

NOTE: This guidance is no longer valid for greenfield soil and stone, following the publication of [National By-product Criteria for Greenfield Soil and Stone](#).

The EPA is developing supports for notifications of brownfield soil and stone.

This guidance can continue to be used for notifications of brownfield soil and stone, pending the development of further EPA supports.



Guidance on Soil and Stone By-products

in the context of

article 27

of the

European Communities (Waste Directive) Regulations 2011

Version 3; June 2019

Introduction

<i>Purpose</i>	<ul style="list-style-type: none">• To encourage the prevention of waste including the lawful and beneficial use of excess uncontaminated soil and stone.• To set out the Environmental Protection Agency's regulatory approach to determining notifications on soil and stone by-products and to provide guidance to interested parties. <p>Note, this guidance does not address any other materials that may be notified to the EPA as by-product.</p>
<i>Addressed to</i>	Local authorities, developers, the construction sector, the waste management sector and consultants.
<i>Environmental objective</i>	By making certain that excess uncontaminated soil and stone is beneficially used with no overall adverse impacts on the environment or human health, a material producer will ensure that the material is regarded as a by-product rather than a waste.

The EPA will have regard to this guidance when determining, on a case-by-case basis, if a soil and stone material meets the criteria to be considered a by-product. This guidance addresses excess uncontaminated soil and stone material only and is not applicable to other materials that may be notified as by-products.

Legislative Background

The regulatory regime for by-products is enshrined in Article 5 of the Waste Framework Directive and is transposed into Irish legislation by Article 27 of the European Communities (Waste Directive) Regulations 2011 (hereafter referred to as the Waste Directive Regulations). The Waste Framework Directive provides for uncontaminated excavated soil and other naturally occurring materials (used on sites other than the one from which they were excavated) to be considered in accordance with the definition of waste and the provisions on by-products and on end-of-waste status under the Waste Framework Directive (*Recital 11*).

The Court of Justice of the European Union has held that there are a wide variety of relevant factors involved in defining waste, not all of which will be applicable to every case. Decisions must be made on a case-by-case approach.

It is important to note the following: Certain wastes are excluded from the scope of the Waste Framework Directive (Article 2), as reflected in Article 4 of the Waste Directive Regulations. i.e. items which would fulfil the definition of waste yet for various reasons should not be subject to the provisions of the Waste Framework Directive. Further guidance on scope is provided on pp 40-43 of the *Guidance on the interpretation of key provisions of Directive 2008/98/EC on waste*, hereafter referred to as the Commission guidance¹.

In the case of excess uncontaminated soil and stone, the following descriptions differentiate between material which must be regulated as waste and that which is not required to be regulated as waste.

<i>Not regulated as waste</i>	Uncontaminated soil and stone that is certain to be used in construction at the same project site from where it was excavated is not regulated as waste. For example: <ul style="list-style-type: none"> • Soil that is excavated from one part of a road project and used as fill in another part of the same road project, all within the same site; or • Soil excavated to enable construction but stored for use later at the same site for landscaping works.
<i>Regulated as waste</i>	Excess uncontaminated soil and stone produced during construction projects may be a waste if it is discarded, is intended to be discarded or is required to be discarded.

Definitions and terms

The definitions and terms which are relevant to this guidance are described in the Waste Framework Directive and the Commission guidance and set out below.

¹ <http://ec.europa.eu/environment/waste/framework/guidance.htm>

Term	Definition/interpretation	Source
<i>Waste</i>	Means any substance or object which the holder discards or intends or is required to discard.	Waste Framework Directive
<i>Recovery</i>	Means any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy. Annex II sets out a non-exhaustive list of recovery operations.	Waste Framework Directive
<i>Disposal</i>	Means any operation which is not recovery even where the operation has as a secondary consequence the reclamation of substances or energy. Annex I sets out a non-exhaustive list of disposal operations.	Waste Framework Directive
<i>Treatment</i>	Means recovery or disposal operations, including preparation prior to recovery or disposal.	Waste Framework Directive
<i>Product</i>	All material that is deliberately created in a production process. In many cases it is possible to identify one (or more) 'primary' products, this or these being the principal material(s) produced.	Commission Guidance
<i>Production residue</i>	A material that is not deliberately produced in a production process but may or may not be waste.	Commission Guidance
<i>Uncontaminated soil</i>	Essentially relates to virgin soil or soil that is equivalent to virgin soil.	Commission Guidance

Policy Context

1. EU and national policy on resource efficiency seeks to decouple the link between economic growth and environmental impact. Recognising the need for a high standard of environmental protection, and the need to promote sustainable and environmentally sound development, the EPA encourages resource efficiency and the sustainable use of resources in Ireland.
2. Prevention is top of the waste hierarchy established by Article 4 of the Waste Framework Directive. Ireland's Waste Policy (['A Resource Opportunity – Waste Management Policy in Ireland'](#)) puts prevention as a national priority and focuses the National Waste Prevention Programme on resource efficiency, prevention and reuse.
3. The EPA balances the need for precaution and the need to protect the environment (and the cost of such protection) with the need for infrastructural, economic and social progress and development.
4. By ensuring that excess uncontaminated soil and stone is beneficially and lawfully used as a by-product, the use of virgin soil and stone is minimised, and waste is prevented.

Regulatory Position on Soil and Stone By-products

- The EPA encourages the prevention of waste including the lawful and beneficial use of excess uncontaminated soil and stone.
- Determining whether a material is a 'by-product' or a 'waste' must be considered on a case-by-case basis, taking into account the specific factual circumstances involved. A decision tree for determining whether a material is a by-product is included in Figure 1.
- The actions of, and measures taken by, the material producer are key to informing the determination as to whether the material is a by-product or a waste. If the intent or requirement of the material producer is to discard, the material is waste. This is so, regardless of whether anyone else has a use for it.
- The EPA will produce guidance to advise and assist planning authorities and An Bord Pleanála in the granting of planning permissions related to sites using soil and stone by-products, as provided for under Section 56 of the EPA Act, as amended.

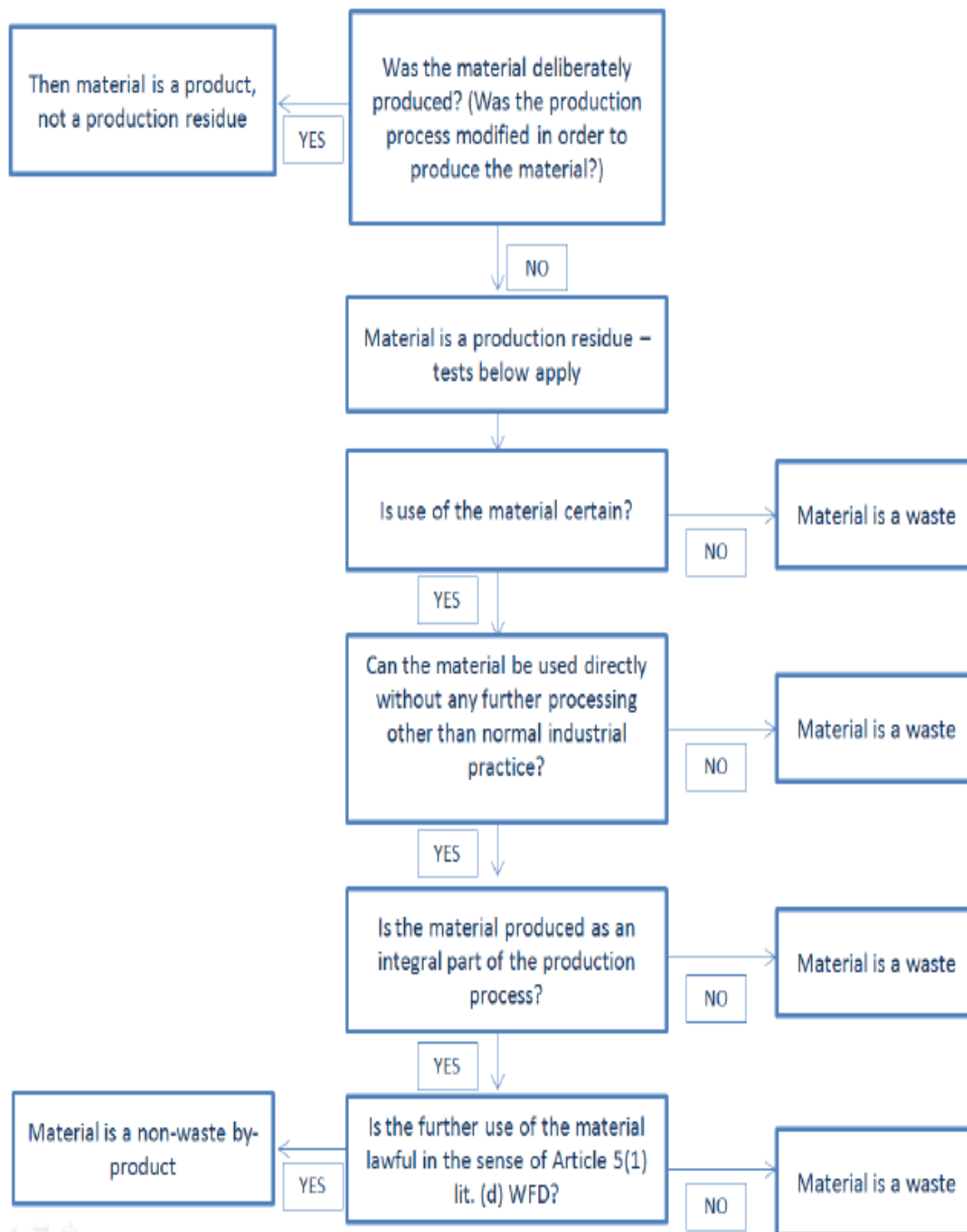


Figure 1 Decision tree for determining whether a material is a by-product (Source: Commission guidance)

Guidance on understanding the by-product Conditions

Excess uncontaminated soil and stone resulting from excavation works (the primary aim of which is not the production of soil and stone²) is a production residue and is regarded as a by-product only if all four by-product conditions are met³:

- a) further use of the soil and stone is certain;
- b) the soil and stone can be used directly without any further processing other than normal industrial practice;
- c) the soil and stone is produced as an integral part of a production process; *and*
- d) further use is lawful in that the soil and stone fulfils all relevant product, environmental and health protection requirements for the specific use and will not lead to overall adverse environmental or human health impacts.

<p>a. certainty of further use</p>	<p>If beneficial use(s) are identified for the entirety of the excavated soil from a project, prior to its production, with that use taking place within a definite timeframe, then use will generally be regarded as certain. It is acknowledged that in certain circumstances it may not be possible to use the entirety of the excavated material for the intended use; in such circumstances the notified quantity should reflect the quantity that will be beneficially used, while the balance of the excess material will be regarded as waste, given that certainty of use has not been established for that balance. Certainty of further use may be indicated through a financial gain for the material producer and the existence of contracts between the material producer and the subsequent user. Further guidance is provided in relation to the 'certainty of further use' in the Commission guidance (pp 16 and 17).</p>
	<p>Storage or stockpiling of excess materials off-site without certainty of use elsewhere is not excluded from waste regulation and is considered a waste activity.</p>

² The material in question should not have been deliberately produced; i.e. the production process must not have been modified in order to produce the material.

³ As set out in Article 5 of the 2008 Waste Framework Directive and Article 27 of the Waste Directive Regulations 2011

<p>b. ...other than normal industrial practice</p>	<p>In the context of soil and stone, normal industrial practice is taken to mean physical steps such as modification of size or shape by mechanical treatment. It may also be considered to include steps such as filtering, washing and drying or adding materials necessary for further use, or carrying out quality control. However, it excludes treatment techniques that address typical waste-related characteristics such as dealing with contamination via soil treatment. Whether normal industrial practice includes the removal of physical contaminants will depend on the particular circumstances of the case. The Commission guidance includes a narrative on the interpretation of 'normal industrial practice' (pp 17 and 18).</p> <p>Where excess soil and stone undergoes a recovery operation, this is an indicator that it is waste. Examples include soil cleaning, for the purpose of removing contamination, resulting in recovery of the soil; recycling of inorganic construction materials; and including recovery operations listed in Annex II of the Waste Framework Directive 2008/98/EC, as amended.</p>
<p>c. ...produced as integral part of a production process</p>	<p>The intent of the material producer will be a key determinant in the EPA's consideration of the notification against the by-product conditions. Evidence provided must clearly demonstrate that the <u>material producer has decided</u> that the material to be notified is a by-product. For this reason, it is essential that the notifier of the material is either the material producer, or makes the notification with the express (written) consent of the material producer, and that evidence is provided to demonstrate this consent. For the purpose of this guidance, the economic operator is considered to be the notifier. The Commission guidance provides further narrative on the meaning of 'produced as an integral part of the production process' (pp 18 and 19).</p> <p>The by-product notification is a notification of the material producer's decision that the material to be produced as an integral part of a production process is a by-product. The notified material must be demonstrated to be a production residue of a production</p>

	<p>process. Therefore, as above, it is essential that evidence is provided to demonstrate that the <u>material producer</u> has decided that the material is a by-product of a production process.</p>
<p>d. further use is lawful...</p>	<p>The re-use of soil and stone must meet all legal requirements, including, but not limited to, planning permission (or exemption criteria) and all associated applicable environmental impact assessment and appropriate assessment, as required by law. The material producer will need to satisfy itself of this prior to making the notification, and will need to provide relevant evidence to support this conclusion. The notifier shall include evidence of appropriate planning permission being in place or a written declaration that the use is specifically exempted from planning permission, in accordance with Section 5 of the Planning and Development Acts, as amended. The Commission guidance provides further narrative on the meaning of 'further use is lawful' (pp 19 and 20).</p> <p>The soil and stone must be uncontaminated. The use of inert landfill waste acceptance criteria is not acceptable as demonstration of uncontaminated status of soil and stone material notified as by-product. The Commission guidance includes a narrative on the interpretation of the terms 'contaminated' and 'uncontaminated' (pp 41 and 42). A rigorous scientific approach is being developed by Geological Survey Ireland in collaboration with the EPA to identify geochemically appropriate levels (soil trigger values) for deposit of soil and stone in licensed soil recovery facilities, on the basis that when the baseline geochemical character of a soil recovery facility is established, then soil and stone material of a similar geochemical nature can be deposited with minimal risk to receptors. This work is being done in support of the 'Waste Acceptance Criteria and Development of Soil Trigger Values for Soil Recovery Facilities' Guidance. While that work has a discrete scope, it may be possible to apply geochemically appropriate soil levels on a case-by-case basis for the deposit of notified soil and stone by-product at certain</p>

	other locations, if available information so indicates. If the necessary information is not available to take this approach, notifiers will have to demonstrate that the notified soil and stone is uncontaminated, in that it is, essentially, virgin soil or soil that is equivalent to virgin soil. It is important to note that the work undertaken by Geological Survey Ireland in collaboration with EPA may, upon completion, result in this guidance document being revised.
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Nothing in this guidance excludes or exempts destination sites from the need to be fully compliant with all applicable regulatory requirements under waste, planning and other laws.

What the EPA expects

- The management of excess uncontaminated soil and stone, as a by-product **or** as a waste, will be prearranged by the material producer at the earliest opportunity:
 - 1) at the planning stage of the development; or at the latest,
 - 2) prior to commencement of the development(referring to the development from which the material arises, in both instances).
- Where Construction Waste Management Plans are prepared, they should take into account any by-product to be produced and, as such, the Plan should be more accurately described as a "Construction Waste and By-product Management Plan". This will be reflected in the guidance for planning authorities and An Bord Pleanála referred to above.
- Prior to works (i.e. prior to commencement of the development), an economic operator (being either the material producer, or with the express written consent of the material producer) notifies the EPA of the by-product decision. A register of by-product notifications will be maintained and will be available for public inspection online to include details of origin and destination sites for soil and stone by-product.
- Notifications should be accompanied by the full complement of necessary documentation to demonstrate compliance with the four by-product conditions. A

quality notification will allow the EPA to make a determination in the earliest possible time.

What the Notifier can expect

- The EPA will take a risk-based approach to making determinations and will endeavour to make determinations in all cases.
- A determination may be:
 - 1) That the EPA agrees with the economic operator's decision, as notified; or,
 - 2) That the notified material is a waste.
- The EPA advises waiting at least ten weeks prior to moving the material as a by-product. If, within that time, the Agency decides that a detailed consideration of the notified decision is warranted, it will inform the economic operator of this and will initiate a consultation process. In that case the economic operator is advised not to move the material until the Agency has made a determination.
- Where consultation is undertaken, this will be at least a two-step process as follows:
 - 1) The first consultation step will involve a consultation notice issuing to the following parties, where relevant, depending on the circumstances of the notification:
 - the material producer (the source site owner, or developer),
 - the end user (destination site owner, or operator/developer),
 - any relevant local authority and/or local authority representatives (Waste Enforcement Regional Lead Authorities),
 - An Bord Pleanála, where relevant, and
 - any member of the public who has expressed an interest in participating in the consultation process.

A period of three weeks is ordinarily given for receipt of submissions.

- 2) Where submissions are received in response to the first consultation, these will be circulated to the relevant parties for further comment in relation to existing issues. A period of three weeks is ordinarily given for receipt of further submissions.

There may be more than one round of circulation of submissions for further comment.

- Compliance with the four by-product conditions, and demonstration of such compliance, remains the responsibility of the material producer. Absence of full compliance with the four by-product conditions may result in the notified material being determined as waste rather than by-product.
- Waste enforcement action by the relevant local authorities and/or the EPA may result in instances where unauthorised waste activity has taken or is taking place.

Case Studies

The three case studies presented below are examples of real situations; however, they are greatly summarised for the purpose of demonstrating how the by-product conditions are met.

Case Study 1

55,000 tonnes of stone, from the deepening of the north channel of Dingle Fishery Harbour.

- a. Use is certain in the N86 Tralee to An Daingean Road Project
- b. Used directly, equivalent to quarried stone
- c. Produced as an integral part of harbour works
- d. Use is lawful and meets engineering specifications for use in the N86 Project

This summary example illustrates that all the by-product conditions were met.

Case Study 2

230,000 m³ of soil and stone excavated in the preparation of an industrial development site. The excavated soil and stone was to be used in the restoration of a quarry.

- Use is certain, planning consent for the destination site requires restoration, the void space capacity is far in excess of the volume of by-product notified.
- No processing of the notified material is required, the notified material is uncontaminated soil and stone.
- The notified material is produced as an integral part of the development works.
- Use is lawful:
 - Planning consent at the destination site requires restoration, contains environmental controls and has specifically addressed the use of by-product in the restoration,
 - Environmental Impact Assessment and Appropriate Assessment has been completed by the planning authority for the use of by-product at the destination site.
 - The notified material is suitable for use in the restoration of the quarry.

This summary example illustrates that all the by-product conditions were met.

Case Study 3

5,000 tonnes of soil and stone excavated in the preparation of a housing development site. The excavated soil and stone was to be used in the construction of a roadway.

- Use is certain, the plans for the destination site identified a specific need for imported soil and stone.
- No processing of the notified material is required, the notified material is uncontaminated soil and stone.
- The notified material is produced as an integral part of the development works.
- Use is lawful:
 - Plans associated with the destination site identified the need to import soil & stone,
 - Environmental Impact Assessment (EIA) and Appropriate Assessment (AA) has been completed by the planning consenting authority for the use of by-product at the destination site. The volume of notified material is within the volume considered in the EIA.
 - The notified material is suitable for the intended use and meets the engineering specification for use in the construction of the roadway.

This summary example illustrates that all the by-product conditions were met.

Environmental Protection Agency 2019

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