

1 Purpose

This document provides information on how to effectively manage waste. This guidance is to support the requirements that are set out in the *Level 2 Environment and Social Requirements (ESR) standard NR/L2/ENV/015*.

1.1 Supporting documents

For guidance on Route Services Supply Chain Operations (SCO) and information on what they can receive and process, please refer to the *Guidance Note NR/L2/ESD02*.

For guidance on disposal of Polychlorinated Biphenyl (PCB) equipment or fluids, please refer to the *Guidance Note NR/GN/ESD03*.

For opportunities on optimising reuse and recycling of materials to provide benefits to local communities, please refer to the *Connecting communities with the environment Guidance Note NR/GN/ESD14*. Examples may include reconstructing materials that would otherwise become a waste into something useful in a community improvement project, such as previously used timber to create benches.

If you are new to this topic, please read through the [Waste homepage](#) on Safety Central for a general understanding.

1.2 Definition of waste

DEFRA have produced guidance on the “legal definition of waste” which can be found [here](#). The guidance explains how to work out if waste rules apply to your material. The key message is that a waste is “any material which is discarded, or intended to be discarded due to their being no requirement for it.”

In this respect, Excavation waste poses a significant risk to the business, as it can be difficult to assess whether it is a waste or not. The Appendix provides a step by step process for doing this.

1.3 Waste hierarchy

The 'waste hierarchy' demonstrates the process of managing waste as sustainability as possible and is a legal requirement of the Waste Framework Directive (2008/98/EC). The hierarchy ranks waste management options according to what is best for the environment, giving top priority to preventing waste to begin with. Once waste is created, it gives priority to preparing it for re-use, followed by recycling, then recovery and last of all disposal to landfill.

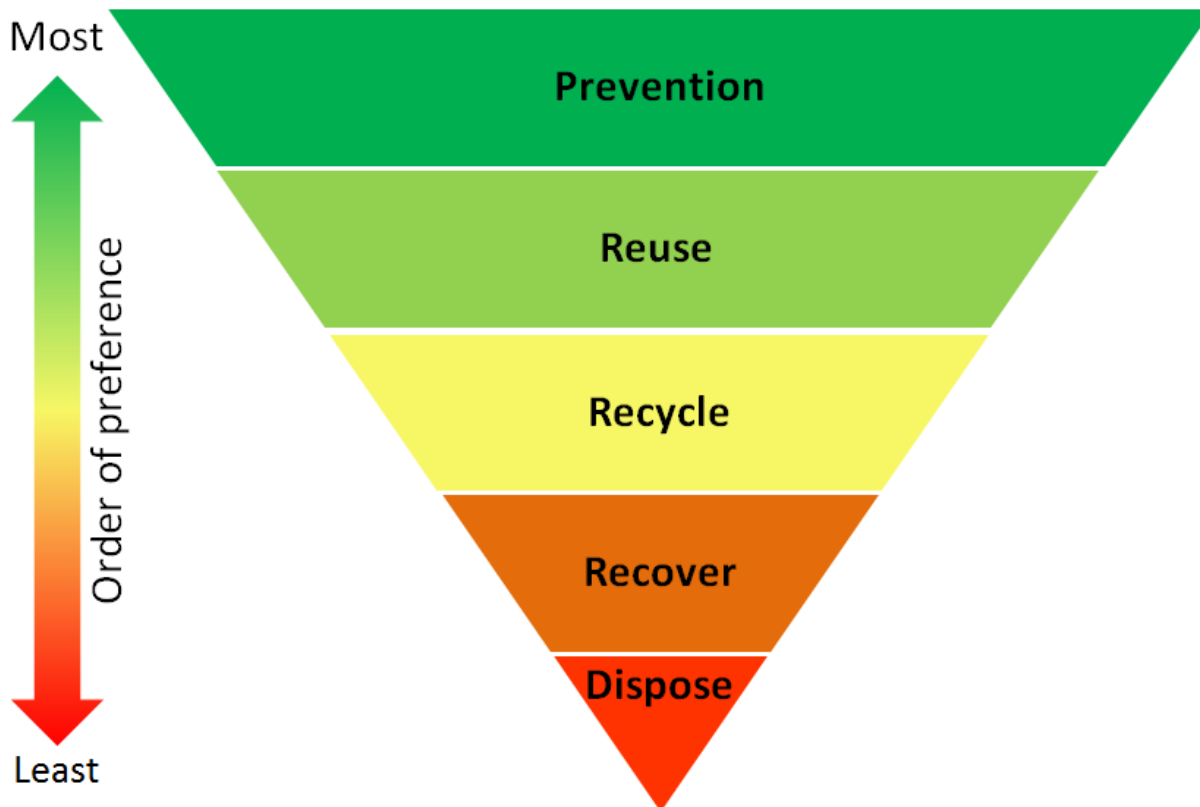


Figure 1. Waste hierarchy

The following definitions should be used for guidance on how to report against the suite of waste KPI's that Network Rail uses:

Prevention¹ - Avoidance of waste through prevention measures such as not over-ordering goods and products or designing out waste through engineering design.

Reuse² - Using a "non waste" product subject to the requirement for it, it's suitability for use and without the need for any other processing. In addition waste materials can also be reused under certain conditions, such as under waste exemptions and standard rules permits (see section 5 for ways in which this can be done).

Recycle - The reprocessing of waste to extract valuable materials that can be used to create new products. Most will occur off site in the hands of a permitted waste contractor.

Recover - This refers to the recovery of energy primarily relating to anaerobic digestion, incineration with energy recovery, gasification and pyrolysis which produce energy.

Disposed - When all the other options have been exhausted with no resolution then, as a last resort the waste will be sent to a permitted landfill facility or incineration without energy recovery.

Note 1 - Currently there is no waste "prevention" KPI to report against.

Note 2 - It is recognised that the definition for "reuse" does not match that of "preparing for re-use" in the Waste Framework Directive, however it is provided for clarity of KPI reporting and what Network Rail wants to monitor nationally as reused.

1.4 Waste classification

Every waste producer has a duty of care to ensure that the waste is characterised prior to it changing hands with a licensed waste contractor. By doing this, it ensures that the waste carrier is fully aware of what they are handling so they can make appropriate arrangements for transportation, management/treatment (*if required*) and disposal (*if required*) to minimise the impacts to the environment and human health. There are three waste types:

Inert waste - This is material that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, e.g. clean bricks or concrete.

Non-hazardous waste - This includes any material that does not have any significant hazardous properties, which could cause problems if not dealt with properly due to the fact it may biodegrade or burn, e.g. paper, cardboard or plastic.

Hazardous¹ waste - This includes waste materials that are dangerous or potentially harmful to our health or the environment. Hazardous wastes can be liquids, solids, gases, sludge, discarded commercial products (e.g., cleaning fluids or pesticides), or the by-products of manufacturing processes. Therefore these cannot be disposed of by conventional methods. Examples include paints, solvents, oil, asbestos and pesticides.

All wastes are required to be classified in by a European Waste Code (EWC) based on its key characteristics. These 6 digit codes (e.g. 17 09 04 - Mixed construction and Demolition waste) are to be displayed on Waste Transfer Notes (Non Hazardous Waste) or Consignment Notes (Hazardous Waste). The [WM3 guidance](#) should be followed to classify waste.

When determining If a waste is hazardous or not, you must undertake a hazardous properties assessment, as per the WM3 guidance. If a particular chemical is present in the waste then Material Safety Data Sheets (MSDS) or Chemical Safety Data Sheets (CSDS) may be used to better understand its hazardous properties.

Note 1: Hazardous waste is known as special waste in Scotland

Please note:

1. It is illegal to mix hazardous waste with:
 - inert waste
 - non-hazardous wastes
 - other hazardous waste materials.
2. Waste Acceptance Criteria (WAC) testing **cannot** be used for the purposes of waste classification. This is a specific test to determine if a waste can be accepted at an inert or hazardous landfill site. If a waste is classified as non-hazardous it does not require WAC testing unless disposal to an inert landfill is being considered.

2 Designing out waste and resource efficiency

It is important that waste minimisation and resource efficiency measures are considered from the development through to the detailed design of a project. All opportunities should be considered and quantified as early as possible in the project so that can be integrated into engineering, procurement processes etc. before the start of works.

For detailed guidance with hints and tips for 'Designing out waste' or 'Resource efficiency', please refer to the attachments on [Safety Central](#) which can facilitate the coordination and planning of workshops.

3 Site Waste Management Plans

Site Waste Management Plans (SWMPs) are no longer a legal requirement but still form part of Network Rail's environment and social requirements. SWMPs will help you manage site waste more effectively, reducing potential harm to the environment and human health. This should be developed in the design phase by meeting the bulleted requirements in the Environment and Social Management Plan (ESMP) template.

During the construction phase, the SWMP should be implemented with regular reviews on progress and updated each period with data.

For guidance on the key aspects of SWMPs refer to the "What you need to know" document on [Safety Central](#).

4 Storage

Correct storage of materials enables efficient allocation of what is to be reused, recycled, or disposed of, as well as preventing damage to materials through general good housekeeping. These can all be managed and maintained through the following:

- Provide staff training to avoid damage and spoilage of materials (leading to waste);
- Containment of hazardous wastes to avoid leachate pollution;
- Manage and isolate contamination from asbestos and invasive species at source to avoid any cross contamination into potentially recycled materials. These are very difficult to remove when mixed with the waste and will often lead to a large quantity of waste being sent to landfill;
- Store waste away from any sensitive receptors, e.g. water bodies;
- Have separate storage skips for more valuable waste materials to maximise recycling rates and reduce costs, including but not limited to: scrap metal, timber and packaging waste;
- Store materials neatly to avoid damage and loss. Facilitate this by supervising the delivery of materials to a site to ensure they are in the correct location and are stored appropriately, which also reduces the risk of slips, trips and falls;
- Keep materials in their packaging to protect from damage;
- Keeping sites tidy and arranging regular waste collections;
- Use skips that have lids or cover them with nets/sheets to prevent materials blowing out/cross contamination;
- Hold regular site toolbox talks to promote good practice on waste storage;
- Create an area for surplus concrete and bricks so that they can be crushed and reused.

What does good look like?



- Assigned waste bins for different materials
- Adequate containers are available
- Appropriate colour coding
- All waste materials segregated
- Exclusion zone set up as required.

5 Reuse of materials/waste

There are sustainability benefits with reusing materials/waste, but perhaps the most significant are the cost benefits. By following some of the mechanisms below this can often be done **without** using a licensed waste contractor, which is where the majority of the cost lies within waste management. If you are able to find a requirement for the material/waste on your project then you are reducing the need for virgin material to be brought in, creating a twofold cost saving.

5.1 Reusing materials (non-wastes)

As long as a material has is **not** classified as a waste then waste legislation **does not** apply and permits are not required. The following are ways in which this can be done:

It is good practice to keep an inventory of all materials/equipment held at site. This makes it easier to manage and identify any surplus materials/equipment that are no longer required on site, and will become waste if no requirement for them is found. Opportunities for reuse should then be investigated with other sites, organisations, charities etc who may need them. Materials/equipment can also be advertised on “materials swap” platforms, like [Recipro](#).

The Definition of Waste: Code of Practice (DoW CoP), written by CL:AIRE, outlines methods for companies to reuse excavated materials, providing alternatives to Waste Exemptions*. Following the DoW CoP enables companies to: directly transfer and reuse soils and aggregates between sites, provided a materials management plan has been completed and signed off by a Qualified Person recognised under CL:AIRE.



Best practice case study: CL:AIRE protocol, Elevated Railway Excavation Waste - The Greater West Programme

- Prior to the Reading Elevated Railway project in 2013, Site Waste Management Plan (SWMP) provided a waste forecast of around 80,000 tonnes (t).
- Waste reduction and reuse opportunities (alongside carbon savings and resource efficiencies) were identified within a Value Engineering workshop during the Outline Design stage.
- A Material Management Plan (MMP) was commissioned following the CL:AIRE Code of Practice to reuse waste, including hydrocarbon contaminated material.
- An estimated 132,000t of total site won and demolition material were reused, all diverted from landfill which would not have been achievable under the current waste permitting regulations due to the presence of contamination.



Reading triangle

WRAP Quality Protocol - End of waste criteria for the production of aggregates from inert waste - this provides a criterion to follow for the production and use of aggregates from inert waste. If complied with, the aggregates will normally be regarded as having been fully recovered and to have ceased to be waste. To satisfy this protocol an environmental permit or waste exemption will need to be used to process the inert waste to aggregates before it becomes a “non waste” product.

Please note:

Even though materials under CL:AIRE and the WRAP quality protocol do not need to be classified as waste, in order to satisfy the protocols, as sampling a testing regime will need to be in place to ensure the material is suitable for reuse in the proposed location

5.2 Reusing waste

Waste Exemptions enable certain activities with waste materials (such as use, reuse, storage etc.) to be undertaken without the requirement of a government permit. These can help a project achieve maximum value out of their waste streams and reduce their disposal rates through the reuse of waste. Here are some common exemptions provided by Gov.uk that are to be considered:

- **U1 - Use of waste in construction**
Use suitable waste rather than virgin raw material or material which has ceased to be waste – for example, by complying with a Quality Protocol.
- **U13 – Spreading plant matter to provide benefits**
Spread cut plants at the place of production for weed suppression or to provide nutrients to the soil.
- **T5 - Screening and blending waste**
Temporarily treat waste on a small scale to produce aggregate or soil at a place such as a construction or demolition site.
- **T9 - Recovering scrap metal**
Treat scrap metal by sorting, grading, shearing by manual feed, baling, crushing or cutting it with hand-held equipment to make it easier to handle and to help recover it.
- **S2 - Storing waste in a secure place**
Store specific waste at a secure place that is different to where the waste was produced, before the waste is transported to another site to be recovered.

Please note:

Network Rail has an upper tier Waste Carriers License (WCL) which allows them to transport waste without the use of a licensed waste contractor and WTN's. This also applies to contractors working on behalf of Network Rail as long as they hold a WCL. This means that waste exemptions/permits are not just limited to the same site but also other Network Rail sites and 3rd parties who hold the waste exemption/permit. The EA, NRW and SEPA public registers can be used to find suitable land owners.

To view the full list of Waste Exemptions to find out more and how to register, please refer to the relevant body below for your national region:

- England – [Environment Agency \(via Gov.uk\) – Register your waste exemptions](#)
- Wales – [Natural Resources Wales – Register your waste exemptions](#)
- Scotland – [Scottish Environment Protection Agency – Waste](#)

Where a project is unable to meet the conditions of a Waste Exemption, they may wish to apply for a [Standard Rules Permit](#), such as *SR2015 No39: use of waste in a deposit for recovery operation*. This will allow you to reuse certain waste types for construction, reclamation, restoration or improvement of land purposes. It can provide a more time and cost efficient alternative to a bespoke environmental permit.



Case study ideas - volunteering

- **Waste timber**
Consider opportunities for [Community Wood Recycling](#) to maximise reuse and recycling while providing benefits to local communities.
- **Other materials**
Pallets and any other suitable materials can be used to build 'bug hotels' which help to support biodiversity. The [RSPB website](#) provides useful information on suitable material and step-by-step methods on how these can be created.

For more inspiration on volunteering opportunities to benefit local communities while diverting waste from landfill, please view the *Connecting communities with the environment Guidance Note NR/GN/ESD14*.

6 Waste removal

Materials that have been classified as waste (and are unable to be reused), must be managed and removed appropriately to reduce any negative impacts to the environment or human health.

- Use the SWMP to identify any waste streams and plan in advance to find the most cost effective solution. It is also important to consider the cost of replacing the damaged and wasted materials;

- Guarantee through the tender processes that waste management suppliers are able to meet the required project targets when managing your waste;
- When using a waste management supplier ensure you meet all the [waste duty of care](#) requirements of a waste producer by completing the correct documentation:
 - Waste Transfer Notes for the transfer of non-hazardous waste;
 - Consignment Notes for the transfer of hazardous wastes;
 - Records of these are to be held for 2 years (Waste Transfer Notes) and 3 Years (Consignment Notes).
- Remember Network Rail have a Waste Carriers License which means they (or a contractor with a WCL working on behalf of them) can often transfer waste between Network Rail owned sites and store it there providing the right permits are in place at the receiver site. Note you should seek advice from your local Environmental Manager if you are not unsure about the location you are transferring to.

7 Fly tipping

The term 'fly tipping' refers to the illegal dumping of waste instead of using an authorised method such as kerbside collection or authorised rubbish dump. Fly tipped material can create eye sores in addition to having an adverse effect on the environment, which must then be logged as an environmental incident. To reduce this occurrence the following actions must be taken:

- Any fly tipped waste identified on Network Rail property should be reported a Category 4 environmental incident;
- Dispose of Network Rail waste responsibly in the appropriate waste bins;
- At areas with high rates of fly tipping, consider fitting LED lighting on-site, as well-lit sites discourage fly tippers. LED lights also provide an environmentally conscious solution and low running costs.

To view all environment and social KPIs, please refer to the *KPI Guidance Note NR/GN/ESD23*.

Appendix

Determining whether excavated material is suitable for reuse and/or is waste

Question	Answer
<p>1. Would you need to import soil or aggregates if the excavated material wasn't available for reuse? (can also apply to a requirement for it at another site)</p>	<p>If the answer is no then this is a waste and it should be removed.</p> <p>If the answer is yes go to Q2.</p>
<p>2. Does the excavated material meet the engineering requirements for what you intend to use it for?</p>	<p>If the answer is yes it's likely to not be waste and you can reuse the material subject to meeting the other conditions for reuse. Go to Q3.</p> <p>If the answer is no it's likely to be waste and should be removed.</p>
<p>3. Will you need to treat/process the excavated material to meet engineering requirements?</p>	<p>If the answer is yes then the material is waste and should only be treated/processed if you have the necessary environmental permit/waste exemption to allow this to happen¹.</p> <p>If the answer is no then you can reuse the material subject to meeting the other conditions for reuse. Go to Q4.</p> <p><i>Note 1: if submitting a declaration for reuse under CL:AIRE, the excavated material can still be used for reuse after treatment/processing if the other conditions in the Code of Practice are met.</i></p>
<p>4. Is the excavated material being used for its original purpose?</p>	<p>If the answer is yes then it's likely to be not waste and you can reuse the material subject to meeting the other conditions for reuse. Go to Q5.</p> <p>If the answer is no then it needs to be proven to meet the same engineering specification of the product that you would be sourcing in for works before it can be reused.</p>

- 5. Is the excavated material certain of being used in the works or on another site (e.g farmers land)?**
- If the answer is no then the waste needs to be removed. If material is stored for in excess of 12 months this demonstrates that there is not a certain use and could become waste and requires disposal.
If the answer is yes go to Q6
- 6. Are you only going to be using the amount of material required for the works?**
- If the answer is no, and you are using more material than is required e.g. you need a 3 metre bund and you have enough material for a 4 metre bund; then the surplus is waste unless it is proven you are exceeding best practice for the works.
If the answer is yes go to Q7.