CONSTANT ENERGY LIMITED

TIRAWLEY WIND FARM

CO. MAYO

CONSTUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

MANAGEMENT PLAN 5

WASTE MANAGEMENT PLAN

April 2026

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DOCUMENT APPROVAL

PROJECT	Tirawley Wind Farm	
CLIENT / JOB NO	Constant Energy Limited	6289
DOCUMENT TITLE	Construction Environmental Management Plan (CEMP) Management Plan 5 Waste Management Plan	

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Date April 2026	Signature Darren Timlin Padraig O' Dowd	Signature David Kiely

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1 INTRODUCTION

1.1 Scope and Requirements

This Management Plan is a 'live' document that can be reviewed and updated at regular intervals throughout the Proposed Developments life cycle. The Contractor is required to develop and adapt this document in line with the activities of the project being undertaken for the Proposed Development. The contractor will approve this Plan (and any future amendments of the document) with the Ecological Clerk of Works prior to any work commencing.

The information in this document forms part of the Construction Environmental Management Plan (CEMP) and is the Site Waste Management Plan for the Proposed Development.

The CEMP and the measures detailed in this Wate Management Plan are part of the main requirements for consents for planning permissions. As such, the contractor (and all sub-contractors) onsite are obligated to incorporate these waste requirements (contained herein) in all operations.

The general methods and principles detailed within this document will be adhered to by the contractor as they are committed to reduce the resources it uses in the construction work of the Proposed Development.

1.2 Waste Prevention & Waste Regulations:

In 2012, the Department of the Environment, Community and Local Government published the Waste Management Policy in Ireland (DoECLG, 2012). One of its guiding principles is to minimise waste.

The Waste Hierarchy which contractors are obligated to apply: (Source: EC[1]):

The waste management hierarchy applies to all waste, including hazardous waste. The top of the hierarchy indicates that the priority should be in preventing waste being produced in the first place.

The Contractor will:

- Ensure that the disposal and recovery of waste does not present a risk to water, air, soil, plants and animals
- Not allow waste disposal to constitute a public nuisance through excessive noise levels or unpleasant odours, or to degrade places of special natural interest
- Prohibit the dumping or uncontrolled disposal of waste
- Prepare Waste Management Plans
- Ensure that waste treatment operations are licensed
- Require waste collectors to have special authorization and to keep records
- Ensure that the waste which cannot be prevented or recovered is disposed of without causing environmental pollution.

[1] European Commission [Available at: 25/09/2025] https://ec.europa.eu/environment/topics/waste-and-recycling/waste-framework-directive_en

The EU Integrated Pollution Prevention and Control Directive (Directive 96/61/EC) provides for a permit system for activities including waste management. In adherence with this Directive the Contractor must:

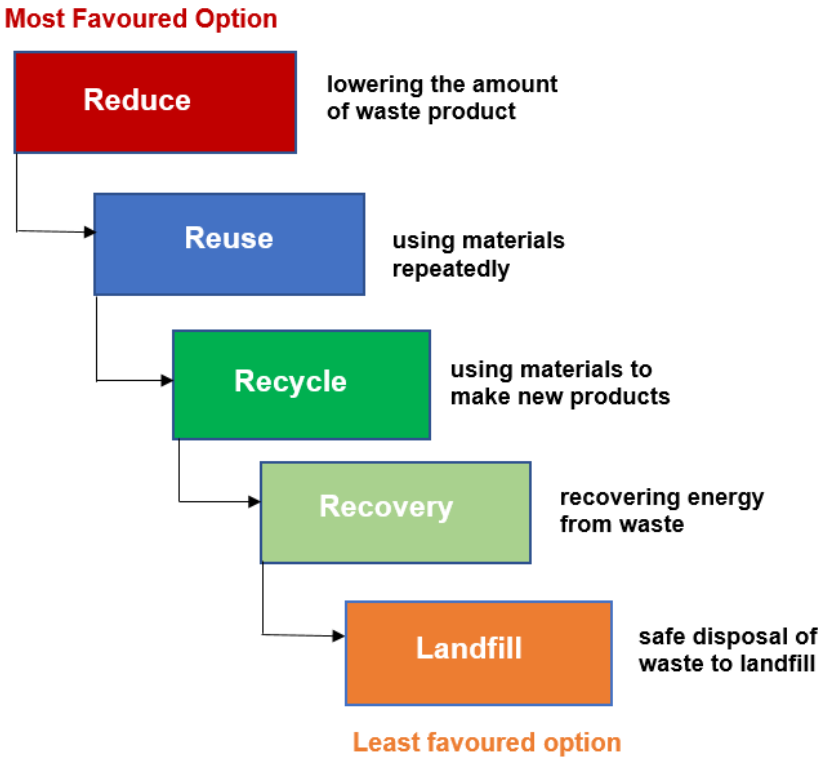
- Be in possession of a waste permit for waste disposal and
- Be prepared at all times for inspection regarding monitoring of waste activities.

1.3 Benefits of Waste Prevention

The contractor will prevent waste through implementing reduction and effectively managing resources from the design stage of construction to the completion of the construction of the Proposed Development. This will ensure that:

- Legal obligations are met
- Waste production is minimised
- Build costs are minimised
- A framework for continuous assessment and best practice is implemented
- Carbon emissions and negative environmental impacts of and from waste materials are reduced

The following image explains this in more detail. The least favoured option is to dispose of waste to landfill where embodied energy is not recovered. The Waste Hierarchy (EU Waste Framework Directive, 2008) is outlined below:



1.4 Reference Documentation

As well as the Waste Management Act 1996-2008 other guidance documents have been used to develop this plan. These include:

Pollution Prevention Guidelines:

Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects, Department of Environment, Heritage & Local Government, July 2006.

EU Directive:

Article 4 of Waste Framework Directive (Directive 2008/98/EC)

This sets out the five steps for dealing with waste.

2 WASTE MANAGEMENT PLAN MINIMUM REQUIREMENTS

A Site Waste Management Plan involves the following stages:

- Planning
- Implementation
- Monitor
- Review

2.1 Planning

The planning stage of the Tirawley Wind Farm 'the Proposed Development' has taken into account the nature of the site, design of the wind farm, environmental considerations and construction methods to minimise the quantity of waste produced onsite during its construction.

2.2 Implementation

This Waste Management Plan will include:

1. An inventory of waste type expected to be produced in the course of the Proposed Development.
2. Estimates of each type of waste that will be produced in the construction of this wind farm.
3. A statement showing how the contractor will minimise each type of waste to be produced prior to any activity generating this waste.

4. Procedures for identification of the waste management actions proposed for each different waste type, including re-using, recycling, recovery and disposal (in accordance with the waste hierarchy priorities).

2.3 Monitoring

2.3.1 Checks and Records

All stores onsite of oil, fuel, chemicals etc will be regularly checked (in particular in extreme weather conditions) for evidence of leaks or spills. The timing of each of these checks is detailed in **Section 3**. These checks will be visual inspections to look for evidence of contamination.

Records of all visual checks will be maintained and be available for inspection on request. Waste Management will be a regular item on team meetings as required by the CEMP. Waste Management Practices will be revised at these meetings. A waste audit will be carried out every six months (**Section 2.3.3**).

2.3.2 Waste Inventory

A waste inventory will be maintained and kept up to date. It will include an inventory of all waste materials leaving the site for disposal and the name of the licensed operator and intended disposal facility. A Waste Inventory Spreadsheet will be added to this plan by the Contractor.

2.3.3 Monitoring of Site Waste Management Plan

The contractor will appoint a person to implement and monitor the Waste Management Plan. This will be the Ecological Clerk of Works.

As stated, the Waste Management Plan will include an inventory of the types and estimates of the waste to be produced onsite. The appointed person will ensure that a Site Waste Audit is carried out every six months.

2.4 Completion, Audit and Review

Upon completion of construction works but before the end of the defect's correction period, a Waste Management Review will be undertaken. The aim of this is to identify project progress, measure compliance with licenses and to consider lessons learnt.

A Waste Management Review will be carried out at the end of construction.

2.5 Site Waste Management as Part of Site Induction process

All workers onsite at the Tirawley Wind Farm 'the Proposed Development' will be fully briefed with the Waste Management Plan. All site visitors will be briefed on appropriate waste storage and disposal units. Littering onsite will not be tolerated. All personnel have a Duty of Care to challenge others noted littering onsite.

3 GENERAL WASTE MANAGEMENT PRINCIPLES

- The Contractors will avoid or minimise the volume of waste generated.
- All construction and operation waste materials will be correctly sorted, recycled or disposed of accordance with good site practice and in accordance with the Site Waste Management Plan. A policy of Reduce, Reuse and Recycle will apply.
- Waste will be stored a minimum of 50 m from nearby watercourses or drains at the Site.
- Waste storage and disposal will be carried out in a way which prevents pollution in compliance with legislation.
- All waste to be transported offsite to a licensed facility will be documented in accordance with the European Union (Waste Directive) Regulations 2020. An adequate description of the waste and where it came from will be given and an appropriate European Waste Catalogue Code and Standard Industrial Classification Code will be provided. The quantity and nature of the waste will be described and how it is contained. Personal details of the waste transferor and transferee at Tirawley Wind Farm will be documented. Waste will only be transferred by registered/licensed and competent person(s).
- All oil storage facilities will have secondary containment facilities of 110% storage capacity (e.g., bund, enclosure, drip tray). All of these will be regularly inspected for visual signs of leaks or something that would impact on their capacity – e.g., a drip tray full of rainwater.
- Waste storage areas will be clearly located and signed. Key waste streams will be separated.
- All waste will be transported from site at appropriate frequency by a registered waste contractor to prevent over-filling of waste containers.
- Provide toolbox talks, environmental training and awareness of sensitive receptors and waste management within the Wind Farm Site for all project personnel.
- Use of waste materials during construction will be minimised by good site practices and waste management plans.

- Frequency of Checks. The contractor will ensure that all storage facilities are checked on a weekly basis. The checklist for completion is attached below.

VISUAL WASTE STORAGE CHECKLIST		
Waste Area Checked	**Date Checked**	**Initials of Checker**
GENERAL OFFICE WASTE		
BOWSER		
PORTALOO		
EXCAVATED SOIL		
WASHINGS		
CONCRETE		
OIL		
HAZARDOUS WASTE e.g., 17 05 03* soil and stones containing hazardous substances 2		

4 ANTICIPATED CONSTRUCTION WASTE STREAMS

As stated previously, the Contractors will outline prior to commencement of construction all anticipated waste streams to be produced at the construction site at the Proposed Development.

4.1 Waste from Staff Facilities

4.1.1 General Waste Generate at Staff facilities

There will be the typical waste generated in an office such as left-over food and sandwich wrappers. This is a non-hazardous waste. All such waste will be stored appropriately and safely from wind, rain and wild animals that often tear apart rubbish bags. Provision for separation of waste streams will be provided so that e.g., paper and cardboard waste and bottles may be recycled.

[2] https://www.epa.ie/publications/monitoring--assessment/waste/2019--FULL-template.pdf

4.1.2 Sewage

Temporary Construction Compound

During the construction phase, water will be supplied by water bowser. The maximum wastewater production is estimated to be the same as the maximum water consumption 2,000 litres per day (Taken from Table 3 EPA WW Treatment Manual). The Proposed Development will include an enclosed wastewater management system at the Temporary Construction Compounds capable of handling the demand during the construction phase with 45 to 63 construction workers onsite at peak. A holding tank is proposed for wastewater management. Wastewater will be removed offsite weekly, by a licensed wastewater disposal company and disposed at an appropriate licensed facility, likely to be in Killala or WWTP.).

Permanent Operations Compound

To the North of the Wind Farm Site, there is a vacant dwelling located to the South of wind turbine AT12, this property is in control and ownership of the application (the Developer). A change of use is sought for the existing residential site to a permanent operations compound. This will involve the change of use of the existing dwelling to an operations office, providing meeting rooms and welfare facilities for the operational and maintenance staff. An existing septic tank is present at the vacant dwelling. This septic tank and percolation area will be upgraded, to ensure that it is appropriately sized to meet the needs of the Proposed Development. Upgrades and design of the septic tank and percolation area will be carried out in line with the appropriate guidelines and legislation.

4.2 Concrete

4.2.1 Concrete Waste and wash-out water

Precast concrete will be used wherever possible i.e., formed offsite. Elements of the Proposed Development where precast concrete will be used have been identified and are indicated in the CEMP. Elements of the Proposed Development where the use of precast concrete will be used include structural elements of watercourse crossings (single span / closed culverts) as well as Cable Joint Bays. Elements of the Proposed Development where the use of precast concrete is not possible include Turbine Foundations and joint bay pit excavations. Where the use of precast concrete is not possible the following mitigation measures will apply:

- The acquisition, transport and use of any cement or concrete onsite will be planned fully in advance and supervised at all times.

- Vehicles transporting such material will be relatively clean upon arrival onsite, that is; vehicles will be washed/rinsed removing cementitious material leaving the source location of the material. There will be no excess cementitious material on vehicles which could be deposited on trackways or anywhere else onsite. To this end, vehicles will undergo a visual inspection prior to being permitted to drive onto the proposed site or progress beyond the contractor's yard. Vehicles will also be in good working order.
- Any shuttering installed to contain the concrete during pouring will be installed to a high standard with minimal potential for leaks. Additional measures will be taken to ensure this, for example the use of plastic sheeting or other sealing products at joints.
- Concrete will be poured during metrological dry periods/seasons. This will reduce the potential for surface water run off being significantly affected by freshly poured concrete. This will require limiting these works to dry meteorological conditions i.e. avoid foreseen sustained rainfall (any foreseen rainfall event longer than 4-hour duration) and/or any foreseen intense rainfall event (>3 mm/hour, yellow on Met Eireann rain forecast maps), and do not proceed during any yellow (or worse) rainfall warning issued by Met Eireann. This also will avoid such conditions while concrete is curing, in so far as practical.
- Ground crew will have a spill kit readily available, and any spillages or deposits will be cleaned/removed as soon as possible and disposed of appropriately.
- Pouring of concrete into standing water within excavations will be avoided. Excavations will be prepared before pouring of concrete by pumping standing water out of excavations to the buffered surface water discharge systems in place.
- Temporary storage of cement bound sand (if required) will be on hardstand areas only where there is no direct drainage to surface waters and where the area has been bunded e.g., using sand-bags and geotextile sheeting or silt fencing to contain any solids in run-off.
- No surplus concrete will be stored or deposited anywhere onsite. Such material will be returned to the source location or disposed of off-site appropriately.

4.3 Chemicals, Fuel and Oils

All storage containers of over 200 litres will have a secondary containment of 110 % capacity to ensure that any leaking oil is contained and does not enter the aquatic environment.

Only essential refuelling (e.g., cranes) will be carried out, outside of this area but not within 50 m of any watercourse. In such cases a non-permeable High-density Polyethylene (HDPE) membrane will be provided beneath connection points to catch any residual oil during filling and disconnection.

A Chemical and Waste Inventory will be kept. This inventory will include:

- List of all substances stored onsite (volume and description)
- Procedures and location details for storage of all materials listed
- Waste disposal records, including copies of all Waste Transfer Notes detailing disposal routes and waste carriers used
- Any tap or valve permanently fixed to the mobile unit through which oil can be discharged to the open or when delivered through a flexible pipe which is fitted permanently to the mobile unit, will be fitted with a lock and locked shut when not in use
- Sight gauges will be fitted with a valve or tap, which will be shut when not in use sight gauge tubes, if used will be well supported and fitted with a valve
- Mobile units must have secondary containment when in use/out onsite

Under the EU Directive 2008/68//55/EC all such dangerous substances will be conveyed in a container that compiles with the Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR)[3]. As such the manufacturer of each bowser will provide certification to contractors that the following:

- A leak-proof test certificate
- A copy of the Intermediate Bulk Container (IBC) approval certificate
- An identification plate attached to the container

4.3.1 Transport of Diesel/Oils to the site

Under the EU Directive 2008/68//55/EC all such dangerous substances will be conveyed in a container that compiles with the Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR)[4]. As such the manufacturer of each bowser will provide certification to contractors that the following:

- A leak-proof test certificate

[3] ADR, 2023 (European Agreement Concerning the International Carriage of Dangerous Goods by Road) Availible at: https://unece.org/transport/standards/transport/dangerous-goods/adr-2023-agreement-concerning-international-carriage [Accessed: 18/09/2025]
[4] ADR, 2023 (European Agreement Concerning the International Carriage of Dangerous Goods by Road) Availible at: https://unece.org/transport/standards/transport/dangerous-goods/adr-2023-agreement-concerning-international-carriage [Accessed: 18/09/2025]

- A copy of the Intermediate Bulk Container (IBC) approval certificate
- An identification plate attached to the container

Where mobile bowsers are used onsite, guidelines will be followed so that:

- Any flexible pipe, tap or valve will be fitted with a lock where it leaves the container and be locked shut when not in use;
- Flexible delivery pipes will be fitted with manually operated pumps or a valve at the delivery end that closes automatically when not in use. Where possible, a nozzle designed to dispense oil is used;
- The pump or valve will have a lock and be locked shut when not in use.

For loads in excess of 1000 litres (220 gallons), the bowser vehicle driver will have undergone training and hold a special license.

4.3.2 Refuelling onsite

During construction/decommissioning, where possible all refueling onsite will be within the Temporary Site Compounds within the re-fueling area (**See Drawing 6289-PL-400** and **Drawing 6289-PL-401**). Only essential refueling (e.g., cranes) will be carried out, outside of this area, but not within 50 m of any watercourse. In such cases a non-permeable High-density Polyethylene (HDPE) membrane will be provided beneath connection points to catch any residual oil during filling and disconnection. This membrane will be inspected and if there is any sign of oil contamination, it will be removed from site by a specialist licensed waste contractor.

All vehicles will be well maintained and free from oil or hydraulic fuel leaks. Refuelling will take place via a mobile double skinned fuel bowser. The bowser will be a double axel refueling trailer which will be towed to the refueling locations by a 4x4 vehicle. The 4x4 will carry, a drip tray, spill kit and absorbent mats in case of any accidental spillages. Only designated competent personnel will refuel plant and machinery on the Wind Farm Site.

4.4 Packaging

In accordance with the waste hierarchy, packaging will be returned to the originator ahead of re-use or recycling. Where this is not possible, waste will be separated as appropriate and safely stored on site appropriately in anticipation of recycling.

4.5 Waste Metals

Waste metals from concrete reinforcing etc will have commercial value and will be re-used or recycled with the appropriate licensed waste contractor. This waste is non-hazardous.

5 EXCAVATED MATERIALS

Excavated materials will be required for habitat and ecological restoration, reprofiling and backfilling in accordance with the **Management Plan 4: Peat and Spoil Management Plan**.

5.1 Anticipated materials to be excavated onsite.

An estimated c. 157,952 m^3 of excavated materials will be generated from within the Redline Boundary. As much as possible of the excavated material onsite will be reused onsite for reprofiling and landscaping.

It has been estimated that approximately 5,700 m^3 of the excavated mineral spoil and rock will be reused as ballast on top of turbine foundations. Approximately 152,251 m^3 will be permanently stored onsite in 17 no. designated spoil areas in accordance with **Management Plan 4: Peat and Spoil Management Plan**.

The top 100 mm layer of the GCR that is within the road (13.55 km x 600 mm wide) excavation area is potentially hazardous (containing Bitumen), this equates to 813 m^3 of potentially hazardous material. This waste will be transported by an authorised waste permit holder to a licensed facility for disposal of hazardous bituminous materials (EWC code 17 03 02).

5.2 Waste or Not Waste

Any excavated materials which are not intended to be disposed of, or discarded, will NOT be considered as waste. It will not be regulated under waste management controls where the following six criteria are ALL met:

i) Use is a necessary part of the planned works
ii) Material is suitable for that use
iii) Material does not require any processing or treatment before it is reused
iv) No more than the quantity necessary is used
v) Use of the material is not a mere possibility but a certainty and

vi) Use of the soil will not result in pollution of the environment or harm to human health

Where excavated soil onsite does not meet all of the six criteria listed above, for the purposes of waste description, it would fall under chapter 17 of the European Waste Catalogue (EWC) Construction and Demolition wastes. The EWC code ’17 05 04 soil and stones (non-hazardous) waste or 17 05 03* soil and stones containing hazardous substances would apply. This will occur on along the Grid Connection Route and parts of the Turbine Delivery Route. All extracted material along the GCR will be re-used off-site after treatment at a suitable facility.

The principles of the waste hierarchy will be strictly adhered to avoid and minimise production of excavated soil, and to ensure that all materials are recovered and reused onsite.

6 PEST CONTROL

Responsible rodenticide use will be practiced onsite. Incorrect use and management of rodenticide can indirectly have a negative impact on wildlife. Best practice use include:

- Pest control onsite will be undertaken by a trained professional.
- Rodenticide baits will only be used for as long as is necessary to achieve satisfactory control.
- Good house-keeping and proper waste management practices will ensure there are no flood sources available to vermin.
- A record of all bait points and the amount of bait laid will be maintained during the treatment. Activity will be noted at each bait point, including any missing or disturbed baits, as the treatment progresses.
- By carefully recording the sites of all bait points, responsible users of rodenticides will return to these sites at the end of the treatment and remove uneaten bait so that it does not become available to wildlife.
- The bodies of dead rodents may carry residues of rodenticides and, if eaten by predators or scavengers, may be a source of wildlife exposure to rodenticides.
- Regular searches for rodent bodies will be carried out, both during and after the treatment period. Bodies may be found for several days after rats have eaten the bait and rats may die up to 100 metres or more away from the baited site.
- Any rodent bodies will be removed from the Site and disposed of safely using the methods recommended on the label.
- Bait will be sufficiently protected to avoid accidentally poisoning other mammals and birds. Natural materials will be used where possible.
- Bait stations will be appropriate to the prevailing circumstances. They will provide access to the bait by rodents, while reducing the risks of non-target access and interference by unauthorised persons. They will protect the bait from contamination by dust or rain. Their design, construction and placement will be such that interference is minimised.
- On completion of the treatment, records will be updated to signify that the infestation is controlled and that, as far as reasonably practical, all steps have been taken to ensure that the site is now free of rodenticide bait.

7 WASTE INVENTORY

THE CONTRACTOR WILL PREPARE AND UPDATE REGULARLY A WASTE INVENTORY FOR INCLUSION IN THE WASTE MANAGEMENT PLAN

APPENDIX I

LICENCED FACILITIES

Local Authority Waste Facility Register: Mayo; 17 05 04			
Authorisation Reference	**Name**	**Trading As**	**Address**
WFP-MO-14-0034-02 & COR-MO-19-0062-01	Lennon Quarries Ltd.		Glencastle Ballina Bunnahowen Co. Mayo
WFP-MO-20-0058-01	Connaught Enviro Containers DAC	Loftus Skip Hire	Abbeyquarter IDA Industrial Est Bunree Ballina, Co Mayo
WFP-MO-20-0059-01	Mangan Concrete & Haulage Ltd		Ballynalynagh Crossmolina Co. Mayo
WFP-MO-21-0062-01	Harrington Concrete & Quarries		Gortnafolla Turlough Co. Mayo
COR-MO-21-0068-01	Quignashee Plant Hire		Behy Road Ballina Co. Mayo
WFP-MO-18-0043-02	Heating Systems & Thermal Systems (Europe) Ltd	Heatsystems	The Old Bacon Factory Ballindine Road Claremorris Co Mayo
COR-MO-21-0070-01	William Noone	Noone Civil Engineering & Construction Ltd	Coollagagh Foxford Co Mayo
COR-MO-22-0073-01	Mark Carr		Carha Bonniconlon Ballina
WFP-MO-23-0068-01	Lorcan Brennan	Cooneal Infill	Coonealcauran Ballina Co. Mayo

Local Authority Waste Facility Register: Mayo; 17 05 03*			
Authorisation Reference	**Name**	**Trading As**	**Address**
WFP-MO-18-0043-02	Heating Systems & Thermal Systems (Europe) Ltd	Heatsystems	The Old Bacon Factory Ballindine Road Claremorris Co Mayo

Local Authority Waste Facility Register: Donegal; 17 05 03*			
Authorisation Reference	**Name**	**Trading As**	**Address**
WFP-DL-19-015-04	Hubert McLaughlin & Sons Ltd.		Cleenagh Ballymagan Buncrana Co. Donegal
WFP-DL-20-006-04	Sidney McDaid	Letterkenny Skip Hire	Portland Park Ballyraine Letterkenny Co. Donegal F92 FC65

17 05 03* soil and stones containing hazardous substances [1]
17 05 04 soil and stones other than those mentioned in 17 05 03

[1] https://www.epa.ie/publications/monitoring--assessment/waste/2019--FULL-template.pdf