



# The Waste Act Simplified

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Coschem

22 July 2015

# Waste Legislation in South Africa

- ACTS
  - The Constitution of SA Act 108 Of 1996
  - The National Water Act 36 of 1998 (NWA) and amendment
  - NEMA107 of 1998 and amendments
  - NEM:AQA 39 of 2004
  - NEM: Waste Act 59 of 2008 and amendments
  - The Hazardous Substances Act 15 of 1973 and amendment, 1992 and regulations
  - The Occupational Health and Safety Act 85 of 1993 and regulations
  - The National Road Traffic Act 93 of 1996 and regulations
  - The Mineral and Petroleum Resources Development Act, 28 of 2002
  - Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act (No. 49 of 1996)
  - The Municipal Finance Management Act (No. 56 of 2003) (MFMA)
  - Municipal Structures Act (Act 117 of 1998)

# Waste Legislation in South Africa

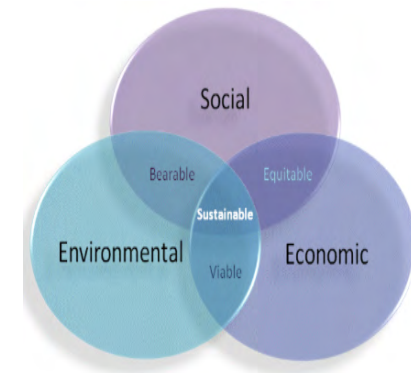
- SANS Codes:
  - SANS 10228 -Transport of Dangerous Goods -The identification and classification of dangerous goods for transport
  - SANS 10229 -Transport of dangerous goods .— Packaging and large packaging for road and rail transport
  - SANS 10234 - Globally Harmonized System of classification and labeling of chemicals (GHS)
- Norms and Standards:
  - Contaminated Land
  - Classification of Waste
  - Storage of Waste
  - Assessment of waste for the disposal to landfill
  - Disposal of waste to landfill
  - Scrapping and Recovery of Motor Vehicles
  - Extraction, flaring or recovery of landfill gas
- Regulations
  - Phasing out of PCB's
  - NEMA: Environmental Impact Regulations
  - South African Waste Information Regulations
  - Waste Tyre Regulations 2009
  - Plastic Bag Regulations
  - Waste Classification Regulations
  - Regulations for the phasing-out and management of ozone depleting substances

# Waste Legislation in South Africa

- Guidelines and Strategy
  - Guidelines for Utilisation and Disposal of Wastewater Sludge
  - The National Waste Management Strategy, 2011
  - Municipal Solid Waste Tariff Strategy
- Policy:
  - National Policy on Thermal Treatment of General & Hazardous Waste
  - Radioactive WM Policy & Strategy for SA
  - Draft Policy Composting
  - Draft Waste Pricing Strategy
  - Carbon Tax Policy Paper 2013 and Carbon Offsets Paper 2014
- International Conventions
  - Stockholm
  - Basel
  - Marpol
  - Kyoto
  - Minimata

# NEMA (National Environmental Management Act) Principles

- Sustainable Development
- Integrated Environmental Management
- Environmental Justice
- Equitable access to environmental resources, benefits and services
- Interested and Affected Party participation in the decision making process
- Environmental Education
- Impact Assessments
- Right of Workers
- Access to Information
- Global and International obligations must be included in National law
- Polluter Pays
- Cautious Approach
- BPEO
- Producer Responsibility (Lifecycle)
- Cradle to Grave
- Waste Hierarchy



# The Waste Act

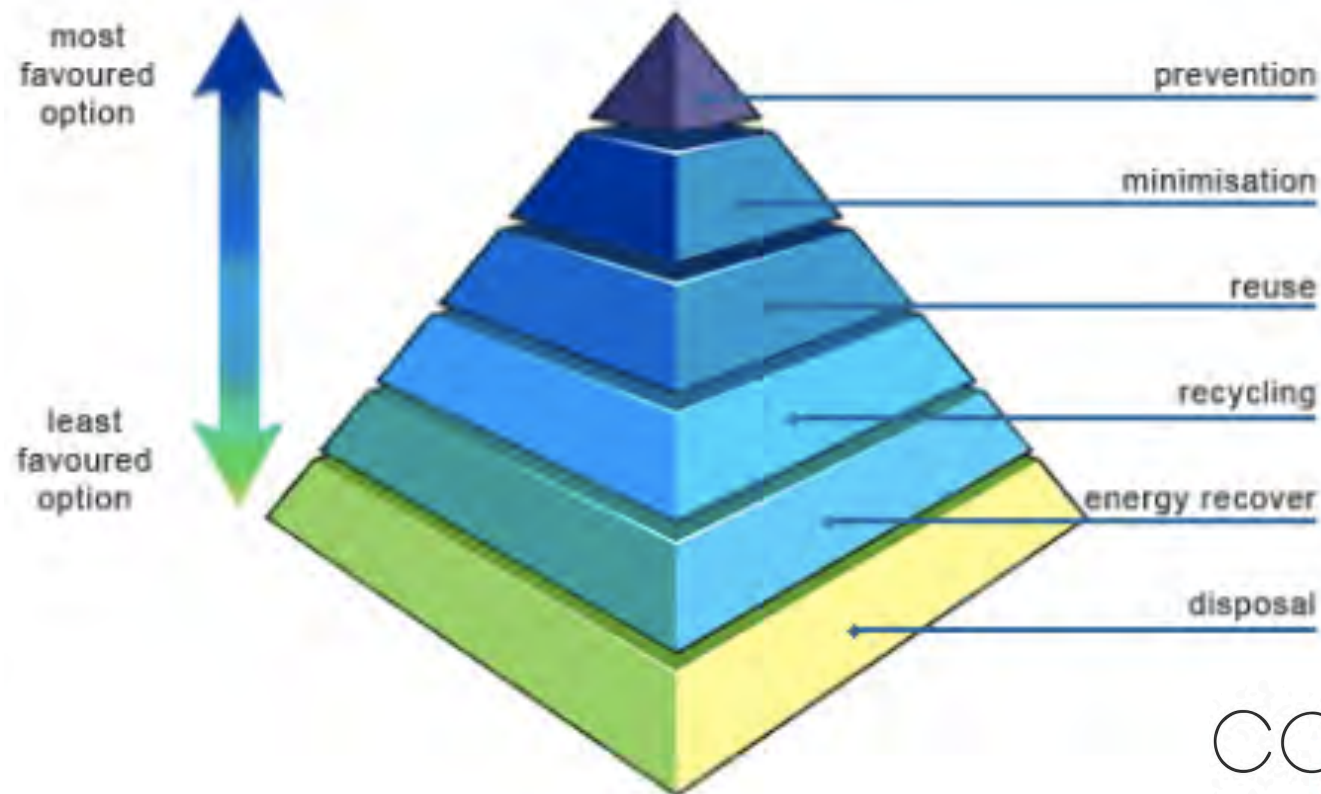
NEM: Waste Act 59 of 2008

Purpose of the Act:

- Provides compliance obligations for any person who undertakes an activity which produces waste or a person who handles any waste which has already been produced.
- This includes storage, transportation, processing, treating, reusing, recycling and disposal of waste.
- It also includes the remediation of contaminated land.
- The State is obligated by the Constitution, to protect the environment and prevent ecological degradation (Section 24) and is given effect through the promulgation of various regulations, policies and norms and standards.

# The Waste Hierarchy

- Entrenched in the Principles of NEMA - waste must be avoided, or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner



# Waste Act

- Ch1 Interpretation, Definitions and Principles
- Ch2 NWMS, Norms and Standards
- Ch3 Institutional Matters
- Ch4 Waste Management Measures
- Ch5 Compliance and Enforcement
- Schedule1: Waste Activities, licence requirements



# Waste Definitions – Hazardous Waste

## CATEGORY A: Hazardous Waste

**“hazardous waste”** means any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have a detrimental impact on health and the environment and includes hazardous substances, materials or objects within business waste, residue deposits and residue stockpiles as outlined below:

**“business waste”** means waste that emanates from premises that are used wholly or mainly for commercial, retail, wholesale, entertainment or government administration purposes, which include:

Residue deposits and residue stockpiles include:

<b>1) Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals</b>	<i>(a)</i> wastes from mineral excavation
	<i>(b)</i> wastes from physical and chemical processing of metalliferous minerals
	<i>(c)</i> wastes from physical and chemical processing of non-metalliferous minerals
	<i>(d)</i> wastes from drilling muds and other drilling operations [wastes]

# For the cosmetics industry...

<b>6. Wastes from organic chemical processes</b>	<i>(a)</i> wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals
	<i>(b)</i> wastes from the MFSU of plastics, synthetic rubber and man-made fibres
	<i>(c)</i> wastes from the MFSU of organic dyes and pigments
	<i>(d)</i> wastes from the MFSU of organic plant protection products, wood preserving agents and other biocides
	<i>(e)</i> wastes from the MFSU of pharmaceuticals
	<i>(f)</i> wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics
	<i>(g)</i> other wastes from the MFSU of fine chemicals and chemical products

# Building and demolition Waste...

“**building and demolition waste**” means waste, excluding hazardous waste, produced during the construction, alteration, repair or demolition of any structure, and includes rubble, earth, rock and wood displaced during that construction, alteration, repair or demolition, which include:

<b>11. Building and demolition wastes</b>	<i>(a)</i> discarded concrete, bricks, tiles and ceramics
	<i>(b)</i> discarded wood, glass and plastic
	<i>(c)</i> discarded metals
	<i>(d)</i> discarded soil, stones and dredging spoil
	<i>(e)</i> Other discarded building and demolition wastes

# Domestic Waste...

“domestic waste” means waste, excluding hazardous waste, that emanates from premises that are used wholly or mainly for residential, educational, health care, sport or recreation purposes, which include:

<b>12. Domestic wastes</b>	<i>(a)</i> garden and park wastes
	<i>(b)</i> municipal waste
	<i>(c)</i> food waste

# Inert Waste...

“inert waste” means waste that—

- (a) does not undergo any significant physical, chemical or biological transformation after disposal;
- (b) does not burn, react physically or chemically biodegrade or otherwise adversely affect any other matter or environment with which it may come into contact; and
- (c) does not impact negatively on the environment, because of its pollutant content and because the toxicity of its leachate is insignificant; and which include:

<b>13. Inert waste</b>	(a) discarded concrete, bricks, tiles and ceramics
	(b) discarded glass
	(c) discarded soil, stones and dredging spoil

## Waste Licences...

NEM: Waste Act – List of Activities that may have a detrimental effect on the environment – As amended 2 May 2014

CATEGORY A BASIC ASSESSMENT	CATEGORY B EIA	CATEGORY C Norms and Standards
<p><b>Storage of general waste in lagoons</b></p>	<p><b>Storage of hazardous waste in lagoons excl. effluent</b></p>	<p><b>Storage of Waste</b>                      Haz waste &gt;80m<sup>3</sup>                      Gen Waste &gt;100m<sup>3</sup>                      Waste Tyres &gt;500m<sup>2</sup></p>
<p><b>Recycling/Recovery Haz Waste</b>                      &gt;500kg&lt;1ton per day  <b>Recycling Gen Waste</b>                      &gt;500m<sup>2</sup> operational area  <b>Recovery of Gen Waste</b>                      10-100 tons per day</p>	<p><b>Reuse/Recycling/Recovery Haz Waste</b>                      &gt;1ton per day                      excluding recovery as part of an integral internal process  <b>Recovery of Gen Waste</b>                      &gt;100 tons per day excluding recovery as part of an integral internal process</p>	<p><b>Recycling and Recovery of Waste</b>                      Scrapping of motor vehicles &gt;500m<sup>2</sup>                      Extraction, recovery, flaring of landfill gas</p>

CATEGORY A BASIC ASSESSMENT	CATEGORY B EIA	CATEGORY C NORMS AND STANDARDS
<b>Treatment of Waste</b> Haz waste 500kg-1ton per day Gen waste 10ton-100ton per day	<b>Treatment of Waste</b> Haz waste >1ton per day In lagoons Gen waste >100ton per day	
<b>Disposal to land</b> Inert waste 25tons -25 000 tons General Waste <25 000 tons Premises not serviced by Municipality < 500kg per month	<b>Disposal to land</b> Any quantity of Haz waste Inert waste >25 000 tons General Waste >200m2, <25 000 tons	
The construction of facilities listed in A	The construction of facilities listed in B	
The expansion of facilities listed in A and B		
The decommissioning of facilities listed in A and B		

# Waste Assessment and Classification

- It is NB to remember the difference between ASSESSMENT and CLASSIFICATION!!
- Assessment is for LANDFILL DISPOSAL only in order to determine the permissible landfill the waste is allowed to be disposed at.
- Classification process is to determine whether the waste is HAZARDOUS or not in terms of SANS 10234 and GHS
- If the waste is classified HAZARDOUS it requires an SDS



# Assessment of Waste for landfill and Classification-Analyses

Chemical Component/ Analyses Australian Standard leach process and TOTAL analyses	
As	SVOC's
B	VOC's
Ba	PAH total
Cd	PHC's (c6-C9)
Co	PHC's (C10-C36)
Cr TOTAL	Phenols (Total - non-halogenated)
CrVI	PCB's
Cu	Aldrin and Dieldrin
Hg	DDT, DDD, DDE
Mn	2,4-D
Mo	Chlordane
Ni	Heptachlor
Pb	BTEX's
Sb	TOC
Se	PCB's
V	Mineral Oil (C10-C40)
Zn	LOI
TDS	C
Cl-	Appearance
SO4-	Total Organic% (Ashing)
NO3-	Moisture content
F, Fluoride	pH
CN- (total), Cyanide Total	pH 10% aqueous solution
Flammability	pH 5% aqueous solution
Density kg/l	pH 5% leach solution
Calorific Value	Reactivity
TDS	Radioactivity
leachable TDS	Flash point
Phosphorus,P	Sulphur

SANAS  
ACCREDITED  
LABS ONLY!!

Cost ~ R10-15k  
per set

# Assessment of Waste for landfill

## -Waste Types

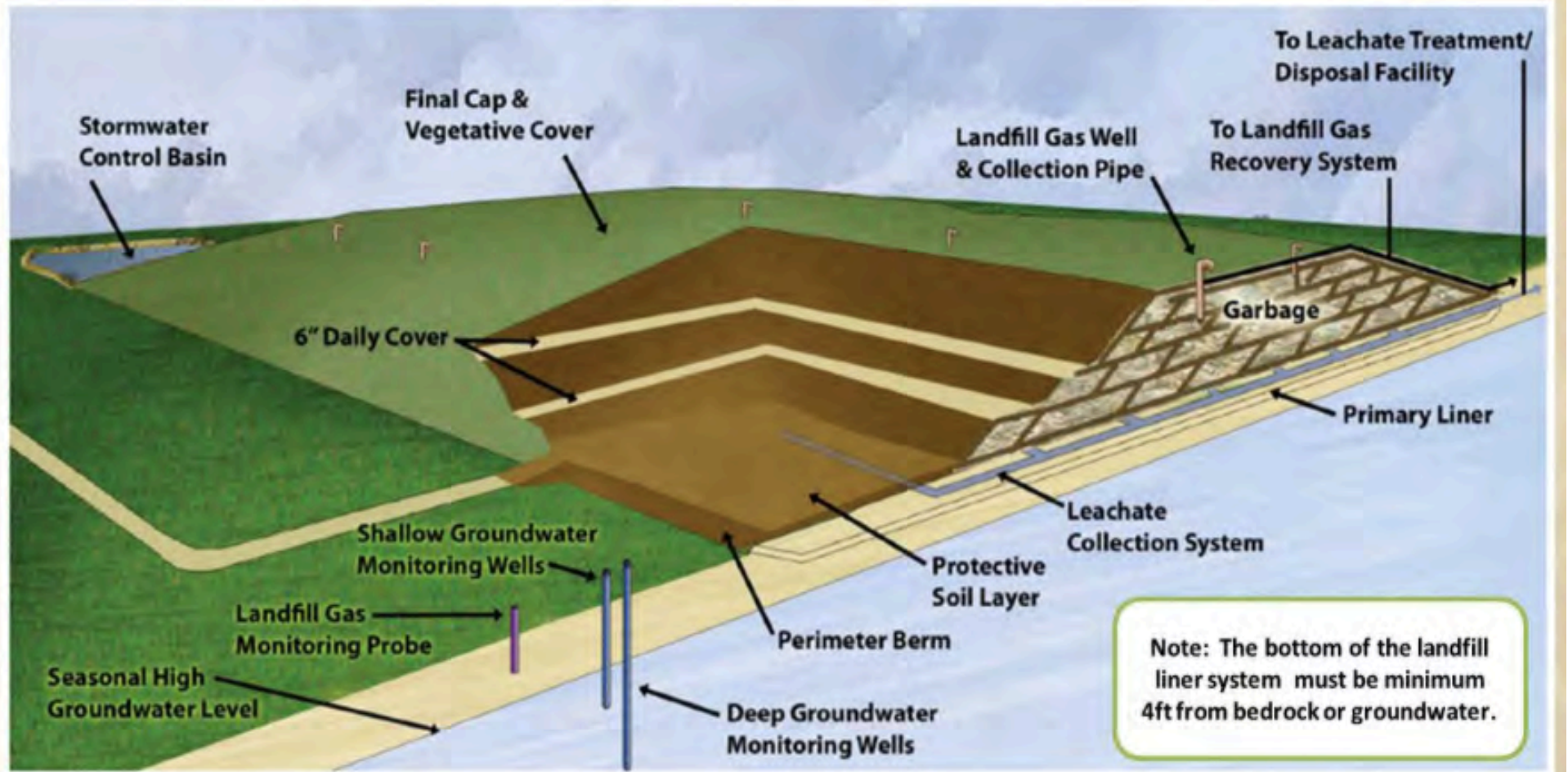
Type of Waste	Element or chemical substance concentration
Type 0	$LC > LCT3$ <b>OR</b> $TC > TCT2$
Type 1	$LCT2 < LC \leq LCT3$ <b>OR</b> $TCT1 < TC \leq TCT2$
Type 2	$LCT1 < LC \leq LCT2$ <b>AND</b> $TC \leq TCT1$
Type 3	$LCT0 < LC \leq LCT1$ <b>AND</b> $TC \leq TCT1$
Type 4	$LC \leq LCT0$ <b>AND</b> $TC \leq TCT0$ for metal ions and inorganic anions <b>AND</b> all chemical substances are below the total concentration limits provided for organics and pesticides listed
Wastes that do not need assessment	Refer to Annexure 1 of the WC&MR

# Assessment of Waste for landfill

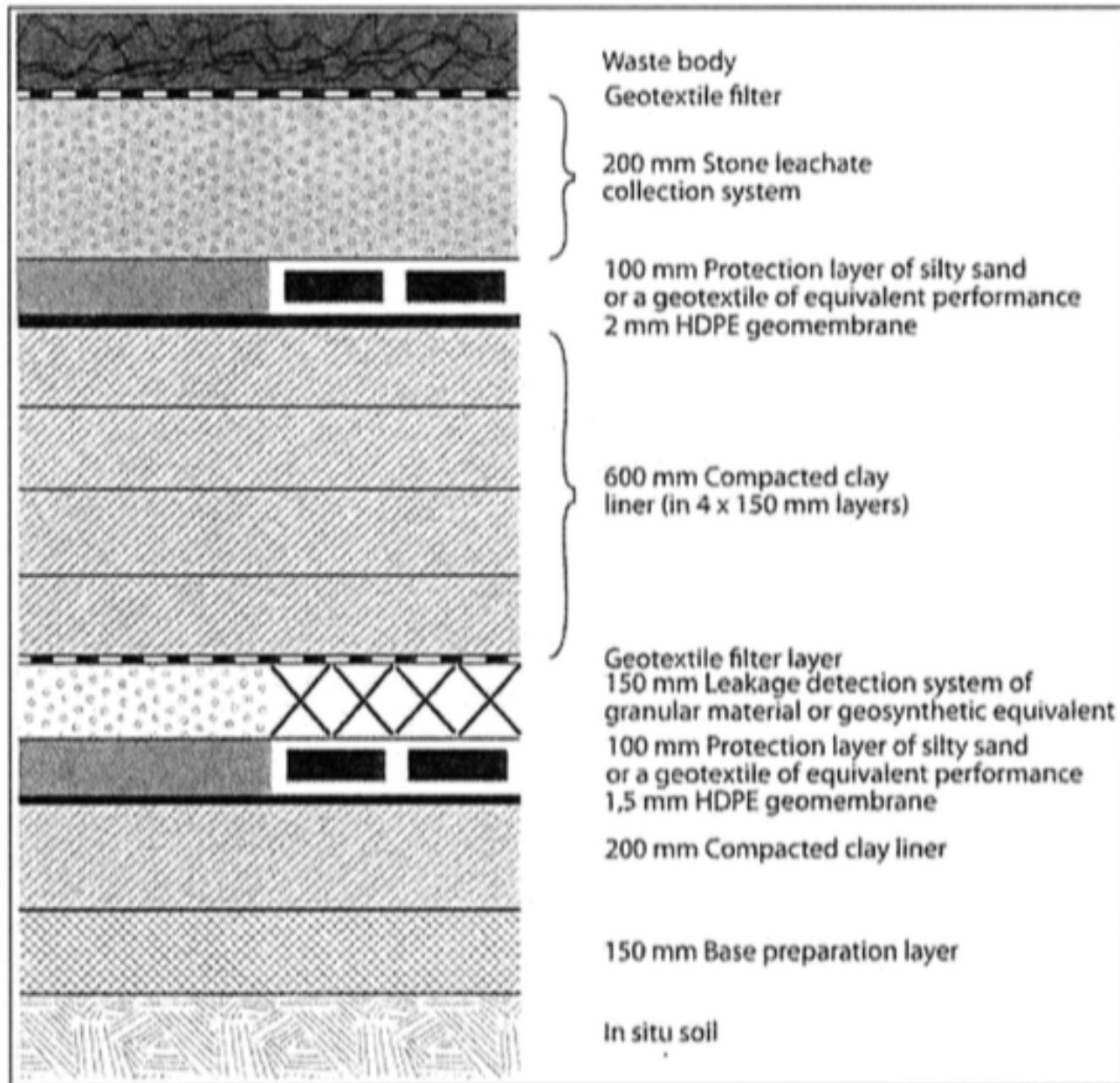
## -Landfill Types

Waste Risk Level	Disposal Requirements
Type 0:	Disposal <b>not allowed</b> . The waste must be treated first and then re-tested to determine the risk profile for disposal.
Type 1:	<b>Class A</b> or <b>Hh/HH</b>
Type 2:	<b>Class B</b> or <b>GLB+</b>
Type 3:	<b>Class C</b> or <b>GLB+</b>
Type 4:	<b>Class D</b> or <b>GSB-</b>

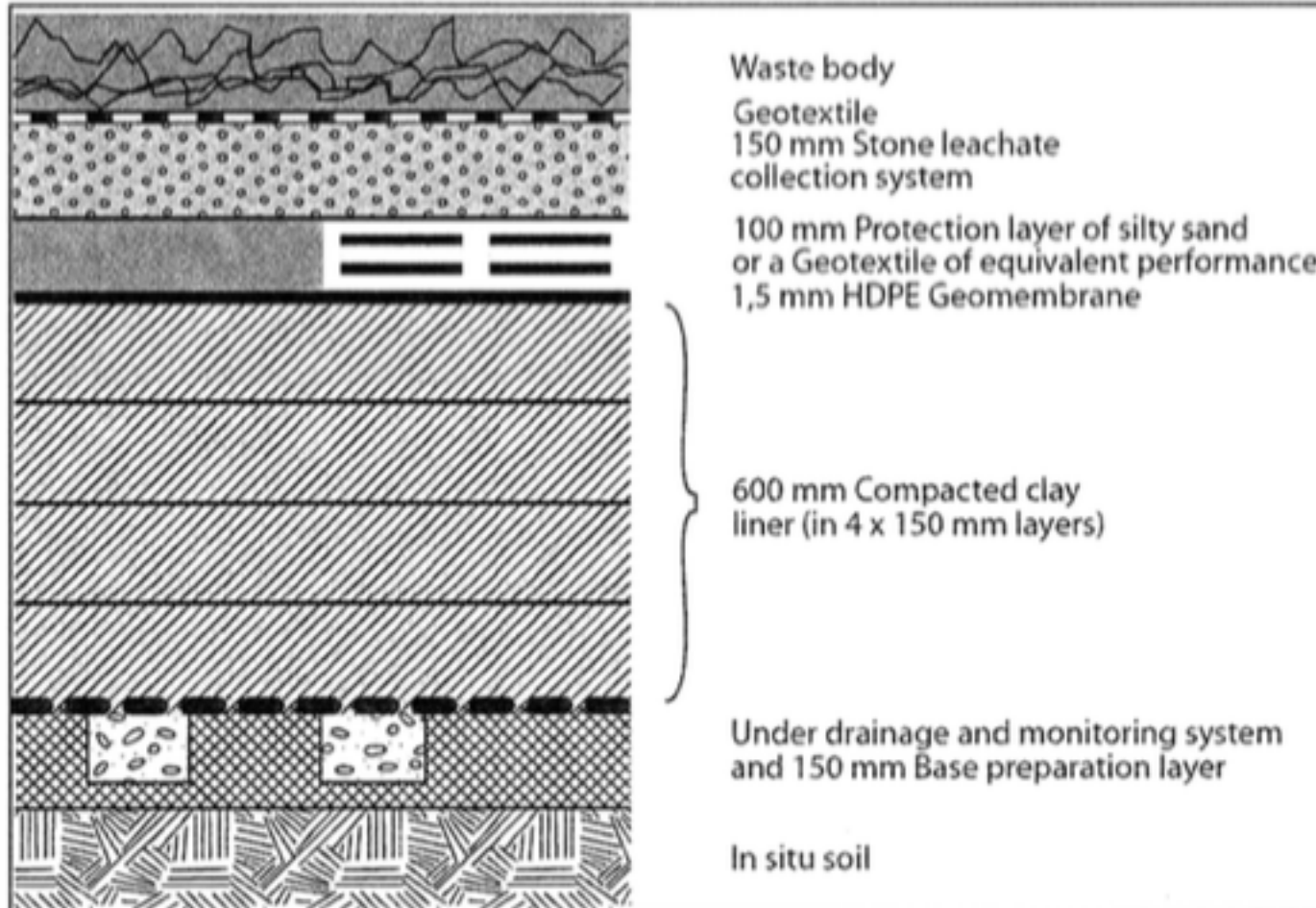
# Design of a Landfill



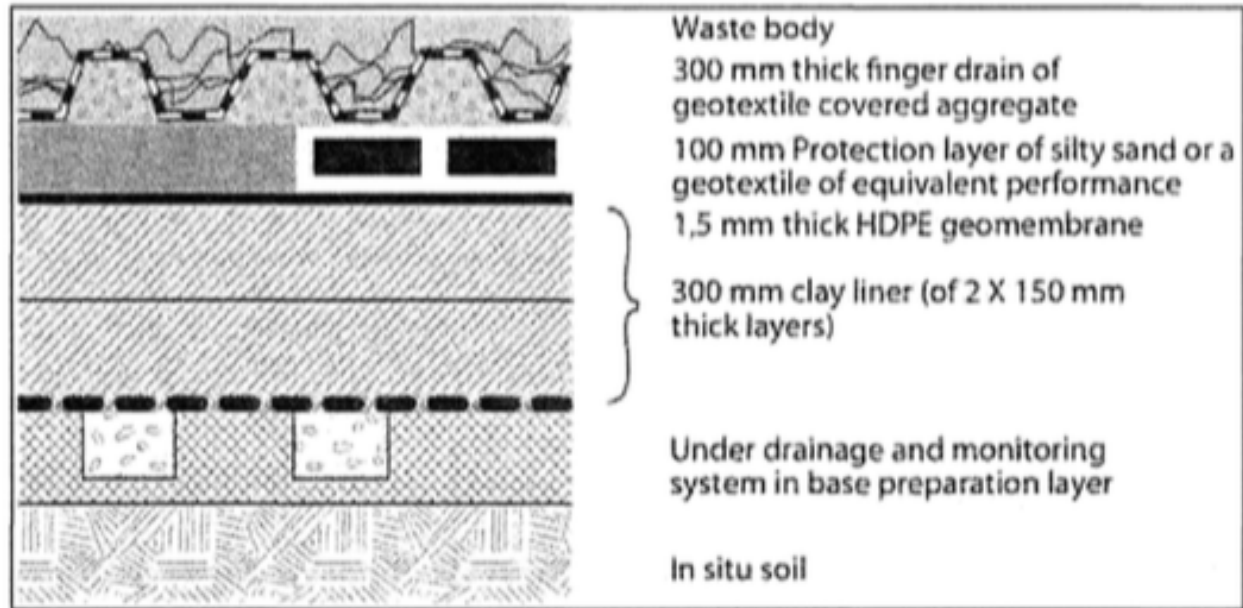
(a) Class A Landfill:



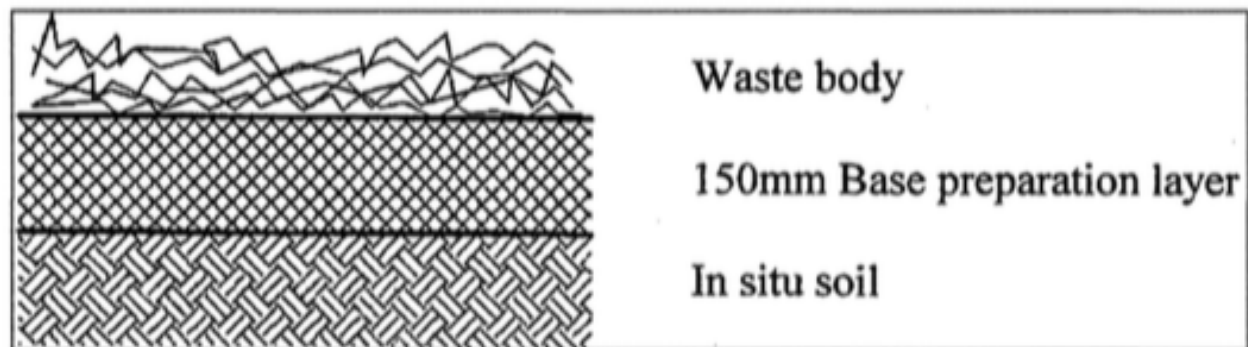
(b) Class B Landfill:



(c) Class C Landfill:



(d) Class D Landfill:



# Prohibitions to landfill...



At date of regulation (23rd Aug 2013)	Implementation year	Timeframes as per the National Norms and Standards for the disposal of waste to landfill, Aug 2013 - Waste Prohibited or Restricted in terms of Disposal
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Immediate	Immediate	<p>Waste which, in the conditions of a landfill, is explosive, corrosive, oxidizing (according to SANS 10234 or SANS10228).</p> <p>Waste with a pH value of &lt;6 or &gt;12.</p> <p>Flammable waste with a closed cup flashpoint lower than 61° Celsius.</p> <p>Reactive waste that may react with water, air, acids or components of the waste, or that could generate unacceptable amounts of toxic gases within the landfill.</p> <p>Waste compressed gases (according to SANS 10234 or SANS 10228).</p> <p>Untreated Healthcare Risk Waste (HCRW).</p> <p>Lead acid batteries.</p> <p>Waste tyres: Whole.</p> <p>Infectious animal carcasses and animal waste.</p>
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3 years	2016	Hazardous Waste Electric and Electronic Equipment (WEEE) - Lamps.
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4 years	2017	<p>Other waste pesticides.</p> <p>Re-usable, recoverable or recyclable used lubricating mineral oils, as well as oil filters, but excluding other oil containing wastes .</p> <p>Hazardous waste with a calorific value of &gt;25MJ/kg</p>
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5 years	2018	<p>Re-usable, recoverable or recyclable used or spent solvents.</p> <p>PCB containing wastes (&gt;50 mg/kg or 50 ppm).</p> <p>Waste tyres: Quartered.</p> <p>Disposal of garden waste:</p> <p>25% diversion from the baseline at a particular landfill of separated garden waste.</p> <p>Prohibited or Restricted Waste Disposal Activities:</p> <p>Type 1 Waste that has been treated, with waste listed in paragraph (2)(a) of Annexure 1 to the Regulations;</p> <p>Waste classified as hazardous in terms of regulation 4(1), or waste listed in paragraph (2)(b) of Annexure 1 to the Regulations, with waste listed in paragraph (2)(a) of Annexure 1 to the Regulations; and</p> <p>Type 4 Waste with any waste other than Type 4, unless part of treatment.</p>
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At date of regulation (23rd Aug 2013)	Implementation year	Timeframes as per the National Norms and Standards for the disposal of waste to landfill, Aug 2013 - Waste Prohibited or Restricted in terms of Disposal
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6 years	2019	<p>Liquid waste- Waste which has an angle of repose of less than 5 degrees, or becomes free-flowing at or below 60 °C or when it is transported, or is not generally capable of being picked up by a spade or shovel; or Waste with a moisture content of &gt;40% or that liberates moisture under pressure in landfill conditions, and which has not been stabilised by treatment. Hazardous waste with a calorific value of &gt;20 MJ/kg</p>
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8 years	2021	<p>POPs pesticides listed under the Stockholm Convention. Other batteries. Hazardous Waste Electric and Electronic Equipment (WEEE) - Other. Brine or waste with a high salt content (TDS &gt; 5%), and a leachable concentration for TDS of more than 100 000 mg/l. Macro-encapsulation of waste, meaning the isolation (or long-term storage) of waste through containment in containers within a sealed or reinforced cell in a specifically prepared and engineered area within a permitted hazardous waste landfill.</p>
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10 years	2023	<p>Disposal of garden waste: 50% diversion from the baseline at a particular landfill of separated garden waste</p>
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12 years	2025	Hazardous waste with a calorific value of >10 MJ/kg
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15 years	2028	>6% TOC
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# Classification of Waste

- SANS 10234 covers the harmonised system for the classification of substances and mixtures including waste.
- In order to classify waste you need to identify the information regarding the components or the waste as a whole:
  - Physical/Chemical Properties
  - Biological Availability (Health and Environmental Hazards)
- Wastes listed in Annexure 1 of regulations do not need to be ASSESSED nor CLASSIFIED
  - The wastes listed as hazardous must have an SDS

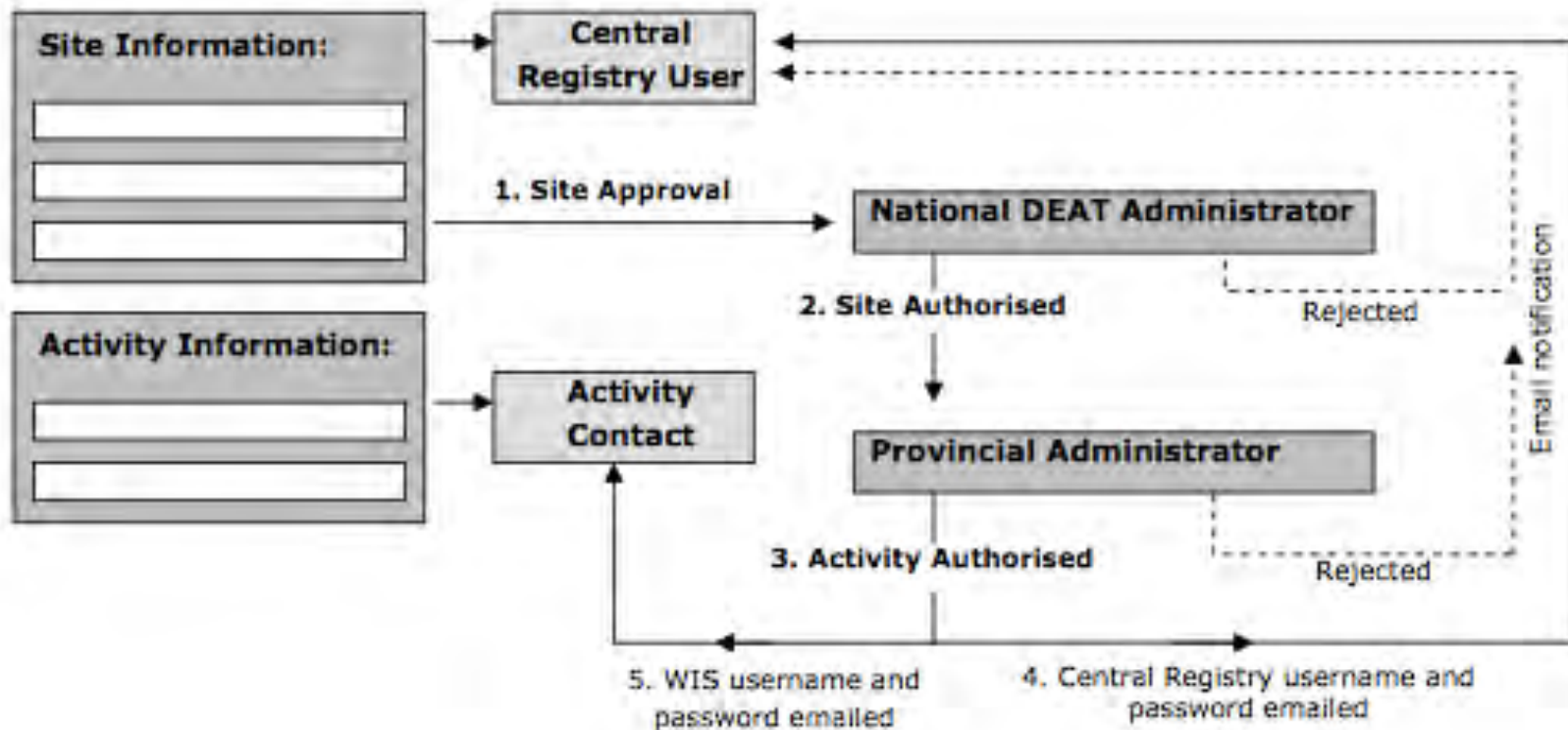
# Timelines..

- **Feb 23rd 2015** – All hazardous wastes that weren't classified and assessed BEFORE the REGULATIONS in terms of the Minimum Requirements need to be classified and Assessed for landfill by this date
- **Aug 23rd 2016** – All hazardous wastes that were classified BEFORE the REGULATIONS in terms of the Minimum Requirements need to be classified and Assessed for landfill by this date
- Any new waste that is generated from 23rd Aug 2013 needs to be classified within **180 days of generation**
- Waste must be re-classified within **30 days of modification** to the process generating the waste
- Waste must be re-assessed and re-classified every **5 years**

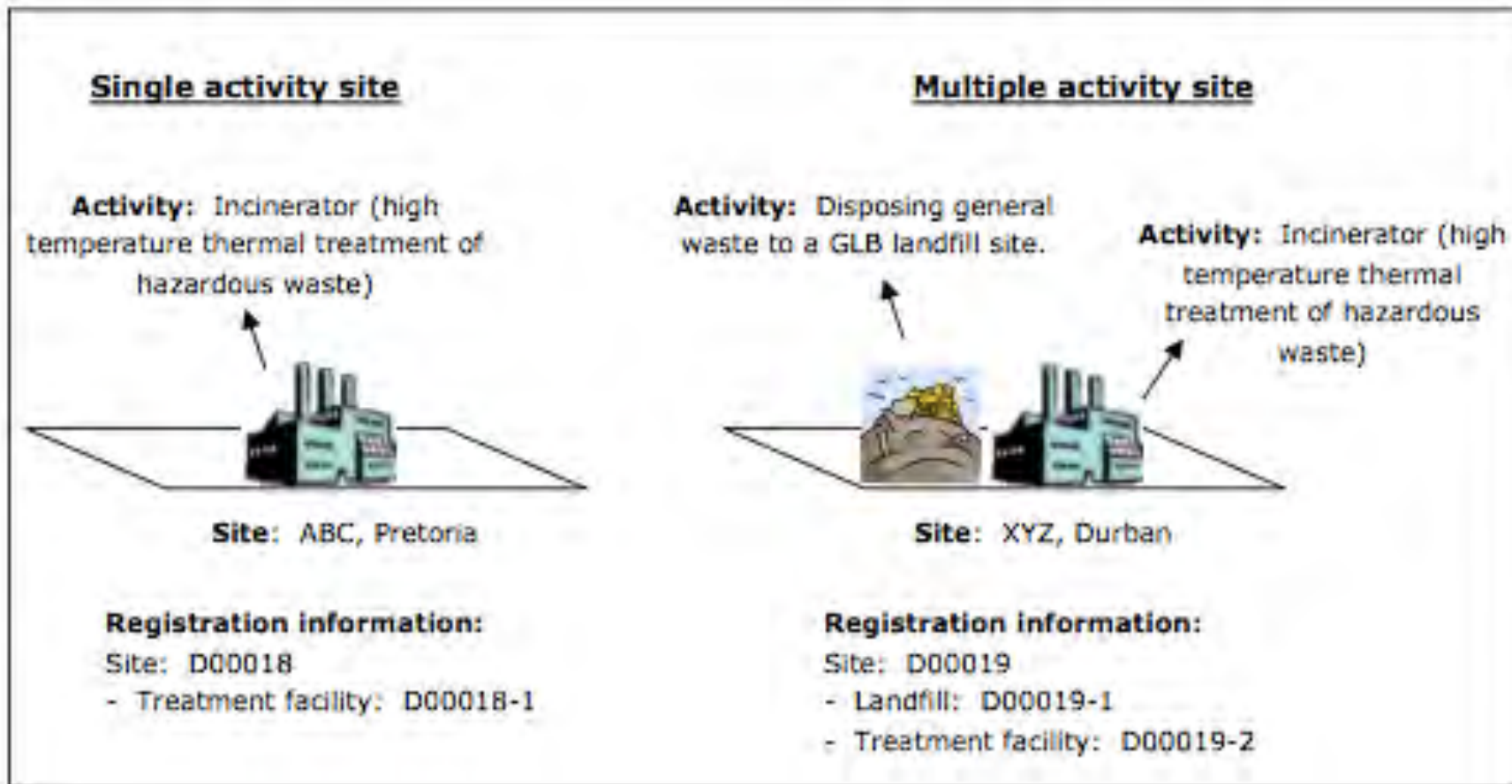
# South African Waste Information System (SAWIS)

## -Authorisation Process

### Registration Information



# Activity Type



## C. WASTE CATEGORISATION & REPORTING (SAWIS)

### REGISTRATION ON SAWIS:

- Hazardous Waste Generators (> 20kg/day) [*incorporates Standard Industrial Classification (SIC) Code*]
- Waste Management Facilities [*incorporates Waste Recycling, Treatment & Disposal (R, T & D) Codes*]

### WASTE CATEGORISATION:

- Level 1: General or Hazardous Waste
- Level 2: Major Waste Types
- Level 3: Specific Waste Types

### REPORTING TO SAWIS

(by Waste Management Facilities):

- Types & quantities of waste managed at facility
- Types & quantities of waste per generator

### ANNEXURE 3

#### GENERAL WASTE TYPES FOR REPORTING TO THE SAWIS

examples

LEVEL 1	LEVEL 2 - Major Waste Type		LEVEL 3 - Specific Waste Type	
GENERAL WASTE	No.	Name	No.	Name
	GW 01	Municipal waste	01	
	GW10	Commercial and industrial waste	01	
	GW13	Brine	01	
	GW14	Fly ash and dust from miscellaneous filter sources	01	
	GW15	Bottom ash	01	
	GW16	Slag	01	Ferrous metal slag
			02	Non-ferrous metal slag
			03	Other
	GW 17	Mineral waste	01	Foundry sand
			02	Refractory waste
			03	Other
	GW 18	Waste of Electric and Electronic Equipment (WEEE) from which hazardous components/substances have been removed	01	Large Household Appliances
			02	Small Household Appliances
			03	Office, information & Communication Equipment
			04	Entertainment & Consumer Electronics and toys, leisure, sports & recreational



# Hazardous Waste Types for reporting -

HW 04	POP Waste	01	PCB containing waste (>50mg/kg)
		02	Other POP-containing waste
HW 05	Inorganic waste	01	Liquid and sludge inorganic waste
		02	Solid inorganic waste
		03	Spent pot lining (inorganic)
HW 06	Asbestos containing waste	01	Asbestos containing waste
HW 07	Waste Oils	01	Waste oil
HW 08	Organic halogenated and /or sulphur containing solvents	01	Solvents containing halogens and/or sulphur
HW 09	Organic halogenated and/or sulphur containing waste	01	Liquids and sludges containing halogens and/or sulphur
		02	Solids containing halogens and/or sulphur
HW 10	Organic solvents without halogens and sulphur	01	Solvents without halogens and sulphur
HW 11	Other organic waste without halogen or sulphur	01	Liquid and sludge organic waste
		02	Solid organic waste
		03	Spent pot lining (organic)
HW 12	Tarry and Bituminous waste	01	Tarry waste
		02	Bituminous waste
HW 13	Brine	01	Brine
HW 14	Fly ash and dust from miscellaneous filter sources	01	Fly ash
HW 15	Bottom ash	01	Bottom ash
HW 16	Slag	01	Ferrous metal slag
		02	Non-ferrous metal slag
		03	Other

examples

# SAWIS Reporting Requirements

- Anyone:
  - Landfilling general waste at a GMB and GLB site
  - Landfilling of Hazardous waste
  - Recovery of energy from Hazardous Waste
  - Treating Hazardous waste by high thermal treatment
  - Treating health care risk waste by means of non-thermal treatment
  - Reprocessing paper and cardboard
  - Reprocessing plastic
  - Exporting hazardous waste.

# NEM:WA Record Keeping Requirements

- The following records need to be kept by waste generators
  - Classification of the waste
  - Quantities of waste generated, reused, disposed, recycled, treated
  - By whom the waste was managed
  - Records need to be kept for 5 years

# NEM:WA Waste Manifest Requirements

- Information to be supplied by the Waste Generator (Consignor)-
  - Unique consignment identification number;
  - If applicable, the SAWIS Registration
  - Generator's contact details (contact person, physical & postal address, phone, fax, email);
  - Physical address of the site where the waste was generated (if different from (iii));
  - Contact number in case of an incident or after hours;
  - Origin / source of the waste (process or activity);
  - Classification of the waste and Safety Data Sheet;
  - Quantity of waste by volume (m<sup>3</sup>) or weight (tons);
  - Date of collection / dispatch;
  - Intended receiver (waste manager); and
  - Declaration (content of the consignment is fully and accurately described, classified, packed, marked and labeled, and in all respects in proper condition for transportation in accordance with the applicable laws and regulations).

- Information to be supplied by the Waste Transporter-
  - Name of transporter;
  - Address and telephone number of transporter; and
  - Declaration acknowledging receipt of the waste.
  
- Information to be supplied by the Waste Manager (Consignee)-
  - Name, address and contact details;
  - Receiving waste management facility name, address and contact details (where different);
  - Waste management facility licence number;
  - Date of receipt;
  - Quantity of waste received by weight (tons), and volume (m<sup>3</sup>) if applicable;
  - Type of waste management applied (re-use, recycling, recovery, treatment, disposal);
  - Any discrepancies in information between the different holders of the waste (related to waste quantity, type, classification, physical and chemical properties);
  - Waste management reporting description and code in terms of the National Waste Information Regulations, 2012;
  - Details on any waste diverted to another waste management facility, and details of the facility; and
  - Certification and declaration of receipt and final management of the waste.

Thank you  
Questions?

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# Profile



- Belinda Berry – Principle consultant has 22 years experience in the waste industry with particular emphasis on hazardous waste management.
- We specialise in the following areas:
  - An Independent Advisory Service
  - Ad hoc Consulting on an hourly basis for your general advisory needs
  - Waste Management Procurement Services (Brokerage)
  - Facility Waste Assessments Reports – understanding your legal and operational requirements
  - Waste Classification and Safety Data sheet development (SDS's)
  - Internal Audits and Service Provider Audits - Environmental
  - Environmental Legal Compliance- operational level
  - Environmental due diligence (operational and process)
  - Environmental/Waste Training
  - Practical, specialist waste advisory consulting services
  - Remediation project management services
  - Cleaner Production
  - Life Cycle Assessments
  - Greening Solutions (Waste, energy, water, systems)
  - Recycling Systems and process implementation
  - Developing and implementation of innovative beneficiation solutions for waste and by-product materials