



North East Lincolnshire Waste Needs Assessment 2026

Management Requirements for Construction, Demolition and Excavation Waste to 2045

Report: Client Review

Version: 1.0

Issued: May 2026

BPP Consulting Document Control

Project: North East Lincolnshire Waste Needs Assessment 2026

Report: Management Requirements for Construction, Demolition and Excavation Waste in North East Lincolnshire to 2045

Version Description: Client Review

Version No: v1.0

Date: 19.05.2026

Version No.	Version Description	Author	Date	Reviewed	Date
1.0	Draft for Client review	Alan Potter (Partner)	19.05.2026	Client Contact	
1.1	Post Client Review for sign off	Emily Brooks (Data analyst)		Alan Potter (Partner)	
2.0	Final Issue	Alan Potter (Partner)			

While due care and diligence has been exercised in the preparation and production of this report, BPP Consulting LLP and its subcontractors exclude to the fullest extent lawfully permitted, all liability for any loss or damage however arising from reliance on its contents.

Contents

Abbreviations	i
Glossary of Terms	i
1. Purpose	1
Principal Data Sources	1
Waste Data Interrogator	1
Exemption Register	1
Data Presentation	2
2. Estimating C, D & E Waste Baseline Arisings	3
Introduction	3
Context	3
3. Methodology	4
Inputs to permitted waste management facilities in England	5
Step 1: Calculate the tonnage of C, D & E waste from North East Lincolnshire sent to permitted sites.	5
Step 2: Deduct EWC codes relating to hazardous component of C, D & E waste	5
Step 3: Quantify waste going to its final fate or leaving each Plan area	6
Step 3a. C, D & E waste from North East Lincolnshire managed at permanent deposit sites.	6
Step 3b. C, D & E waste from NEL managed at intermediate sites outside NEL	6
Step 4: Calculate the tonnage of C, D & E waste from NEL treated in NEL that may have been subject to reclassification	7
Step 5: Account for C, D & E waste converted into Recycled Aggregate	10
Step 6: Account for waste managed at exempt sites managing C, D & E waste	11
Step 7: Account for C, D & E waste unattributed below regional level	12
Discussion of C, D & E Waste Arising Baseline Value	12
4. Forecasting Future C, D & E Waste Growth	15
5. Profiling the Existing C, D & E Waste Management Methods	16
Baseline C, D & E Waste Management Profile	16
6. Management Targets	19
Projected Management Requirement for North East Lincolnshire's C, D & E Waste	20

Table of Tables

Table 1: C, D & E Waste Arising from North East Lincolnshire	5
Table 2: C, D & E Waste Arising from North East Lincolnshire minus Hazardous Waste.....	5
Table 3: Running Non-hazardous C, D & E Waste from NEL 2024– Step 3a.....	6
Table 4: Running Non-hazardous C, D & E Waste from NEL 2024– Step 3b.....	7
Table 5: Intermediate NEL sites with a shortfall between CDE inputs also reporting an output of waste under Ch 19.....	9
Table 6: Table 4 plus Chapter 19 (Table 5) running totals	9
Table 7: Recycled Aggregate Production Estimates using ‘mass balance’ method	10
Table 8: Table 7 plus Recycled Aggregate Estimate	11
Table 9: Table 8 plus Exemptions.....	12
Table 10: North East Lincolnshire C, D & E Waste arisings by component 2013, 2019, 2024.....	12
Table 11: Allocation of Quantities to Management Categories for NEL C, D & E Waste in 2024	16
Table 12: C, D & E Waste Management Profile Actual Data 2024.....	17
Table 13: Proposed targets for C, D & E Waste Management arising in North East Lincolnshire	19
Table 14: C, D & E Waste Targets Applied to Forecast at Plan Milestone years.....	20
Table 15: Projected Residual C, D & E Waste Non Haz Landfill Requirement.....	21

Abbreviations

Abbreviation	Term
AD	Anaerobic Digestion
C & I	Commercial & Industrial Waste
C, D & E / CDEW	Construction, Demolition & Excavation Waste
DEFRA	Department for Environment, Food and Rural Affairs
EA	Environment Agency
EfW	Energy from Waste
EWG	European Waste Catalogue
HWRCs	Household Waste Recycling Centres
LACW	Local Authority Collected Waste
LAA	Local Aggregate Assessment
MRS	Metal Recycling Site
MRF	Material Recycling Facility
NEL	North East Lincolnshire
NELC	North East Lincolnshire Council
RDF	Refuse Derived Fuel
WDF	WasteDataFlow
WDI	Waste Data Interrogator
WNA	Waste Needs Assessment
WPA	Waste Planning Authority
WTS	Waste Transfer Station

Glossary of Terms

Term	Definition
Agricultural Waste	Waste produced on a 'farm' in the course of 'farming'. Agricultural waste takes both 'natural' (or organic) and 'non- natural' forms e.g. plastics and metal.
Anaerobic Digestion	A process to manage organic matter including green waste and food waste broken down by bacteria in the absence of air, producing a gas (biogas) and nutrient rich solid or liquid (digestate). The biogas can be used as a fuel, and digestate can be applied to land as a fertiliser.
Biodegradable waste	Waste that can break down over time due to natural biological action/processes, such as food, garden waste and paper.
Commercial Waste	Waste from factories or premises used for the purpose of trade or business, sport, recreation or entertainment
Controlled Waste	Waste subject to controls emanating from the EU Waste Framework Directive.
Construction, Demolition & Excavation Waste	Waste arising from the building process comprising demolition and site clearance waste and builders' waste from the construction/demolition of buildings and infrastructure. Includes masonry, rubble and timber.
Defra	The UK Government department responsible for developing national waste management policy.
Energy from Waste	The conversion of the calorific value of waste into energy, normally heat or electricity through applying thermal treatment of some sort. May also include the production of gas that can be used as a fuel.
Environment Agency	The body responsible for the regulation of waste management activities through issuing permits to control activities that handle or produce waste. It also provides up-to-date information on waste management matters.
European Waste Catalogue (EWC)	Comprehensive listing of wastes divided into 20 chapters, most of which are industry-based, although some are based on materials and processes. Each waste type is assigned a unique six-digit code. Otherwise referred to as List of Waste (LoW).
Exemptions	Certain activities exempt from the need to obtain an environmental permit. Each exemption has specific limits and conditions that must be complied with to remain valid. Exemptions must be registered with the Environment Agency. Each registration lasts 3 years.
Green waste	Biodegradable plant waste from gardens and parks such as grass and hedge trimmings, from domestic and commercial sources suitable for composting.
Hazardous Waste Landfill	Sites where hazardous waste may be disposed by landfill. This can be a dedicated site or a single cell within a non-hazardous landfill, which has been specifically designed and designated for depositing hazardous waste.
Hazardous Waste	Waste requiring special management under the Hazardous Waste Regulations 2005 due to posing potential risk to public health or the environment (when improperly treated, stored, transported or disposed). This can be due to the quantity, concentration, or characteristics of the waste.
Household Waste	Waste from households collected through kerbside rounds, bulky items collected from households and waste delivered by householders to household waste recycling centres and "bring recycling sites". along with waste from street sweepings, and public litter bins.
Incineration	The controlled combustion of waste. Energy may also be recovered in the form of heat (see Energy from Waste).
Industrial Waste	Waste arising from any factory and from any premises occupied by an industry (excluding mines and quarries).

Landfill (including land raising)	The permanent disposal of waste to land, by the filling of voids or similar features, or the construction of landforms above ground level (land-raising).
Local Aggregate Assessment	Annual local aggregate supply and demand assessment conducted by Mineral Planning Authorities which includes a survey of recycled aggregate producers within their particular Plan area.
Local Authority Collected Waste	Waste collected by or on behalf of a local authority. Includes household waste and waste delivered to HWRCs. LACW is the term used previously referred to municipal waste.
Materials Recycling Facility (MRF)	A facility for sorting recyclable materials.
Mass Balance	Method of assessing the quantity of waste that may be converted to recycled aggregate by comparing inputs and outputs for sites reporting through the WDI.
Mining Waste	Waste from extractive operations (i.e. waste from extraction and processing of mineral resources) including materials that must be removed to gain access to mineral resources, such as topsoil, overburden and waste rock, as well as tailings remaining after minerals have been extracted from the ore. Management subject to control through EU Directive 2006/21/EC.
Non-Hazardous Waste Landfill	A landfill permitted to accept non-inert (biodegradable) wastes e.g. municipal and commercial and industrial waste and other non-hazardous (including inert) wastes. May only accept hazardous waste if a special cell is constructed.
Recovery	Subjecting waste to processes that recover value including recycling, composting or thermal treatment to recover energy.
Recycling	The reprocessing of materials extracted from the waste stream either into the same product or a different one.
Refuse Derived Fuel	A fuel produced from the combustible fraction of waste to a specification.
Residual Waste	<i>The Environmental Targets (Residual Waste) (England) Regulations 2023</i> , defines residual waste as any waste other than excluded waste that is (a) sent to landfill in the United Kingdom; (b) put through incineration in the United Kingdom; (c) used in energy recovery in the United Kingdom; or (d) sent outside the United Kingdom for energy recovery.
The Plan area	The area subject to the Waste Local Plan to which this study relates. In this case North East Lincolnshire.
Waste Planning Authority	The authority responsible for planning for waste within a specific administrative area. In this case North East Lincolnshire Council.
Waste Transfer Station	A site to which waste is delivered for bulking prior to transfer to another place for recycling, treatment or disposal.

1. Purpose

- 1.1. North East Lincolnshire Council commissioned BPP Consulting to produce an updated Waste Needs Assessment for North East Lincolnshire using data for 2024 (hereinafter referred to as the WNA 2026). This updates the WNA 2015 produced by BPP Consulting and Cofely using 2013 data.
- 1.2. The North East Lincolnshire Waste Needs Assessment 2026 consists of the following reports, namely:
 1. Local Authority Collected Waste Management Requirements to 2045;
 2. Commercial & Industrial Waste Management Requirements to 2045;
 3. Construction, Demolition & Excavation Waste Management Requirements to 2045;
 4. Hazardous Waste Management Requirements to 2045;
 5. Scoping Review of Other Waste Management Requirements to 2045;
 6. Review of Strategic Flows; and
 7. Overview Report.

This report is concerned with assessing the projected management requirements for Construction, Demolition and Excavation (C, D & E) waste in North East Lincolnshire to 2045.

Principal Data Sources

- 1.3. The principal data sources used to generate this WNA are as follows:

Waste Data Interrogator

- 1.4. Operators of all sites permitted to manage waste in England, submit returns to the Environment Agency reporting the quantities, types and origin of waste received and, where applicable, destination of waste removed at their sites. These returns are collated by the Environment Agency and are included in a national dataset known as the Waste Data Interrogator (WDI) - Waste Received and Waste Removed. The WDI is released approximately nine months after the end of the calendar year to which the data relates. The 2024 WDI (composed of data for the calendar year 2024) was the current version available at the time of writing.

Exemption Register

- 1.5. Some waste operations are exempt from needing an environmental permit, and do not submit returns to the Environment Agency (EA). The quantity of waste managed through these can be estimated by counting the number of exemptions registered in a Plan area from the EA held exemption register and applying an estimation of quantity of waste managed at different exemptions in a Government funded report produced in 2013.¹. Specific to C, D & E waste is the 'U1' exemption relating to the use of up to 1,000 tonnes of waste in construction.

¹ Review of the Factors Causing Waste Soil To Be Sent To Landfill; 2007 to 2011 (WRAP 2013)

Advice on Data

- 1.6. The principal source of advice with respect to the use of data to inform production of a waste plan evidence base is the national Planning Practice Guidance (nPPG) available at <https://www.gov.uk/guidance/waste>. This states that:

"Assessing waste management needs for Local Plan making is likely to involve:

- understanding waste arisings from within the planning authority area, including imports and exports*
- identifying the waste management capacity gaps in total and by particular waste streams*
- forecasting the waste arisings both at the end of the period that is being planned for and interim dates*
- assessing the waste management capacity required to deal with forecast arisings at the interim dates and end of the plan period."*

Paragraph: 022 Reference ID: 28-022-20141016

- 1.7. NPPG includes a section entitled "Using data to monitor and forecast waste needs", which articulates the following principles should waste planning authorities adopt when using data to plan for waste management:

- Make clear assumptions on how data were handled, as well as their impact (including on forecasting)*
- Provide data to an appropriate level of significance, based on their explicit assumptions. In practice, data quoted to more than 2 or 3 significant figures will not be helpful and spurious accuracy stemming from precise figures should be avoided*
- Plan for a range of each type of waste rather than a specific single figure."*

Paragraph: 036 Reference ID: 28-036-20141016 Revision date: 16 10 2014

Data Presentation

- 1.8. In order to respect the need to avoid "spurious accuracy", the following approach has been taken:

1. Where actual tonnage data has been accessed, this has been used in the computations.
2. Where data has been subject to computation, this has been included to 3 significant figures.
3. Where percentages have been used to generate data, the percentages are presented as whole numbers, however the computations actually use the percentage inc decimals. This means that values presented may not always correspond to the values computed if the reader is seeking to replicate by applying the percentage value presented in this report.

2. Estimating C, D & E Waste Baseline Arisings

Introduction

- 2.1 This section of the report is concerned with estimating baseline arisings for Construction, Demolition and Excavation (C, D & E) waste in North East Lincolnshire. From this, future arisings are forecast and appropriate management targets proposed to then determine what future management requirements may exist or emerge.

Context

- 2.2 There is no statutory requirement for construction businesses in England to routinely submit data on the quantities of waste they produce at source. As a result, estimating C, D & E waste arisings for a defined plan area remains challenging.
- 2.3 Defra has developed a national methodology for estimating annual waste generation from the C, D & E Sectors for England² based on a point of management approach to measurement. This superseded a series of survey based estimates produced on behalf of the central Government Department responsible for Planning in the early 2000s. The national methodology uses information from four key management routes:
- 1) Waste managed at transfer and treatment facilities i.e. intermediate sites (reporting through Environment Agency WDI).
 - 2) Waste managed by landfill (reporting through Environment Agency WDI).
 - 3) Waste managed under certain exemptions from permitting.
 - 4) Waste recycled as aggregate (from a national estimate prepared by the Mineral Products Association)
- 2.4 The North East Lincolnshire WNA 2015 applied the 'point of management' approach which generated an estimated baseline value of **c158,000** tonnes of C, D & E waste produced in North East Lincolnshire in 2013 (c83,000t from permitted sites plus c20,000t from exempt sites and c57,500t of recycled aggregates).

² Methodology for estimating annual waste generation from the Construction, Demolition and Excavation (CD&E) Sectors in England Version 1 20th March 2012

3. Methodology

3.1 In order to assess C, D & E waste arisings at Plan area level the national methodology has been modified to reflect local circumstances. In particular, the following modifications have been made:

- Values for Plan Area waste classed as C, D & E waste managed through permitted sites in 2024 as reported in the WDI with steps taken to avoid possible double counting and capture wastes that may have been reclassified as a consequence of processing through intermediate sites.
- The population of exempt sites registered in North East Lincolnshire has been established through the Environment Agency held exemption register. Then the estimated value for the quantity of waste managed at the key exemption managing C, D & E waste ('U1') from a government funded study³ was applied.

3.2 The key steps in the methodology are:

- 1) Calculate inputs arising in North East Lincolnshire, to all permitted facilities applying European Waste Catalogue (EWC) codes selected for their inclusion of C, D & E waste
- 2) Deduct EWC codes relating to hazardous waste (this waste is accounted for in a separate report).
- 3) Quantify waste going to its final fate or leaving each Plan area.
- 4) Calculate the tonnage of C, D & E waste from each Plan Area treated within each Plan Area that may have been subject to reclassification following treatment.
- 5) Add figure for recycled aggregate adjusted for % input arising from North East Lincolnshire.
- 6) Calculate quantity of C, D & E waste managed at exempt sites.
- 7) Quantify and apportion waste managed at sites within North East Lincolnshire but not attributed to an area below regional level within the WDI.
- 8) Sum the above to gain an overall figure.

The detail of how this methodology has been applied is set out in the sections below.

3.3 For the purposes of this exercise C, D & E waste is taken to be comprised of wastes falling within the following List of Waste/European Waste Catalogue codes:

- Chapter 17 (Construction & Demolition Waste)
- 19 12 09 (minerals such as sand, stones)
- 20 02 02 (soil and stones).

As waste classified under EWC 19 13 02 includes remediated soils this is also included in the C, D & E waste arisings total so a check was undertaken for this ⁴.

³ See footnote 2

⁴ Note no waste of this type was reported as coming from NEL in the WDI 2024.

Inputs to permitted waste management facilities in England

Step 1: Calculate the tonnage of C, D & E waste from North East Lincolnshire sent to permitted sites.

3.4 The total quantity of C, D & E waste arising in North East Lincolnshire reported in the WDI 2024 managed at English permitted sites in 2024 was c120,000 tonnes. The data by management routes is shown in Table 1 below.

Table 1: C, D & E Waste Arising from North East Lincolnshire (tonnes)

Source: WDI 2024

	Landfill			Recovery to Land	Metal Recycling Sites	Transfer	Treatment	Grand Total
	Haz	Non-Inert	Inert					
Managed within NE Lincs	0	11,937	0	10,919	5,429	10,436	9,439	48,161
Managed outside NE Lincs	619	11,996	3,852	0	858	90	54,253	71,668
Totals	619	23,933	3,852	10,919	6,287	10,526	63,693	119,829

Step 2: Deduct EWC codes relating to hazardous component of C, D & E waste

3.5 Requirements for management of hazardous waste arising in North East Lincolnshire are accounted for in a separate report⁵. Therefore, the hazardous waste component of C, D & E waste arising is deducted to avoid double counting. Of the inputs shown in Table 1, a total of c3,500 tonnes was identified as hazardous in the WDI2024, which when deducted gives a revised running total of c116,500 tonnes. The revised values are shown in Table 2.

Table 2: C, D & E Waste Arising from North East Lincolnshire minus Hazardous Waste

Source: WDI 2024

	Landfill		Recovery to Land	Metal Recycling Sites	Transfer	Treatment	Grand Total
	Non-Inert	Inert					
Managed within NE Lincs	11,937	0	10,919	5,429	10,427	9,439	48,152
Managed outside NE Lincs	9,476 ⁶	3,852	0	841	33	54,120	68,322
Totals	21,413	3,852	10,919	6,270	10,461	63,559	116,474

⁵ North East Lincolnshire WNA 2026 Hazardous Waste Management Requirements in North East Lincolnshire to 2045 (BPP Consulting 2026)

⁶ This value has decreased at this step due to Welbeck Non-Hazardous Landfill site in Wakefield receiving 2,509 of contaminated soil and stones.

Step 3: Quantify waste going to its final fate or leaving each Plan area

Step 3a. C, D & E waste from North East Lincolnshire managed at permanent deposit sites.

3.6 As management at landfill and recovery to land sites involves the permanent deposit of the waste, they are regarded as final points of management, so these values are taken as final as follows: 25,265 (combined landfill values in Table 2 21,413 + 3,852) + 10,919 (recovery to land value from Table 2) = 36,184 tonnes. Table 3 shows the initial running C, D & E arising tonnage as a cumulative value.

Table 3: Running Non-hazardous (including inert) C, D & E Waste from NEL 2024– Step 3a

Source: WDI 2024

Component	Value	Cumulative Total
Permanent Deposit	36,184	36,184

Step 3b. C, D & E waste from NEL managed at intermediate sites outside NEL

3.7 As shown in Figure 1 below, waste from NEL managed at intermediate sites outside North East Lincolnshire ceases to be identified as coming from NEL, following receipt at the intermediate management facility ('next step' site).

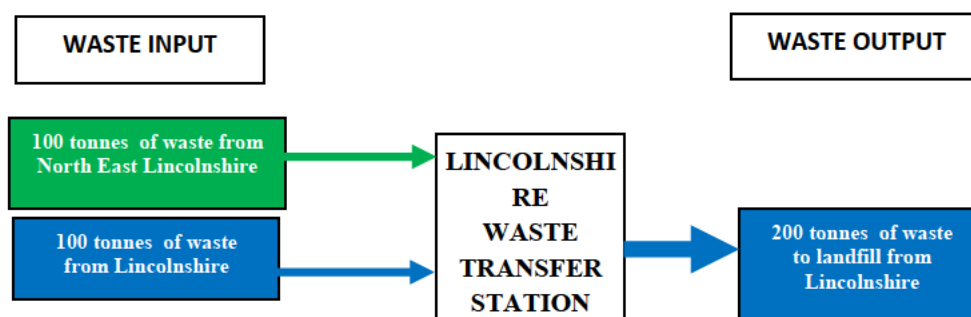


Figure 1: Schematic of how flows of NEL waste to sites outside NEL are reported in the WDI.

3.8 Hence the tonnage managed at intermediate sites outside North East Lincolnshire shown in Table 2 is also taken to be a 'final value' as follows:

- 841 (out of Plan area MRS from Table 2) +
 - 33 (out of Plan area Transfer from Table 2) +
 - 54,120 (out of Plan area Treatment from Table 2)
- = 54,994 tonnes.

This is added to the running total shown in Table 4.

Table 4: Running Non-hazardous (including inert) C, D & E Waste from NEL 2024– Step 3b

Component	Value	Cumulative Total
Permanent Deposit	36,184	36,184
Managed out of NEL	54,994	91,178

Step 4: Calculate the tonnage of C, D & E waste from NEL treated in NEL that may have been subject to reclassification

3.9 Inputs to intermediate sites within North East Lincolnshire also need to be accounted for, however, these need to be further interrogated to ensure that the values do not:

- 1) double count inputs to intermediate sites that subsequently get managed at another site within North East Lincolnshire and hence over report arisings; nor
- 2) misses C, D & E waste that may following processing through these steps have been classified under a non-C, D & E waste EWC code and hence under report C, D & E waste arisings. This risk arises because waste leaving an intermediate site may be reclassified as a waste from a waste management process (the relevant waste chapter is 'Chapter 19'). This is explained by the following example:
'Intermediate' Site 1 in the Plan Area receives 100 tonnes of Plan Area C, D & E waste. Following treatment e.g. sorting and some processing, the 100 tonnes gets split into:
 - 25 tonnes of soil (classed as Chapter 17 waste) which is moved onto 'next step' Site 1, a Recovery to Land facility. The 25 tonnes of soil is therefore also recorded at the point of input to the Recovery to Land site as waste arising from the Plan Area (regardless of whether Site 2 is within or outside the Plan Area).
 - 50 tonnes of recycled aggregate is produced through crushing and this is sold as a product and hence not reported through the WDI.
 - 25 tonnes of waste now classed as Chapter 19 waste due to the incoming C, D & E waste having been processed and then reclassified as waste from waste management processes under Chapter 19. This will be received at the 'next step' site 2 as waste arising from North East Lincolnshire but because it is classed as Chapter 19 it will not be identified as arising from C, D & E waste unless this exercise is undertaken.

This is illustrated in Figure 2 below:

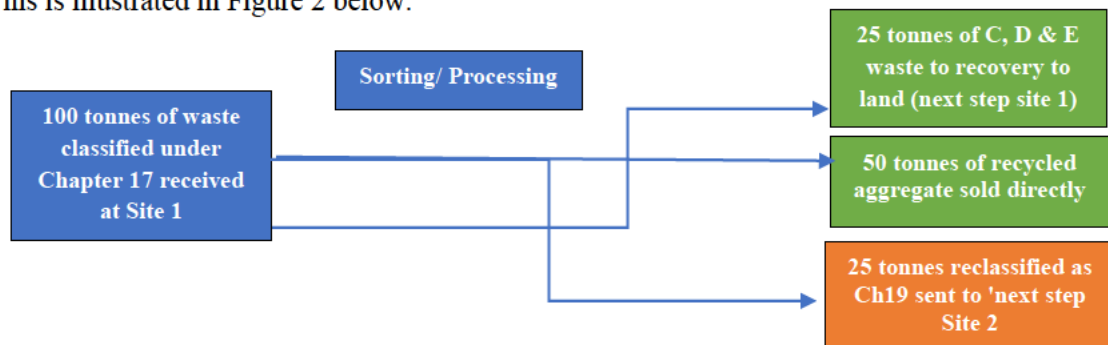


Figure 2: Schematic of intermediate site outputs to track Plan area C, D & E waste by fate.

3.10 Therefore, that element of Chapter 19 waste that came from intermediate sites located in the Plan area that arose from C, D & E waste needs to be estimated. This is done by identifying each intermediate site within the Plan Area that received C, D & E waste that also reported Chapter 19 waste as an output. The proportion of the Chapter 19 output to be attributed to the input Plan Area C, D & E waste is determined as follows:

- 1) Did the site have a shortfall between the reportage tonnage of C, D & E waste received and that removed?
- 2) Did the site have outputs classed under Chapter 19?
- 3) If yes to both then the percentage of total inputs attributed to North East Lincolnshire is applied to the outputs of Chapter 19 to give a Chapter 19 'makeup' on the basis that the identified shortfall is due in part at least to incoming C, D & E waste being converted to Chapter 19 waste.

NB: Where the Ch 19 output is greater than the shortfall, only the shortfall value is used.
Where the shortfall is less this may be taken to indicate that tonnages of C, D & E Waste were converted into recycled aggregate which is not generally declared on the permit waste returns as it has ceased to be waste.

3.11 Applying this method to the Intermediate sites (Metal Recycling Sites, Waste Transfer Stations & Waste Treatment sites⁷) identified as both receiving C, D & E waste from NEL and producing Chapter 19 waste in 2024 located in NEL yields the following:

Q1 & 2: 2 sites identified as receiving C, D & E waste from NEL and having outputs classed under Chapter 19

Q3: The percentage inputs from each Plan area has been applied to the Chapter 19 outputs to give a total Chapter 19 makeup of 3,749 tonnes as shown in Table 5.

⁷ No shortfall over 500 tonnes between C, D & E waste inputs and outputs was found for any treatment and MRS sites in WDI 2024.

Table 5: Intermediate sites within NEL with a shortfall between CDE inputs <500t also reporting an output of waste under Ch 19

Facility Type	Site	C,D & E waste input/output shortfall <500t+ (tonnes)	Net Ch 19 produced (tonnes) WDI 2024	% C, D & E waste input from Plan area	Ch 19 make up (tonnes) (amber box in Fig 2) (If net Ch 19>shortfall, then the shortfall value taken. If net Ch 19<shortfall then the net Ch 19 taken) % from WPA*
Transfer	Gilby Road Transfer Station (Biffa Waste Services Ltd)	1,422	7,909	100%	1,422
	Rear of No's 2 & 3 Cold Store (Browns Waste Ltd)	2,327	3,642	100%	2,327
Total					3,749

Table 5 values added to the cumulative C, D & E arising value as shown in Table 6.

Table 6: Table 4 plus Chapter 19 (Table 5) running totals (tonnes) – Post Step 4

Component	Value	Cumulative Total
Permanent Deposit	36,184	36,184
Managed out of NEL	54,994	91,178
NEL intermediate site Ch 19	3,749	94,927

Step 5: Account for C, D & E waste converted into Recycled Aggregate

3.12 This section sets out how the calculation accounts for the quantity of C, D & E waste arising in North East Lincolnshire used to produce recycled aggregate which if produced in accordance with the Aggregate Protocol⁸ is a product, not a waste, and as such is not reported as an output waste from NEL intermediate sites reporting through the WDI.

3.13 To calculate the C, D & E waste arising converted into recycled aggregate in 2024 the 'mass balance' method included in the AWP *Recycled Aggregates Data: Guidance on Assessing Levels of Recycled Aggregates* (May 2022) was used. The 'mass balance' method assesses the quantity of waste that may have been converted into recycled aggregate by comparing the inputs and outputs of C, D & E waste from each Plan area intermediate sites reporting through the WDI. As recycled aggregate outputs from sites are not reported as waste, where:

- the site reported receiving sufficient tonnages of waste of a type suited for conversion into recycled aggregate; and
- a shortfall of more than 500 tonnes exists between the input and the output value; and
- that shortfall is not made up by processing residues (see Step 4 above), this shortfall was taken to represent the quantity of C, D & E waste converted to recycled aggregate.

3.14 The percentage inputs of C, D & E waste coming from NEL was then applied to the shortfall value to produce an estimate for recycled aggregate produced from C, D & E waste arising from NEL (accounting for any sites that also appeared as having a Ch 19 makeup as explained in the Step above). Table 7 shows the results of applying the 'mass balance' method.

Table 7: Recycled Aggregate Production Estimates using 'mass balance' method (tonnes)

Site Category	Site	Shortfall (input minus output)
Treatment	Moody Lane Materials Recycling Facility	729
	Sandstop Recycling	5,292
Total		6,021

3.15 Table 7 shows that c6,000 tonnes of the C, D & E waste produced in NEL in 2024 was estimated to have been converted into recycled aggregate. When the above values are added to the running C, D & E waste arising total it gives a total baseline arising of c101,000 tonnes as shown in Table 8 below.

⁸ *Quality Protocol: Aggregates from inert waste*

https://assets.publishing.service.gov.uk/media/5a7c38bce5274a1f5cc769c8/LIT_8709_c60600.pdf

Table 8: Table 7 plus Recycled Aggregate Estimate (tonnes) – Step 5

Component	Value	Cumulative Total
Permanent Deposit	36,184	36,184
Managed out of NEL	54,994	91,178
NEL intermediate site Ch 19	3,749	94,927
Recycled Aggregate	6,021	100,949

Step 6: Account for waste managed at exempt sites managing C, D & E waste

3.16 The national Planning Practice Guidance (nPPG) advises that: "...when forecasting construction and demolition waste arisings, the following may be relevant:

- the fact that a sizeable proportion of construction and demolition waste arisings are managed or re-used on-site, or exempt sites, so it is critical that some provision is made for unseen capacity in this way." (emphasis added)

Paragraph: 033 Reference ID: 28-033-20141016

3.17 Regulations were introduced in 2011 which dramatically reduced the maximum quantities of waste that could be managed by activities for which exemptions rather than environmental permits could be relied upon, and so the quantity of C, D & E waste managed through exempt activities has reduced substantially. However, as the quantification of waste going to certain exemptions is specifically referred to in the nPPG it is still considered appropriate to give consideration to the contribution some activities may make to management of this stream, and hence to the calculation of arisings, albeit in a substantially reduced quantity.

3.18 Activities registered under Paragraph U1 (use of waste in construction) potentially account for the management of the most significant quantities of C, D & E waste by registered exemptions. A government funded report produced in 2013⁹ estimated a mean value for the quantity of waste managed by an activity registered under U1 as 600 tonnes in total.

3.19 The following steps ensure that C, D & E waste managed by activities registered under U1 is taken into account in the assessment of C, D & E waste arisings in North East Lincolnshire. The number of U1 exemptions registered in North East Lincolnshire involving waste being used at a location other than a farm in 2024 was 9¹⁰.

3.20 Applying the value of 600 tonnes per exemption, it is estimated that the total quantity of C, D & E waste managed by such activities in NEL is 5,400 tonnes which when added to the running

⁹ Review of the Factors Causing Waste Soil To Be Sent To Landfill; 2007 to 2011 (WRAP 2013)

¹⁰ The exemption registration process asks if the activity is taking place "on a farm". It has been assumed that "on farm" U1 exemptions only involves agricultural waste and to verify this assumption a simple visual check was done whereby any exemptions that may have been registered by construction waste management companies might be identified. One site was apparent, so has been included.

C, D & E waste baseline arising value shown in Table 9 below gives a total arising of **c106,500tpa**.

Table 9: Table 8 plus Exemptions (tonnes)

Component	Value	Cumulative Total
Permanent Deposit	36,184	36,184
Managed out of NEL	54,994	91,178
NEL intermediate site Ch 19	3,749	94,927
Recycled Aggregate	6,021	100,949
Managed at Exemptions	5,400	106,349

Step 7: Account for C, D & E waste unattributed below regional level

- 3.21 In some cases waste managed at permitted sites is not coded down to WPA and appears as a tonnage at regional level. In such cases, the waste managed at sites located in a Plan area may be assessed to have arisen within the Plan area. However, the WDI 2024 reports no sites in NEL receiving 500 tonnes or more of C, D & E type waste not coded below regional level. Therefore, the C, D & E waste baseline arising has remained at c106,500 tonnes.

Discussion of C, D & E Waste Arising Baseline Value

- 3.22 The baseline arising value of c106,500 tonnes generated for 2024, is 33% lower than the value of c158,000 tonnes generated for 2013 presented in the North East Lincolnshire WNA 2015. To determine which value may be more representative (with two values there is no basis to establish this) it is necessary to triangulate the values obtained for 2013 and for 2024 to ensure that neither are anomalous. Therefore, the above methodology has been applied to the WDI 2019 dataset as well to provide a mid-point value in the baseline approach. The resulting values are set out in Table 10 below.

Table 10: North East Lincolnshire C, D & E Waste arisings by component 2013, 2019, 2024 (tonnes)

Component	2013	2019	2024
Permanent Deposit	38,302	60,576	36,184
Managed Out of NE Lincs	42,166	95,514	54,994
NE Lincs intermediate site Ch 19	0	6,683	3,749
Recycled Aggregate Production	57,400	31,358	6,021
Input to U1 Exemptions	20,000	4,800	5,400
Total	157,868	198,931	106,349
% annual growth indicated		+26%	-46.5%

- 3.23 Table 10 shows that the amount of C, D & E waste produced in North East Lincolnshire increased by 26% in 2019 from the 2013 value and decreased by 46.5% in 2024 from the 2019 value. The higher baseline value for 2019 arises from a larger tonnage of C, D & E waste being

managed through permanent deposit (almost double)¹¹ and that managed at out of NEL facilities¹² during that year.

3.24 Figure 3 below shows the baseline values from Table 10 plotted against house building figures¹³ over the period to see if there is any correlation with the increase in 2019.

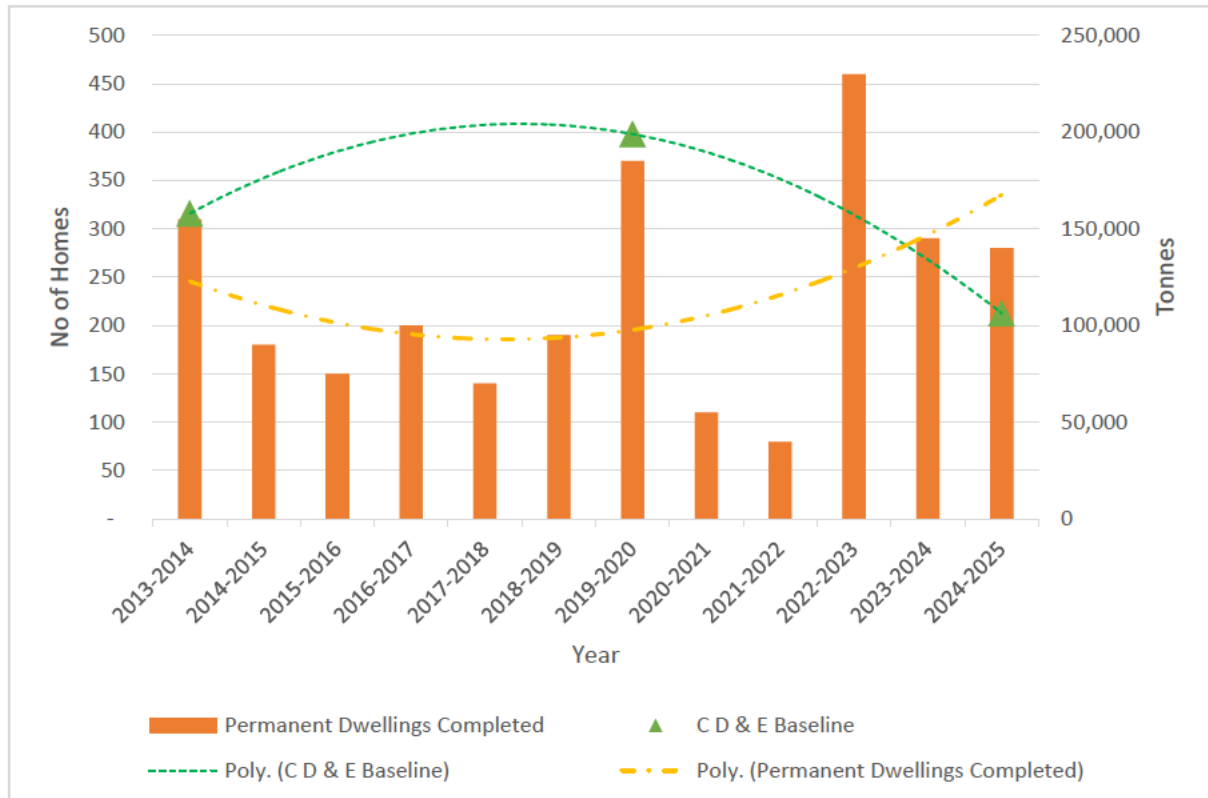


Figure 3: C, D & E Waste Baseline values (green triangles) vs house building (bars chart) 2013/14 to 2024/25 Trendlines dashed

3.25 Figure 3 shows that while there was a decline in house buildings between 2013/14 to 2018/19, a spike occurred in 2019/20, with a sharp fall in 2020/21 and 2021/22, with another peak in 2022/23 and then stable completions in 2023/24 and 2024/25. The orange curve shows that overall the trend is upwards. This compares with the green trendline for C, D & E waste arisings over the period which is falling after peaking in 2019/20. Overall the data indicates there is no direct correlation between house building activity on an annual basis and C, D & E waste arisings in NEL, and therefore future house building forecasts are not considered to be a reliable indicator for growth in NEL C, D & E waste arisings.

¹¹ The majority of this increase relates to waste managed at Kettleby Quarry (Breedon Southern Ltd) in Lincolnshire which was c31,000t in 2019 and c11,000t in 2024.

¹² Mostly waste sent for treatment at Elsham Airfield (c27,000t in 2019 & c11,000t in 2024), Manton Quarry (c47,000t in 2019 & c34,000t in 2024) and Melton Ross Quarry (c16,500t in 2019, 0 tonnes in 2024) all in North Lincolnshire.

¹³ Taken from North East Lincolnshire Council – Housing and Economic Development Needs Assessment (Nov 2025) [20251103-HEDNA](#)

- 3.26 Given that the baseline values presented in this report have been generated through the replication of a tried and tested methodology, the values are considered to be robust. To provide a value that can be used for forecasting with a degree of confidence it is therefore proposed that the mean of the three baseline arisings values obtained from 2013, 2019 and 2024 respectively be used as the starting point from which future management requirements for C, D & E waste in North East Lincolnshire may be determined. This equates to **c154,500 tonnes**.

4. Forecasting Future C, D & E Waste Growth

4.1 The nPPG states when looking to forecast C, D & E waste:

“Waste planning authorities should start from the basis that net arisings of construction and demolition waste will remain constant over time as there is likely to be a reduced evidence base on which forward projections can be based for construction and demolition wastes.”

4.2 Hence the starting point for any assessment is that there will be no growth in arisings in the forecast period. Arisings generally vary from year to year depending on what development projects progress, and the type of waste according to whether projects are located on previously developed (involving demolition) or greenfield land (excavation). This is shown by the fluctuating C, D & E waste arisings in NEL which increased between 2013 and 2019 and then fell between 2019 and 2024. The WNA 2015 compared a zero-growth rate with a +0.5% growth rate, with the zero-growth rate being preferred.

4.3 The projected house building activity in NEL is 622 dwellings pa¹⁴ which would be an 0.01% increase on the current number of houses built each year. However, given that the correlation observed between houses built and C, D & E waste arisings is negative, this projection hasn't been explored further. Therefore, it is considered that a zero-growth rate as per nPPG advice remains appropriate.

¹⁴ See Footnote 13.

5. Profiling the Existing C, D & E Waste Management Methods

- 5.1 To set realistic future management targets which then informs the assessment of future capacity requirements it is first necessary to understand how the C, D & E waste produced in NEL was managed most recently.

Baseline C, D & E Waste Management Profile

- 5.2 The baseline generation exercise has largely established the current management profile for the C, D & E waste arising in NEL. This is displayed in Table 11 below. Table 11 applies the classification of the use of inert waste to backfill mineral workings as a form of recovery rather than disposal, for the purposes of reporting on compliance with the targets for management of this waste stream in the retained EU Waste Framework Directive. It should also be noted that input to non-inert waste landfill sites may also be for beneficial purposes too i.e. restoration, given the commercial impetus to conserve void for non-inert waste for which a higher gate fee can be charged.
- 5.3 The 2024, the C, D & E waste management profile for NEL shows that 11% of the waste is reused and recycled, 18% is recovered in some way, 18.6% is inerts going to non-inert landfill as restoration / engineering material and 2.7% is non-inerts for disposal with 50% being exported for treatment or transfer (ultimate fate unknown).

Table 11: Allocation of Quantities to Management Categories for NEL C, D & E Waste in 2024

Final Fate	Component	Value (tonnes)	%	Cumulative %
Reuse/Recycling	Recycled Aggregate	6,021	11%	11%
	Other Recycling (MRS)	6,270		
	Subtotal Recycling and Reuse	12,291		
Other Recovery	Inert Landfill (backfill of mineral working)	3,852	18%	28%
	Recovery to Land	10,919		
	Exemption	5,400		
	Subtotal Other Recovery	20,171		
Non Inert and Haz Landfill	Restoration (Input of soil and stones plus hardcore for operational needs)	21,413	21%	50%
	Disposal (mixed non-inert)	3,140		
	Subtotal Non Inert Landfill	24,553		
Unknown	Exported to Intermediate Sites Outside NEL and Chapter 19	57,903	50%	100%
All Routes	Total	114,918¹⁵	100%	

¹⁵ Includes an element of double counting so does not correspond to baseline value obtained for 2025 of c106,349 tonnes.

5.4 Table 12 presents the management profile arrived at using the baseline value of c106,500 tonnes of C, D & E waste produced in North East Lincolnshire in 2024.

Table 12: C, D & E Waste Management Profile Actual Data 2024

Source: WDI 2024 Waste Received and Waste Removed Datasets

Hierarchy Tier	Management Route	Inert	Non-Inert	
			Recycled	Disposed
Recycling/ Reuse	Recycled Aggregate	6,021	0	0
	Other Recycling (MRS)	0	6,270	0
Recovery	Exemptions	5,400	0	0
	Use of Waste/ Recovery to Land	10,919	0	0
	Inert Landfill	3,852	0	0
Disposal (Non-Inert Landfill)	Disposal	0	0	3,140
	Restoration/Operational needs	21,413	0	0
	Chapter 19 Processing Residue (trommel fines)	0	0	3,749
For Processing	Out of NEL Intermediate Sites	53,860 ¹⁶	260 ¹⁷	0
	Totals	101,465	6,530	6,889
	Breakdown	88%	6%	6%

5.5 Table 12 sets out the management profile for NEL non-hazardous C, D & E waste in 2024, showing the majority of material was inert (88%) most of which was managed through recycling and recovery routes, with a smaller proportion of non-inert waste (12%) managed through recycling (6%) or disposed of to landfill (6%).

5.6 In order to understand better what the final fate of the inert NEL C, D & E waste managed at out of NEL intermediate facilities might be, the WDI 2024 Waste Removed dataset for the principal receiving sites has been interrogated. Three receiving sites accounted for over 80% of NEL C,D & E waste exported for management in 2024 (c60,000t), all of which would be classed as inert, and all located in North Lincolnshire. This shows the following:

- no reported outputs from Kirton Quarry which suggests that all c.25,000t of inputs is converted into recycled aggregate removed from site as non-waste. However it should be noted there is an inert landfill operating adjacent to the physical treatment site, so some material may meet its final fate there, but that would be classed as recovery.
- only 83t of outputs for the c50,000t input to Manton Quarry which suggests that virtually all inputs is converted into recycled aggregate; and
- no reported outputs from Elsham Quarry which suggests that all c.14,000t of inputs is converted into recycled aggregate.

¹⁶ Concrete, soil and stones, and mixtures of concrete, bricks, tiles and ceramics.

¹⁷ 20% of mixed CDEW plus wood, gypsum and bituminous mixtures.

- 5.7 The above indicates that the 53,860t shown as going to out of NEL intermediate sites, in Table 12 should in fact be reallocated to the recycled aggregate category, boosting the current value of 6,021t to 59,881t.

Table 13: C, D & E Waste Management Profile Actual Data - adjusted 2024

Source: WDI 2024 Waste Received and Waste Removed Datasets

Hierarchy Tier	Management Route	Inert	Non-Inert	
			Recycled	Disposed
Recycling/ Reuse	Recycled Aggregate	59,881	0	0
	Other Recycling (MRS)	0	6,270	0
	Subtotal	59,881	6,270	0
Recovery	Exemptions	5,400	0	0
	Use of Waste/ Recovery to Land	10,919	0	0
	Inert Landfill	3,852	0	0
	Restoration/Operational needs of non-inert landfill	21,413	0	0
	Subtotal	41,584	0	0
Disposal (Non-Inert Landfill)	Direct disposal	0	0	3,140
	Chapter 19 Processing Residue (trommel fines)	0	0	3,749
	Subtotal	0	0	6,889
For Processing	Out of NEL Intermediate Sites	0	260 ¹⁸	0
	Totals	101,465	6,530	6,889
	Breakdown	88%	6%	6%

¹⁸ 20% of mixed CDEW plus wood, gypsum and bituminous mixtures.

6. Management Targets

6.1 The revised retained EU Waste Framework Directive set a minimum target of 70% by weight of non-hazardous for Construction & Demolition waste prepared for re-use, recycling and other material recovery by 2020¹⁹.

6.2 *The Routemap for Zero Avoidable Waste in Construction* was launched in 2021²⁰.

To achieve zero avoidable waste production by sector by 2050, this includes the following targets:

- By 2040 eliminate all but hazardous C&D waste entering landfill.
- By 2040 reduce soil to landfill by 75% based on 2020 level and reduce to zero by 2050 unless required for landfill operation purposes.

Other targets may be set for construction waste reduction and recovery including cost reduction through designing out waste and material optimisation.

6.3 The WNA 2015 showed that 42% went to landfill and 58% was diverted, but when the tonnage of recycled aggregate produced from NEL C, D & E waste that was not reported in the WDI was taken into account, the split changed to 19% to landfill and 81% being diverted. On this basis the WNA 2015 proposed the following management targets be applied to this waste stream as shown in Table 14 as compared with the actual 2024 baseline.

Table 14: Proposed targets for C, D & E Waste Management arising in North East Lincolnshire

Source: Table 13 baseline values

Management Route	Baseline	Milestone Year			
	2024	2030	2035	2040	2045
Reuse & recycling	58%	60%	65%	70%	75%
Inert recovery inc inert and non-inert landfill as backfilling of mineral workings	36%	35%	30%	25%	20%
Remainder disposed to non-inert landfill	6%	5%	5%	5%	5%

6.4 The profile shown in Table 14 shows that in 2024 recycling stood at 58%, so this has been shown to gradually increase through to 2045 to a floor of 75%. The remainder disposed to non-inert landfill baseline stood at 6% in 2024 and is expected to reduce to a small extent to 5%. The inert recovery is gradually reducing from the baseline value of 36% to 20% over the forecast period as recycling increases. This may be through the increased use of soil washing techniques that facilitate separation of mineral from soils.

¹⁹ The UK Government has committed to achieving targets set in the revised Waste Framework Directive even though the UK has now left the EU.

²⁰ <https://www.constructionleadershipcouncil.co.uk/news/zero-avoidable-waste-routemap-launch/>

Projected Management Requirement for North East Lincolnshire's C, D & E Waste

- 6.5 Applying the management targets in Table 13 to the mean annual baseline value of c154,500 tonnes, gives the predicted management requirement at each of the respective Plan Milestone years shown in Table 15. For example, the reuse and recycling management target in Table 14 for 2040 of 70% has been applied to the NEL baseline value to estimate c108,000 tonnes of reuse and recycling C, D & E waste at that date.

Table 15: C, D & E Waste Targets Applied to Forecast at Plan Milestone years (tonnes)

Management Route	Milestone Year			
	2030	2035	2040	2045
Reuse & recycling	92,630	100,349	108,068	115,787
Inert recovery inc inert landfill as backfilling of mineral workings	54,034	46,315	38,596	30,877
Remainder disposed to non-inert landfill	7,719	7,719	7,719	7,719

- 6.6 Table 15 shows management capacity for inert waste in NEL (in the form of recycled aggregate production capacity for hard waste and/or recovery capacity for soils) will need to be at least c146,500 tonnes (c116,000 reuse & recycling + c31,000 recovery) at 2045. The exact split will depend on the composition of NEL C,D&E waste arising at that time. If the residual component of the C, D & E waste stream continues to be disposed to landfill to the milestone ceiling, this represents a cumulative non-hazardous landfill requirement of c166,000 tonnes to the end of the forecast period as shown in Table 16 below.

Table 16: Projected Residual C, D & E Waste Non Haz Landfill Requirement (tonnes)

Year	Tpa	Tonnes Cumulative
2025	9,001	9,001
2026	8,744	17,745
2027	8,488	26,233
2028	8,232	34,465
2029	7,975	42,441
2030	7,719	50,160
2031	7,719	57,879
2032	7,719	65,598
2033	7,719	73,317
2034	7,719	81,036
2035	7,719	88,755
2036	7,719	96,475
2037	7,719	104,194
2038	7,719	111,913
2039	7,719	119,632
2040	7,719	127,351
2041	7,719	135,070
2042	7,719	142,789
2043	7,719	150,508
2044	7,719	158,228
2045	7,719	165,947