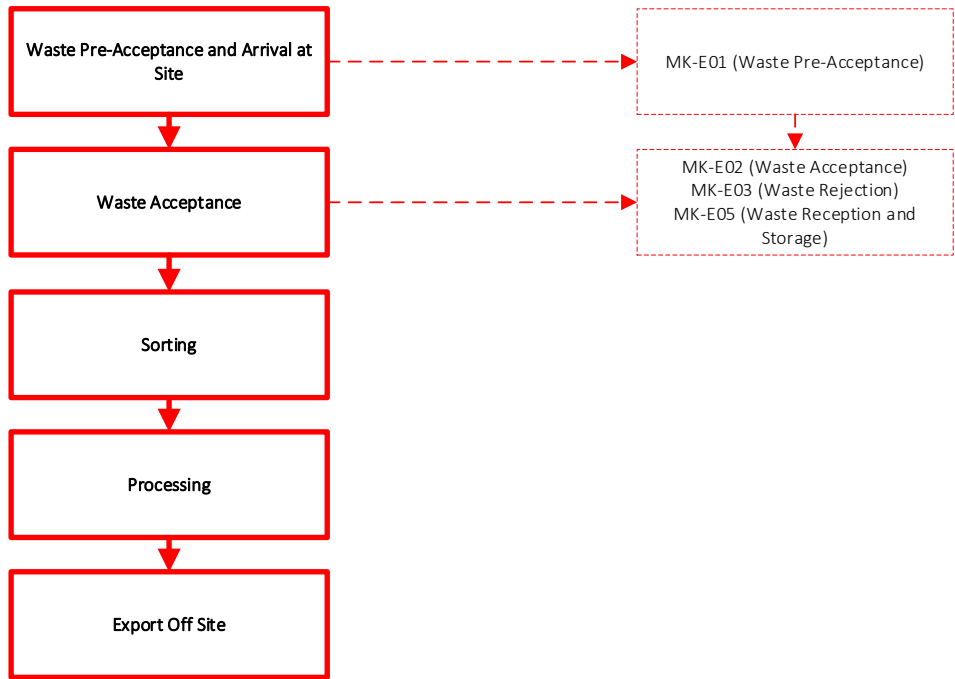
## 2.3 Specified Waste Management Activities

The wastes accepted onto site for processing will consist of mixed recyclable materials.

**Table 2.1: Specified Activities**

Site Address	Unit C, Maerdy Industrial Estate, Rhymney, NP22 5PY.
National Grid	OS X (Eastings) 311588
Reference	OS Y (Northings) 206808
Site Manager	(Competent Person)
PPC permit / WML	TBC
Reference	
Wastes accepted on site	Please refer to Appendix 2 of this document
Specified Waste Management Activities	R3 Recycling / reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes); R4 Recycling / reclamation of metals and metal compounds; R5 Recycling / reclamation of other inorganic material; R13 Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced) D9 Physico-chemical treatment resulting in final compounds or mixtures which are discarded by any of the operations numbered D1 to D12 e.g. evaporation, drying, calcination D14 Repackaging prior to submission to any of the operations numbered D1 to D13 D15 Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced)
Throughput	30,999 tonnes per annum
IED Operating Limits	The following operating limits will be adhered to at all times: <ul style="list-style-type: none"> <li>Hazardous waste treatment will never exceed 10 tonnes per day;</li> <li>Non-hazardous waste treatment for recovery will never exceed 75 tonnes per day; and</li> <li>Storage of hazardous waste will never exceed 50 tonnes.</li> </ul> All activities will be tracked on the 'Nav Stock' System to ensure that the storage and processing of material is carried out in accordance with the above IED operating limits.
Permitted operation hours for waste acceptance / dispatch	Deliveries: <ul style="list-style-type: none"> <li>Monday to Friday: 06:00 – 19:30;</li> <li>Saturday: 08:00 – 13:00; and</li> <li>No deliveries shall take place on Sundays or Bank Holidays.</li> </ul> Operation of the site can take place on a 24/7 basis should the workload require.
Planning Permission	Caerphilly Council Planning Permission

Waste Management Operations can be represented diagrammatically in Figure 2.3 below according to Table 2.2 below:



Associated procedures for the above site processes are summarised within Table 2.2 overleaf.

**Table 2.2: SWP Procedure & Guidance Map**

Reference No:	Title	Purpose
MK-E01	Waste Pre-Acceptance	This procedure defines the upstream screening, checking and pre-acceptance of all incoming waste prior to its arrival on site.
MK-E02	Waste Acceptance	This procedure outlines the onsite controls and considerations that need to be applied when waste materials arrive on site for processing.
MK-E03	Waste Rejection	This procedure outlines the waste rejection process for all non-conforming wastes that cannot be processed on site. Acceptance of non-conforming wastes will be a direct breach of the permitted conditions of the sites Environmental Permit.
MK-E04	Off Site Waste Transfers	This procedure provides the necessary information to enable the assessment and offsite transfer of non-conforming or untreatable waste streams.
MK-E05	Waste Reception and Storage	This procedure outlines the waste reception, storage processes for all incoming waste.
MK-E06	Environmental Records	This procedure defines the necessary Environmental Permit and Waste Records that are required to be managed by the site to ensure compliance.
MK-E07	Environmental Management and Monitoring Programme	This procedure provides an overview of all of the necessary environmental monitoring, management procedures and controls to ensure compliance with the Permit.
MK-E08	Infrastructure Management and Monitoring Programme	This procedure provides an outline of the inspection and cleaning requirements for the site.
MK-E09	Accident Management Plan	This plan refers to the sites accident management requirements.
MK-E10	Odour Management Plan	This plan refers to the sites odour management measures.
MK-E11	Fire Prevention Plan	This plan refers to the sites fire prevention measures.

The following associated procedures are appended to this document:

- MK-E01 – Waste Pre-Acceptance;
- MK-E02 – Waste Acceptance;
- MK-E03 – Waste Rejection;
- MK-E04 – Off Site Waste Transfers;
- MK-E05 – Waste Reception;
- MK-E06 – Environmental Records;
- MK-E07 – Environmental Management and Monitoring Programme;
- MK-E08 – Infrastructure Management and Monitoring Programme;
- MK-E09 – Accident Management Plan; and
- MK-E10 – Odour Management Plan;
- MK-E11 – Fire Prevention Plan.



## 2.4 Waste Processing

A summary description of the proposed waste management facility is provided below:

- *Waste Reception:* All vehicles will enter the site via the main entrance and report to the weighbridge office. All wastes being received by the site, will be inspected and placed within the waste storage area where it will be manually sorted into categories prior to being placed within the relevant storage bay.
- *Waste Sorting:* When waste materials are required to be processed they will be transferred from the relevant storage bay and loaded onto a conveyor or suitable work station for pre-sorting, picking and / or de-packing. All material is sorted into relevant categories and stored within stackable hoppers or stillages. The wastes will be stored until there is sufficient material to warrant processing through the rotorshredder.
- *Pre-Liberation Processing:* Pre-liberation processing involves manual sorting prior to mechanical processing and will be undertaken on individual workstations and will be dependent on what product is being processed.
- *Shredding:* As required any material that needs to undergo shredding or mechanical liberation will be transferred to the rotorshredder. The rotorshredder is fed via a segmented conveyor which can be hopper fed or manually fed depending on waste type. The rotorshredder processes approximately 4.5 tonnes per hour. All material discharged from the rotorshredder is passed through a trommel with oversize passing to a picking line. Further mechanical separation is utilised for specific waste types e.g. Eddy Current Separator and Overband Separation.
- *Cable Granulation:* The cable granulation system will primarily process commodity (cable, boards, non-ferrous) liberated by the rotorshredder. The system is specified to process 1 tonne per hour of cable / board. The processed cable is stored within bags before being exported off site.
- *Separation Equipment:* An electrostatic separator has been installed to separate conductive and non-conductive materials (less than 10mm). This equipment is able to separate any residual metallic content in the plastics fraction after cable granulation.
- *Export off Site:* All processed / sorted material will be exported off site.

## 3 ENVIRONMENTAL SETTING

### 3.1 Geology and Hydrogeology

According to the BGS Geology of Britain Viewer, the site is directly underlain by superficial deposits of Glacial Till deposits made up of variable geology including clays, sand and gravel. The superficial deposits are further underlain by the Bedrock Geology of the South Wales Middle Coal Measures Formation, which are described by the BGS lexicon as; 'grey, productive coal-bearing mudstones/siltstones, with seatearths and minor sandstones'.

The site is considered to be situated in an area of moderate sensitivity with respect to groundwater resources due to the underlying minor aquifer.

### 3.2 Surface Water Features

The River Rhymney is culverted beneath the west of the site, with it entering the culvert approximately 200m north of the site and exiting approximately 100m south. In addition, a number of issues, sinks and drains including a small lake are located approximately 300m upslope to the west, and a network of springs and issues on the other side of the valley approximately 500m to the east.

The River Rhymney has historically been of poor quality due to the mining heritage of the area and is still undergoing improvement programmes with its current quality rating Grade B.

### 3.3 Sensitive Environmental Receptors

The only designated site relevant to the proposed site is presented in Table 3.1 below:

Table 3.1: Location of Sensitive Habitat Receptors		
Distance & Direction	Receptor	Status
8.9 km North East	Usk Bat Sites	SAC

The site is not considered likely to have any significant effects on this designated site due to the limited nature of emissions from the site.

## 4 SITE INFRASTRUCTURE

### 4.1 Site Drainage System

There are no process effluents produced from the sites activities. There is no drainage system within the building. Should any water (surface moisture, small puddles of liquids on top of IBC etc) be present on incoming wastes, this generally evaporates or where possible is collected and disposed of via IBC.

Any spillages, leaks or incidents arising within the building will be effectively contained and captured in accordance with the sites spill response procedure, utilising spill kits which will be strategically located around the site. Any spillages / leaks etc. would be of small volume and be non-hazardous in their nature.

Internal bunds associated with the plant maintenance oil storage area are checked daily and in the unlikely event of spillages, these would be pumped out and disposed of offsite via IBC.

Uncontaminated surface water run-off from external hard standing and roof top areas discharges via surface water drain and is ultimately discharged to the River Rhymney (W1 and W2).

Foul drainage from the offices / canteen area will be discharged to sewer (S1).

The following has been designed in the event of a fire:

- The WEEE Reception bay would be utilised as a holding bund for firewater;
- All fire water will enter the bay which would be isolated from the external surface water drainage system;
- Company tankers would be mobilised from nearby sites (1-hour mobilisation time) to remove any collected firewater held in the bay to a suitable treatment facility;
- The bay is calculated to have a storage capacity of 245m<sup>3</sup> if empty and 150m<sup>3</sup> if at full utilisation as a reception bay.

There will be no direct releases to controlled water arising from the site.

No external activities will take place that have the potential to impact controlled waters. The external surplus skip storage area will only contain sealed waste skips. No loose material is stored within this area.

All site infrastructure (roads, concrete pads, drainage systems and buildings) are inspected on a weekly basis by the competent person.

Any faults and repairs will be carried out as soon as practicable and a note made of them in the site diary.

#### 4.2 External Storage Area

The external storage area is used solely for the temporary storage of recycled material or products within skip containers, before being transferred off site. There will be no storage of loose processed recovered and recycled material. All hazardous and WEEE processed recovered and recycled material will be stored within sealed skips. This ensures that material within them remains dry whilst also mitigating all possibility of weather ingress due to the sealed nature of the containers. Any non-hazardous processed recovered and recycled material will be stored within open skip containers.

No material is transferred into another container for transport. The area is purely for temporary storage before the skip is transferred off site. The external area is impermeable however it does not have sealed drainage.

The skip containers will be stored for a maximum of 7days.

The containers will be inspected / checked as part of the twice daily site walkover inspections. Additionally, the containers are included within the sites PPM schedule which is carried out annually. However, if any customers or site workers notice any damage, the maintenance would be carried out straight away.

Please refer to procedure MS 500. This provides a checklist to ensure that the containers have been checked sufficiently. In the event that any damage is noted, procedure SWP 402 must be followed.

Spill kits and drain blockers will be located within the external area. In the very unlikely event that the skips integrity was compromised and a leak was identified, the drain blockers will be used to block any surface water drains and the spill kits will be used to clean up the spill.

#### 4.3 Site Security

A secure fence is erected around the parameter of the site to ensure security.

The site manager will inspect the site security at the start of each working day. Any defects or damage shall be made secure by temporary repair by the end of the working day and a permanent repair effected within seven working days and noted in the site diary.

The site entrance is equipped with lockable gates and an intruder alarm and is secured outside operating hours.

The site is equipped with digital Closed Circuit Television (CCTV). The CCTV system operates on a 24/7 basis.

#### 4.4 Infrastructure Monitoring

The infrastructure monitoring of the site will take place in accordance with procedure MK-E08 Infrastructure Management and Monitoring Programme.

## 5 TECHNICAL COMPETENCE & TRAINING

The Site Managers will hold all necessary qualifications to be defined as 'Technically Competent' as defined by the Environment Agency Operator Competence Scheme and WAMITAB Certificate of Technical Competence Schemes.

All personnel on site have been trained in the site operation procedures and Working Plan according to Table 5.1 below.

The site manager is responsible for insuring that all operators and personnel receive training as required.

	Site Working Plan Manual MK-SWP	Waste Pre Acceptance MK-E01	Waste Acceptance MK-E02	Waste Rejection MK-E03	Off site Waste Transfers MK-E04	Waste Reception and Storage MK-E05	Environmental Records MK-E06	Environmental Monitoring MK-E07	Infrastructure Monitoring MK-E08	Accident Management Plan MK-E09	Odour Management Plan MK-E10	Fire Prevention Plan MK-E11
Site Manager												
Weighbridge Personnel												
Administration Personnel												
Machine Operators												
Site Management												
Visitors												

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## Appendix 1

### Operating Procedures

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## Appendix 2

### Waste Codes



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### Appendix 2: EWC Codes and Types

Waste Codes	Description
<b>02</b>	<b>WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING</b>
<b>02 01</b>	<b>wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing</b>
02 01 04	waste plastics (except packaging)
02 01 10	waste metal
<b>07</b>	<b>WASTES FROM ORGANIC CHEMICAL PROCESSES</b>
<b>07 02</b>	<b>wastes from the MFSU of plastics, synthetic rubber and man-made fibres</b>
07 02 13	waste plastic
<b>09</b>	<b>WASTES FROM THE PHOTOGRAPHIC INDUSTRY</b>
<b>09 01</b>	<b>wastes from the photographic industry</b>
09 01 07	photographic film and paper containing silver or silver compounds
09 01 10	single-use cameras without batteries
09 01 11*	single-use cameras containing batteries included in 16 06 01, 16 06 02 or 16 06 03
09 01 12	single-use cameras containing batteries other than those mentioned in 09 01 11
<b>12</b>	<b>WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS</b>
<b>12 01</b>	<b>wastes from shaping and physical and mechanical surface treatment of metals and plastics</b>
12 01 01	ferrous metal filings and turnings
12 01 02	ferrous metal dust and particles
12 01 03	non-ferrous metal filings and turnings
12 01 04	non-ferrous metal dust and particles
12 01 05	plastics shavings and turnings
12 01 17	waste blasting material other than those mentioned in 12 01 16
12 01 21	spent grinding bodies and grinding materials other than those mentioned in 12 01 20
<b>15</b>	<b>WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED</b>
<b>15 01</b>	<b>packaging (including separately collected municipal packaging waste)</b>
15 01 01	paper and cardboard packaging
15 01 02	plastic packaging
15 01 03	wooden packaging
15 01 04	metallic packaging
15 01 05	composite packaging
15 01 06	mixed packaging
<b>16</b>	<b>WASTES NOT OTHERWISE SPECIFIED IN THE LIST</b>
<b>16 01</b>	<b>end-of-life vehicles from different means of transport [including off-road machinery] and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13,14, 16 06 and 16 08)</b>
16 01 03	end-of-life tyres
16 01 12	brake pads other than those mentioned in 16 01 11
16 01 17	ferrous metal
16 01 18	non-ferrous metal
16 01 19	plastic
16 01 22	components not otherwise specified
<b>16 02</b>	<b>wastes from electrical and electronic equipment</b>
16 02 11*	discarded equipment containing chlorofluorocarbons, HCFC, HFC

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16 02 13*	discarded equipment containing hazardous components other than those mentioned in 16 02 09 to 16 02 12
16 02 14	discarded equipment other than those mentioned in 16 02 09 to 16 02 13
16 02 15*	hazardous components removed from removed from discarded equipment
16 02 16	components removed from discarded equipment other than those mentioned in 16 02 15
<b>16 06</b>	<b>batteries and accumulators</b>
16 06 01*	lead batteries
16 06 02*	Ni-Cad batteries
16 06 03*	mercury-containing batteries
16 06 04	alkaline batteries (except 16 06 03)
16 06 05	other batteries and accumulators
<b>17</b>	<b>CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)</b>
<b>17 02</b>	<b>wood, glass and plastic</b>
17 02 03	plastic
<b>17 04</b>	<b>metals (including their alloys)</b>
17 04 01	copper, bronze, brass
17 04 02	aluminium
17 04 03	lead
17 04 04	zinc
17 04 05	iron and steel
17 04 06	tin
17 04 07	mixed metals
17 04 11	cables other than those mentioned in 17 04 10
<b>19</b>	<b>WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION/INDUSTRIAL USE</b>
<b>19 10</b>	<b>waste from shredding of metal containing wastes</b>
19 10 01	iron and steel waste
19 10 02	non-ferrous waste
19 10 04	fluff-light fraction and dust other than those mentioned in 19 10 03
19 10 06	other fractions other than those mentioned in 19 10 05
<b>19 12</b>	<b>wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified</b>
19 12 01	paper and cardboard
19 12 02	ferrous metal
19 12 03	non-ferrous metal
19 12 04	plastic and rubber
<b>20</b>	<b>MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS</b>
<b>20 01</b>	<b>separately collected fractions (except 15 01)</b>
20 01 01	paper and cardboard
20 01 02	glass
20 01 21*	fluorescent tubes and other mercury-containing waste
20 01 23*	discarded equipment containing chlorofluorocarbons
20 01 33*	batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these batteries
20 01 34	batteries and accumulators other than those mentioned in 20 01 33

20 01 35*	discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components
20 01 36	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35
20 01 38	wood other than that mentioned in 20 01 37
20 01 39	plastics
20 01 40	metals
<b>20 03</b>	<b>other municipal wastes</b>
20 03 07	bulky waste
<i>Total</i>	<i>Aggregate Quantity of all wastes listed above will be less than 30,999 tonnes per annum</i>

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## Appendix 3

### WAMITAB Certification