Kent Waste Needs Assessment 2022 Update

Construction, Demolition & Excavation Waste Management Requirements in Kent

Report: Post Client Review

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Abbreviations

Abbreviation	Full Name
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
EWC	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
RDF	Refuse Derived Fuel
WDF	WasteDataFlow
WDI	Waste Data Interrogator
WIR	Waste Incinerator Returns
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.
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 to generate energy.
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 and deals with other matters such as water issues including flood protection.
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.
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 business waste where collected by a local authority and non-municipal fractions such as construction and demolition waste delivered to HWRCs. LACW is the definition used in statistical publications, which previously referred to municipal waste.

Materials Recycling Facility (MRF)	A facility for sorting recyclable materials from the incoming waste stream.
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.
The Plan area	The area subject to the Waste Local Plan to which this study relates. In this case the county of Kent.
Waste Planning Authority	The authority responsible for planning for waste within a specific administrative area. In this case Kent County Council.
Waste Transfer Station	A site to which waste is delivered for sorting or baling prior to transfer to another place for recycling, treatment or disposal.

1. Introduction

The Kent Waste Needs Assessment Update 2022 consists of an overall main report and five waste stream specific supporting reports, namely:

1. Local Authority Collected Waste;
2. Commercial & Industrial Waste;
3. Construction, Demolition & Excavation Waste;
4. Hazardous Waste; and,
5. Review of Flows between Kent and London.

This report is concerned with updating the assessment of baseline waste arisings and management associated with Construction, Demolition & Excavation (C, D & E) Waste in Kent. The original Waste Needs Assessment[1] for this waste stream was updated in 2017[2] to underpin the Early Partial Review of the KMWLP and was based on data reported in 2015.

The adopted Kent Minerals and Waste Local Plan (KMWLP) defines C, D & E waste as follows:

> *"This is a waste arising from any development, redevelopment, or demolition of existing schemes. It includes vegetation and soils from land clearance, demolition waste, discarded materials and off-cuts from building sites, road schemes and landscaping projects. It is mostly made up of stone, concrete, rubble and soils but may include timber, metal and glass."*

The national Planning Practice Guidance chapter on Waste states that: "Planned provision of new capacity and its spatial distribution should be based on robust analysis of best available data" (mphasis added) (Para 035). Therefore, this exercise involves a robust analysis to identify what might be considered to be the "best available data" relating to C, D & E waste production and management available at the time of undertaking the exercise.

This report reviews and updates the evidence base supporting the Early Partial Review (EPR) of the Kent Minerals and Waste Local Plan (KMWLP) (adopted in 2020) and, in particular, that relating to projected shortfalls in waste management capacity that may require updates to the KMWLP to ensure such shortfalls are adequately planned for e.g., by identification and allocation of suitable land that could accommodate such capacity. It also provides data to be used to report progress against KMWLP targets in the Kent Authority Monitoring Report. These targets are shown in Table 1 below and described further in subsequent paragraphs.

[1] Waste Management Statistical Basis for the Kent County Council Minerals and Waste Development Framework Needs Assessment Modelling Technical Report, May 2010

[2] Kent C, D & E Waste Management Needs 2017 Update BPP Consulting September 2017

Table 1: Targets set in KMWLP for Non-inert C, D & E Waste Management in Early Partial Review
(Non inert component assumed to be 20% of total arisings)

Management Method	Plan Milestone		
	2020/21	2025/26	2030/31
Recycling	12%	13%	14%
Composting	1%	1%	1%
Other Recovery	5%	5%	5%
Remainder to Landfill	2%	1%	0.5%

Inert C, D & E waste comprises soft materials such as soils and hard materials such as bricks and concrete. Targets were not set for the management of this part of the stream for the following reasons:

- The input of soft and hard inert C, D & E waste to landfill generally has a specific purpose. Soft materials are used for backfilling of mineral workings (normally classed as inert landfill) or restoration of non-inert waste landfill while hard materials, in the form of hardcore are used for temporary haul roads. Therefore, inert C, D & E waste will still be required as existing landfills in Kent are restored, and new mineral workings requiring restoration are developed. The fact that the deposit of naturally occurring soils is expressly excluded from the recycling target applicable to this waste stream set out in the Waste Framework Directive of 70% by 2020 recognises the use of such materials in this context as being beneficial and this is reflected in the Government guidance on the Waste Hierarchy which identifies backfilling as 'Other Recovery'. It should however be noted that while such activities ought to be regarded as recovery, rather than disposal, they may fail to gain waste recovery permits due to the exceptionally high qualifying barrier set by the Environment Agency and therefore inputs to such operation may be reported as disposals to landfill in the WDI.
- Only hard inert material, such as brick and concrete, can be converted into recycled aggregate. As the amount of hard material that arises will vary from year to year, according to whether development is taking place on previously developed land (which gives rise to hard demolition waste), recycled aggregate production will vary accordingly.

While the proportion of hard vs soft materials that arises in any given year cannot be predicted with any reliability, or indeed controlled, it was considered appropriate to set targets for recycling of the inert component of this waste stream in the current review to support and encourage greater levels of landfill diversion. This is supported by KMWLP Policy CSM 8 which includes a commitment to ensure secondary and recycled aggregate production capacity is maintained throughout the Plan period to allow production of at least 2.7 million tonnes per annum of secondary and recycled aggregates given availability of sufficient feedstock material.

In addition, through Policy CSW 11, relating to the Permanent Deposit of Inert Waste, the KMWLP recognises the importance of the supply of inert waste, that cannot be recycled, to the timely restoration of mineral workings by seeking to ensure that a high priority is given to this use, in preference to other uses where inert waste is deposited on land (e.g., bund formation or raising land to improve drainage etc).

2. Estimating C, D & E Waste Arisings Baseline

2.1. Context

There is no requirement on waste producers to keep and submit records of quantities of Construction, Demolition & Excavation waste produced and hence estimating waste arisings with any degree of accuracy, especially for a specific county, is a challenge.

The 2017 update to the Waste Needs Assessment concluded that:

1. Arisings for C, D & E waste in Kent in 2016 were around 2.5 million tonnes (derived from the Environment Agency Waste Data Interrogator (WDI) 2016); and

2. it was not unreasonable to forecast arisings for the Plan period using a zero-percentage growth rate.

This is the baseline against which progress was to be monitored against, for the Plan period.

This report updates the baseline and revisits the growth assumption for the purposes of forecasting possible management needs for the extended Plan period to 2038.

2.2. Methodology

The national methodology for estimating annual waste generation from the Construction, Demolition and Excavation (C, D & E) Sectors for England, uses information from four key management routes:

(1) Waste managed at transfer and treatment facilities (reporting through Environment Agency WDI)

(2) Waste managed by landfill (reporting through Environment Agency WDI)

(3) Waste managed under exemptions (derived from an Environment Agency register and estimated tonnage managed)

(4) Waste recycled as aggregate (from a national estimate prepared by the Mineral Products Association)

To assess C, D & E waste arisings in Kent, the national methodology was modified to take into account local circumstances, in particular:

- Use of values for waste arising in Kent classed as C, D & E waste managed through permitted sites in 2020 (as reported in the WDI) with steps taken to deduct possible double counting and capture wastes that may have been reclassified as non-C, D & E waste as a consequence of processing through intermediate sites.
- The number of exempt waste sites registered in Kent.

This has been established as follows:

  - Firstly, identify the number of registered exemptions by reference to the Environment Agency 'register of exemptions', then

- Apply the estimated value for the quantity of waste managed at sites managing C, D & E waste covered by the key exemption (U1) set out in a 2013 report published by WRAP[3] .

- The quantity of waste converted to recycled aggregate in Kent.

  This value is normally based on the value used in the Kent Local Aggregate Assessment (LAA) derived via an annual local production survey. However due to poor response rates and the need to distinguish between aggregate produced from Kent sourced feedstock as opposed to feedstock imported into Kent, this has been supplemented by applying a different methodology using the WDI to ascertain possible arisings via a site-by-site mass balance. The approach taken reflects guidance prepared nationally by Waste Technical Advisory Bodies and Aggregate Working Parties[4] in 2022

For the purposes of this exercise C, D & E waste has been taken to include the following categories of waste as per the List of Waste/European Waste Catalogue:

(1) Chapter 17 (Construction & Demolition Waste)

(2) 19 12 09 (minerals such as sand, stones)

(3) 20 02 02 (soil and stones).;

This methodology has largely been mirrored in that adopted by the South East Waste Planning Advisory Group (SEWPAG), the regional waste planning advisory body as regional best practice.

2.3. Findings

2.3.1. Inputs of Kent C, D & E waste to permitted facilities (within and beyond Kent)

The principal source dataset used to establish inputs of Kent C, D & E waste to permitted facilities is the Environment Agency WDI 2020 (WDI). This was interrogated by the following Steps:

Step 1: Identify the tonnage of C, D & E waste managed at permitted facilities reported in the WDI as arising in Kent.

Step 2: Of that determine the tonnage sent to final fate (landfill & recovery to land) and intermediate sites outside Kent (at which waste ceases to be identified as Kent waste and hence is regarded as going to a final fate for the purposes of this exercise)

Step 3: Of the remainder determine the tonnage of C, D & E waste from Kent treated in Kent that may either be subject to double counting or reclassification.

Step 4: Review the WDI Waste Incineration dataset for any EfW plants taking C, D & E type waste such as timber or wood.

[3] WRAP is a charity and the 2013 report is entitled *Review of the Factors Causing Waste Soil To Be Sent To Landfill; 2007 to 2011.*

[4] Recycled Aggregates Data: Guidance on Assessing Levels of Recycled Aggregate Supply May 2022.

Step 5: Determine quantity of Kent C, D & E waste converted into recycled aggregate in Kent.

Hazardous C, D & E waste is excluded in the above steps as it is specifically taken account of in the separate WNA report on Hazardous Waste[5].

These 5 steps are followed by a further two that involve data that isn't sourced solely from the WDI.

Results from Step 1:

The WDI 2020 reports that, in 2020, total C, D & E waste from Kent managed at permitted sites (located within and beyond Kent) reporting through the WDI was 2.44 million tonnes. This comprised just over 1.75 million tonnes managed in Kent, and c685,500 tonnes managed outside Kent. The breakdown and management routes are shown in Table 2 below.

Table 2: Management of C, D & E Waste from Kent through Permitted Sites
Source: WDI 2020

	Landfill	Recovery to Land	Transfer	Treatment	Metal Recycling Sites	Grand Total
Kent to Kent	562,736	226,177	264,214	640,924	57,366	**1,751,417**
Kent to elsewhere	178,791	167,194	94,556	214,490	30,467	**685,498**
Totals	**741,527**	**393,371**	**358,770**	**855,414**	**87,833**	**2,436,914**

Of this waste, 17,251 tonnes were identified as hazardous waste. When this is deducted a total of 2.42Mt of non-hazardous C, D & E waste remains as arising from Kent in 2020. The management route breakdown with amended values are shown in Table 3 below.

[5] *Hazardous Waste Needs Assessment - 2022 Update Report: BPP Consulting. October 2022.*

Table 3: Management of non-hazardous C, D & E Waste from Kent through Permitted Sites
Source: WDI 2020

	Landfill	Recovery to Land[6]	Transfer	Treatment	Metal Recycling Sites	Grand Total
Kent to Kent	562,736	226,177	263,549	640,917	57,362	**1,750,741**
Kent to elsewhere	173,598	167,194	91,856	205,807	30,467	**668,922**
Totals	**736,334**	**393,371**	**355,405**	**846,724**	**87,829**	**2,419,663**

2.3.2. Inputs of Kent C, D & E waste to permitted facilities in Kent

Step 2: Calculate the tonnage of C, D & E waste from Kent in the Environment Agency WDI that went to a final fate.

Waste managed by Landfill and that managed through 'Recovery to Land' involve its permanent deposit and therefore is regarded as having reached its final fate and so these values are taken as final values.

The value for the C, D & E waste managed 'out of Kent' is also taken as a final value. This is because once waste enters an intermediate facility outside the county, any onward management of residues from that facility is reported in the WDI as waste arising from the WPA area hosting the facility and not to Kent.

An initial arisings value comprised of the values for waste that reached its final destination and that managed beyond Kent is calculated following the method outlined in Table 4 below.

Table 4: C, D & E Waste from Kent taken as Managed at Final Fate vs Intermediate
Source: Table 3; Green indicates value counted, amber indicates value to be assessed

	Permanent Deposit		Intermediate Sites		
	Landfill	**Recovery to Land**	**Transfer**	**Treatment**	**Metal Recycling Sites**
Kent to Kent	562,736	226,177	*263,549*	*640,917*	*57,362*
Kent to elsewhere	173,598	167,194	91,856	205,807	30,467

[6] C, D & E waste managed by 'Recovery to Land' is waste reported as being managed at sites registered as in the 'on/in land' reporting category of the WDI. This is waste deposited for beneficial purposes.

This gives a preliminary arising for Kent C, D & E waste after Step 2 of 1.46Mt as shown in Table 5 below.

Table 5: Kent C, D & E waste regarded as going for final fate

Component	Value (tonnes)
Permanent Deposit	1,129,705
Out of Kent Intermediate	328,130
Total after Step 2	**1,457,835**

Step 3: Account for Kent C, D & E waste managed at Kent intermediate sites

Having established the quantity of Kent C, D & E waste going to a final fate or leaving the county as 1.46 million tonnes (Table 5), the quantity of inputs to intermediate sites in Kent which may be included in the arisings value also needs to be accounted for. These are the remaining entries shown in italics in the amber cells in Table 4 above, totalling 961,828 tonnes.

This value needs to be further interrogated to ensure that it does not:

1. Double count inputs to intermediate sites in Kent that subsequently get managed at a 'next step' site as Kent waste and hence over report arisings; nor,

2. misses C, D & E waste that may have been reclassified following processing through these sites and hence under-report arisings This is because waste leaving an intermediate site may be reclassified as a waste from a waste management process (the relevant waste chapter is ‘Chapter 19’) rather than Chapter 17. This is explained by the following example:

‘Intermediate’ Site 1 in Kent receives 100 tonnes of Kent C, D & E waste.

Following treatment e.g., sorting and some processing, the 100 tonnes get split into:

- 25 tonnes of soil (classed as Chapter 17 waste) which goes for Recovery to Land at Site 2; The 25 tonnes of soil are therefore also recorded at the point of input to the Recovery to Land site as waste arising in Kent (regardless of whether Site 2 is within or outside Kent).
- 50 tonnes of recycled aggregate, sold directly for use as an aggregate; This is counted under the recycled aggregate value obtained via the annual local production survey for the Local Aggregates Assessment;
- 25 tonnes of waste classed as Chapter 19 waste due to the incoming waste having been processed and then reclassified as ‘waste from waste management processes’.

This is illustrated in Figure 1 below:

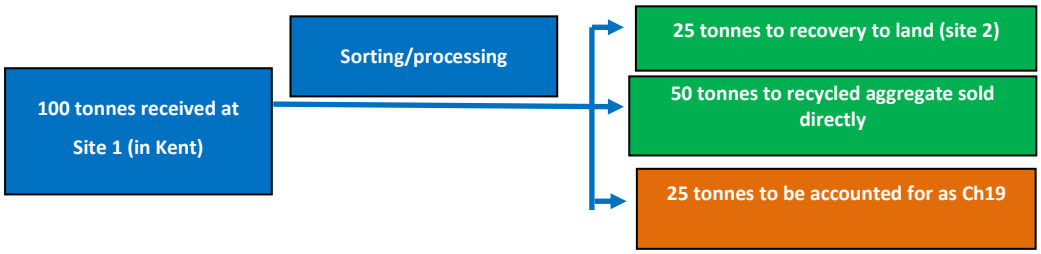

Figure 1: Schematic of Intermediate site outputs.

Therefore, that element of Chapter 19 waste that came from intermediate sites in Kent that may have originally arisen from C, D & E waste coming from Kent needs to be estimated. This is done by identifying each intermediate site that received C, D & E waste from Kent that also reported Chapter 19 waste as an output.

The proportion of the Chapter 19 output that might be attributed to the input Kent C, D & E waste was determined as follows

1. Does the site receive C, D & E waste from Kent?
2. If yes to 1, does the site have outputs classed under Chapter 19?
3. Does the total of C, D & E waste outputs amount to less than the C, D & E waste inputs by 500t or more[7]?
4. If yes to 3 above, what is the difference/shortfall and can that be made up by Chapter 19 waste?

   NB: Where the shortfall can't be made up this may indicate that tonnages of C, D & E Waste are converted into recycled aggregate which is not generally reported in the WDI.

Applying this method to the Kent Waste Transfer Stations identified as both receiving C, D & E waste from Kent and producing Chapter 19 waste in 2020 yields the following.

- Qs 1 & 2: 7 waste transfer sites identified as receiving C, D & E waste from Kent and having outputs classed under Chapter 19.
- Qs 3 & 4: See findings in Tables 6 below:

[7] 500 tonnes taken to be a reasonable minimum value to screen out insignificant tonnages from the calculations

Table 6: Permitted Waste Transfer Sites within Kent managing Non-hazardous C, D & E Waste from Kent and producing Chapter 19 waste (Step 3bi)

Site Name + Operator	Shortfall (tonnes)	Ch 19 (tonnes)	% C, D & E Waste from Kent	Make Up (tonnes)
4. Port Richborough Business Park, ½ Skips Ltd	2,293	998	100%	998
Oare Creek Recycling Centre, East Kent Recycling	19,401	8,380	100%	8,380
Pelican 3 Wastenot Recycling, Sheerness Recycling Ltd	8,051	1,380	100%	1,380
Plot 15 Manor Business Park, Crossways Recycling Ltd	690	98	19%	18
Richborough Hall Waste Transfer & Recycling Centre, Thanet Waste Services Ltd	32,185	29,802	100%	29,802
Richborough Park, Thanet Waste Services Ltd	106,476	21,239	100%	21,239
Site 'b' North Farm Lane, We Load & Go Waste Management Ltd	3,864	2,693	95%	2,546
			Total	**64,364**

This gives a total 'Chapter 19 makeup' at transfer sites within Kent of 64,364 tonnes.

Applying the same method to the Kent Waste Treatment Sites identified as both receiving C, D & E waste from Kent and producing Chapter 19 waste in 2020 yields the following:

- Qs 1 & 2: 10 waste treatment sites. identified as receiving C, D & E from Kent and having outputs classed under Ch19.
- Qs 3 & 4: See findings in Tables 7 below.

Table 7: Permitted Waste Treatment Sites within Kent managing Non- hazardous C, D & E Waste from Kent and producing Chapter 19 waste (Step 3bii)

Site Name and Operator	Shortfall (tonnes)	Ch 19 (tonnes)	% C, D & E Waste from Kent	Make Up (tonnes)
Ashford Transfer Station, Greenbox Recycling Kent Ltd	39,037	13,560	100%	13,560
Boarded House Farm, Steven Reginald Westley	645	1,043	99%	642
Callington Court Farm, Moores Turf & Topsoil Ltd	8,581	10,150	90%	7,762
Longfield Farm, Scrapco Metal Recycling Ltd	13,290	408	90%	369
Manor Way MRF, Sheerness Recycling Ltd	19,270	1,000	24%	242
Milton Pipes MRF, Sheerness Recycling Ltd	67,750	5,140	100%	5,140
Land Off North Farm Lane, Omni Recycling Ltd	24,118	8,548	100%	8,548
Land at Sanderson Way, Sheerness Recycling Ltd	26,470	2,040	95%	1,932
Tilmanstone Works, Ovenden Tipper Services Ltd	26,362	8,497	100%	8,497
Total				**46,691**

This gives a total 'Chapter 19 makeup' at treatment sites within Kent of 46,691 tonnes.

No Kent Metal Recycling Sites were identified as both receiving C, D & E waste from Kent and producing Chapter 19 waste in 2020.

This results in a total 'Chapter 19 makeup' of **111,055** tonnes (**64,364** + **46,691**) to be included in the calculation of C, D & E Waste arising as shown in Table 8 below.

Table 8: Kent C, D & E waste after Step 3b
Table 5 plus Chapter 19 Make Up

Component	Value (tonnes)	Cumulative Total
Permanent Deposit	1,129,705	1,129,705
Out of Kent Intermediate	328,130	1,457,835
In Plan Area Intermediate Chapter 19	111,055	**1,568,890**

8.1.1. Inputs of Kent C, D & E waste to Energy from Waste plants

Step 4: Energy from Waste plants inputs taking C, D & E type waste from Kent.

Since some C, D & E waste is combustible, principally timber and wood, consideration is also given to possible inputs to EfW facilities of Kent C, D & E waste. Prior to 2019, this data was reported separately to the WDI and for the sake of consistency of approach this has been retained as a separate step.

There is a EfW plant at Ridham in Kent that uses biomass/waste timber as fuel. The WDI shows that 28,118 tonnes of Kent waste from construction sources (chapter 17) was received by it in 2020. Furthermore, 663 tonnes of Chapter 17 Kent waste were sent to Tilbury Green Power in Thurrock in 2020.

The WDI 2020 also reports 40,895 tonnes of C, D & E waste from Kent being managed in Sittingbourne via combustion. Closer examination of the records reveals that this waste is in fact plasterboard waste managed at the Knauf plasterboard production plant. Direct enquiry of the Environment Agency confirms that the receiving site is classified as a combustion facility in the WDI because of the nature of the environmental permit that applies to the site, but in fact this waste is accepted as a feedstock to the plasterboard recycling process rather than incinerated. As the inputs to the Knauf plant have been recycled, they have been kept separate to those of the Ridham plant and Tilbury Green Power that have been managed by 'Other Recovery' and are included in the calculation of C, D & E waste arising in Kent.

This is shown in Table 9 below.

Table 9: Kent C, D & E waste after Step 4

Table 8 results plus EfW and Knauf inputs

Component of management of C, D & E waste arising in Kent	Value (tonnes)	Cumulative Total
Permanent Deposit	1,129,705	1,129,705
Out of Kent Intermediate	328,130	1,457,835
In Plan Area Intermediate Chapter 19	112,227	1,570,062
Inputs to EfW ('Other Recovery')	28,781	1,598,843
Inputs to Knauf (recycling)	40,895	**1,639,739**

8.1.2. Recycled Aggregate Production

Step 5: Data from the Kent Local Aggregate Assessment for recycled aggregate production.

This section sets out how the calculation accounts for the quantity of C, D & E waste arising in Kent used to produce recycled aggregate. Once established, this quantity is included in the overall calculation of C, D & E waste baseline arisings value.

Each year Kent County Council prepares a Local Aggregates Assessment (LAA) which reports how much aggregate is produced and how this relates to the demand for aggregate. In order to establish the contribution made by recycled aggregate to the production of aggregate overall in Kent, the county council conducts an annual survey of recycled aggregate producers of the quantity of recycled aggregate sold.

The value presented for recycled aggregate production in the latest LAA is 910,000 tonnes (for 2020). However, the LAA value for recycled aggregate production may not correspond accurately to C, D & E waste arising in Kent for the following reasons:

- The survey of recycled aggregate producers may only get a partial response resulting in under-reporting of recycled aggregate;
- a proportion of the aggregates will have been produced from C, D & E waste from outside Kent resulting in over-reporting of recycled aggregate;
- the method includes aggregates produced from secondary aggregates derived from non-C, D & E waste resulting in over-reporting.

Therefore, an alternative method of deriving C, D and E waste arisings from the recycled aggregate value has been undertaken by identifying intermediate sites in Kent managing C, D & E Waste from Kent suitable to convert into aggregates for which a CDEW input /output shortfall of 500t+ exists not accounted for by Chapter 19 waste as shown in the following tables. Where this method has not captured known recycled aggregate producers from the sites listed in the LAA, the values in the operator survey returns were taken where available.

Table 10: Permitted Waste Transfer Sites within Kent managing C, D & E Waste from Kent suitable to convert into aggregates for which a CDEW input /output shortfall of 500t+ exists not accounted for by Ch 19 waste

Site Name + Operator	Shortfall (tonnes)	% C, D & E Waste from Kent	Ch 19 Makeup Table 6	Deficit = Assumed Aggregate Production from Kent Feedstock (tonnes)
Port Richborough Business Park, ½ Skips Ltd	2,293	100%	998	1,295
Folkestone Waste Transfer Station, Johnsons Recycling Ltd	2,628	100%	0	2,628
Laurenden, Kent And Sussex Recycling Ltd	657	100%	0	657
Oare Creek Recycling Centre, Kent And Sussex Recycling Ltd	19,401	100%	8,380	11,021
Pelican 3 Wastenot Recycling, Sheerness Recycling Ltd	8,051	100%	1,380	6,671
Plot 15 Manor Business Park, Crossways Recycling Ltd	690	19%	18	125
Richborough Hall Waste Transfer & Recycling Centre, Thanet Waste Services Ltd	32,185	100%	29,802	2,382
Richborough Park, Thanet Waste Services Ltd	106,476	100%	21,239	85,237
Site 'b' North Farm Lane, We Load & Go Waste Management Ltd	3,864	95%	2,546	1,246
Winchester WTS, A Winchester & Sons	4,133	100%	0	4,133
			Total	**115,396**

Table 11: Permitted Waste Treatment Sites within Kent managing C, D & E Waste from Kent suitable to convert into aggregates for which a CDEW input /output shortfall of 500t+ exists not accounted for by Ch 19 waste

Site Name + Operator	Shortfall (tonnes)	% C, D & E Waste from Kent	Ch 19 Makeup where applicable Table 7	Deficit =Assumed Aggregate Production from Kent Feedstock (tonnes)
Allington Depot, Hanson Quarry Products Europe Ltd	926	16%	0	151
Ashford Transfer Station, Greenbox Recycling Kent Ltd	39,037	100%	13,560	25,478
Boarded House Farm, Steven Reginald Westley	645	99%	642	3
Ridham Dock, Brett Aggregates Ltd	6,178	100%	0	6,178
Callington Court Farm, Moores Turf & Topsoil Ltd	8,581	90%	7,762	741
Ham Hill Recycling Facility, Tarmac Trading Ltd	52,646	100%	0	52,646
Hermitage Quarry, Gallagher Aggregate Ltd	225,309	100%	0	225,309
Manston Road, J C Mc Carthy Building Supplies Ltd	1,470	100%	0	1,470
Lancebox Recycling Facility, Lancebox Ltd	4,526	100%	0	4,526
Land And Building Adjoining Unit 14, Ovenden Tipper Services Ltd	820	100%	0	820
Longfield Farm, Scrapco Metal Recycling Ltd	13,290	90%	369	11,692
Manor Way MRF, Sheerness Recycling Ltd	19,270	24%	242	4,598
Milton Pipes MRF, Sheerness Recycling Ltd	67,750	100%	5,140	62,610
Land Off North Farm Lane, Omni Recycling Ltd	24,118	100%	8,548	15,571
Erith Depot, Scrapco Metal Recycling Ltd	1,500	100%	0	1,500
Land at Sanderson Way, Sheerness Recycling Ltd	26,470	95%	1,932	23,239
Tilmanstone Works, Ovenden Tipper Services Ltd	26,362	100%	8,497	17,865
Tilmanstone Works (Former Brickworks), Ovenden Tipper Services Ltd	32,540	100%	0	32,540
Washmills Recycling Centre, Erith Haulage Company Ltd	7,466	16%	0	1,195
Wrotham Quarry, Ferns Surfacing Ltd	7,935	100%	0	7,935
			Total	**496,067**

This gives a total assumed aggregate production from Kent sourced feedstock of **611,463 tonnes (115,396 + 496,067).**

A cross-check with the Kent LAA survey returns for 2020 revealed 3 sites had been screened out of the above exercise due to the shortfall in inputs and outputs being less than 500t but had responded to the survey for those sites that also appear in the WDI. Therefore, values for recycled aggregate production for these sites have been added. This has been done as follows:

1. Where a site also appeared in the WDI, the value presented in the LAA survey was adjusted to reflect the % of the aggregate sold on that may be attributed to input's received from Kent; and
2. Where a site did not appear in the WDI at all, the value reported in the LAA survey was taken in full[8].

This amounted to an additional **187,221 tonnes.**

When this value is added to the values obtained for the 'mass balance' exercise, it gives a total of 798,685 tonnes. This value has been included in the calculation of C, D & E waste arising overall. As shown in Table 16, this results in a revised value for Kent C, D & E waste arisings of 2.44Mt.

Table 12: Kent C, D & E waste after Step 5

Table 9 results plus Recycled Aggregates

Component	Value (tonnes)	Cumulative Total
Permanent Deposit	1,129,705	1,129,705
Out of Kent Intermediate	328,130	1,457,835
In Plan Area Intermediate Chapter 19	111,055	1,568,890
Inputs to EfW	28,781	1,597,671
Inputs to Knauf (recycling)	40,895	1,638,567
Recycled Aggregate	798,685	**2,437,251**

8.1.3. Kent C, D & E Waste managed at Exempt sites

Step 6: Estimate the quantity of C, D & E waste managed by exempt waste management activities in Kent.

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

[8] Note that one site reported all inputs as 'uncodeable below the South East region'. In this instance the full LAA survey return value was taken.

- *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

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 a quantity of C, D, & E waste is still managed by exempt activities, it is still appropriate to give consideration to the contribution some activities may make to management of this stream, and hence to the calculation of arisings.

Exempt activities registered under Paragraph U1 (use of waste in the construction) generally account for the management of the most significant quantities of C, D & E waste by exempt activities. A report produced for WRAP[9] estimated a mean value for the quantity of waste managed by an activity registered under U1 as 600 tonnes.

The following steps ensure that management of C, D & E waste managed by activities registered under paragraph U1 is taken into account in the assessment of C, D & E waste arisings in Kent.

Table 13: Number of activities registered as exempt under paragraph U1 in Kent 2018 to 2020

	2018	2019	2020	Total
Paragraph U1	120	49	125	294

It should be borne in mind that, while exemption registrations are valid for 3 years, and hence the total population of exempt activities identified in Table 13 above includes any site registered between January 2018 and December 2020, a survey of exempt activities undertaken by Surrey County Council indicated that those registered under paragraph U1 tend to be used on a 'one-off' basis. In theory, it is possible that all the activities registered between January 2018 and December 2020 were utilised in 2020 and so the total number could be used to estimate arisings, however given the limited tonnage allowed this is considered unlikely and so instead the total number registered was divided by three to generate a mean value for the number of U1 exempt activities actually active in Kent in 2020.

From the mean number of exempt activities registered under paragraph U1, and applying the WRAP value of 600 tonnes per exemption, it is estimated that the total quantity of C, D & E waste managed by such activities in Kent in 2020 was 58,800 tonnes. This value has been included in the calculation of C, D & E waste arising overall. As shown in Table 14, this results in an overall value for C, D & E waste production in Kent of 2.50Mt.

Table 14: Kent C, D & E waste after Step 6

Table 12 plus Exemptions

Component	Value	Cumulative

[9] WRAP, 2013, *Review of the Factors Causing Waste Soil To Be Sent To Landfill*; 2007 to 2011

	(tonnes)	Total
Permanent Deposit	1,129,705	1,129,705
Out of Kent Intermediate	328,130	1,457,835
In Plan Area Intermediate Chapter 19	111,055	1,568,890
Inputs to EfW	28,781	1,597,671
Inputs to Knauf (recycling)	40,895	1,638,567
Recycled Aggregate	798,685	2,437,251
Exemptions	58,800	**2,496,051**

8.1.4. Kent C, D & E Waste sent for Export Overseas

Step 7: Estimate the quantity of C, D & E waste arising in Kent exported for management overseas

Given that Kent has a number of permitted waste management sites located at ports and significant quantities of sorted waste materials are being exported overseas from these sites, it is considered important to account for that element that might be attributed to C, D & E waste inputs arising in Kent. This is on the basis that waste sent abroad is exported without passing through another permitted site, and hence already reported through the WDI as Kent waste at a 'next step' site. To account for this a two-stage process has been applied. Firstly, the sites which might be affected are identified, then, for those sites identified as receiving C, D & E waste from Kent, the tonnage of materials such as metals classified as C, D & E waste sent for export is counted and then adjusted by the percentage of C, D & E waste inputs to these sites which are reported as arising in Kent as follows:

Table 15: Kent sites receiving Kent C, D & E waste exporting C, D & E waste

Site Name + Operator	Total single material Ch 19 exports	% of C, D & E waste inputs attributed to Kent	Ch 19 exports attributed to Kent waste
Ellingham Rd Ashford, H Ripley & Co	50	89%	45
Longfield Farm, Scrapco Metal Recycling Ltd	3,955	100%	3,955
Unit 6 Detling Aerodrome, Pinden Ltd	1,085	100%	1,085
		Total	**5,086**

This yields a total of **5,086 tonnes**.

The second stage is to consider those sites that exported single materials classed under Chapter 19 for example: metal, wood or plastic and rubber that may have arisen from the Kent C, D & E waste stream. Review of the WDI 2020 dataset indicates the following sites:

Table 16: Kent sites receiving Kent C, D & E waste exporting single materials under Ch 19

Site Name	Total single material Ch 19 exports	% of C, D & E waste inputs attributed to Kent	Ch 19 exports attributed to Kent
Aylesford MRS, London Mining Associates Ltd	2,567	8%	206
London & Kent Metals, Gary Eastwood	999	95%	944
Ridham Dock Wood Facility, Countrystyle Recycling Ltd	16,839	42%	7,128
Hersden Waste Management Facility, Ling Metals Ltd	264	100%	264
		Total	**8,542**

This yields a total of **8,542 tonnes.**

The outputs of the stage one and two exercises are summed and 13,627 tonnes is therefore taken as the total quantity of materials derived from the Kent C, D & E waste stream exported for 2020**.** This value has been included in the calculation of C, D & E waste arising overall. As shown in Table 17, this results in an overall value for C, D & E waste production in Kent in 2020 of 2.51Mt.

Table 17: Kent C, D & E waste after Step 6
Table 14 plus Exports (tonnes)

Component	Value	Cumulative Total
Permanent Deposit	1,129,705	1,129,705
Out of Kent Intermediate	328,130	1,457,835
In Plan Area Intermediate Chapter 19	111,055	1,568,890
Inputs to EfW	28,781	1,597,671
Inputs to Knauf (recycling)	40,895	1,638,567
Recycled Aggregate	798,685	2,437,251
Exemptions	58,800	2,496,051
Exports	13,627	**2,509,679**

8.1.5. Comparison with previous baseline arisings estimates

The value of 2,509,679 tonnes obtained compares with a value of 3,035,092 tonnes in 2019 and 2,518,245 tonnes in 2015. This indicates a 0.3% increase over the five-year period but a drop of 17% from 2019 to 2020. A more detailed comparison showing the different elements of the estimate is shown in Table 18 below.

Table 18: 2019 vs 2020 C, D & E baseline (tonnes)

Component	2019 Value	2020 Value	Diff
Permanent Deposit	1,540,572	1,129,705	410,867
Out of Kent Intermediate	301,174	328,130	26,956
In Plan Area Intermediate Chapter 19	114,907	111,055	-3,852
Inputs to EfW	11,957	28,781	16,824
Inputs to Knauf (recycling)	50,368	40,895	-9,473
Recycled Aggregate	962,541	798,685	163,856
Exemptions	47,000	58,800	11,800
Exports	6,573	13,627	7,054
Total	**3,035,092**	**2,509,679**	**525,413**

As shown in Table 18 the principal reason for the decrease from the 2019 baseline is the quantity of waste managed through permanent deposit to land, and the amount converted to recycled aggregate. While the decrease in recycled aggregate production might be seen as a negative, the decrease in waste managed through permanent deposit to land may be seen as a positive and is considered in more depth as presented in Table 19 below.

Table 19: Kent C, D & E waste Permanent Deposit to Land 2019 vs 2020 (tonnes)
Managed within and beyond Kent, i.e., at all sites

Facility Type		2019	2020	Diff
Recovery to Land	Restoration of Mineral Workings	597,529	393,371	-204,158
Inert Landfill		829,406	539,604	-289,802
Non-Inert Landfill	Restoration & Operational Needs	106,349	193,070	+86,721
	Ch 19 Trommel Fines[10]	114,907	74,657	-40,250
Hazardous Landfill		7,288	3,660	-3,628

From the above it is apparent that the principal reasons for the decrease in arisings managed through permanent deposit are declines in the quantity of waste going to Recovery to Land operations and that going to Inert Landfill. This is offset to some degree by the increase in inert inputs to non-inert landfill by c87,000 tonnes, which may indicate greater restoration as sites approach closure. Bringing the total reduction in soft materials reported to c407,000 tonnes. This fall may either be due to a actual reduction in arisings of soft materials in 2020 due perhaps to disruption to construction activity as a result of the pandemic, or perhaps their incorporation into developments operating under the Claire Definition of Waste Code of Practice, tonnages of which don't get publically reported.

Inputs of non-inert Ch19 trommel fines considered to arise from Kent C, D & E waste also fell, by c40,000 tonnes. This may be due to a real fall in skip waste tonnage due to the pandemic or perhaps the actions of skip waste site sorting operators that strive to reduce the weight of this stream by improvement in processes to take out stones. Given these stones will likely be sold on as recycled aggregate it is not possible to confirm if this is the case by consideration of data alone.

[10] Value included for context but not counted in Table 16 permanent deposit total to avoid double counting.

9. Projected C, D & E Waste Management Requirements

Having established an updated baseline value for C, D & E waste arisings in Kent (2.5 million tonnes), the requirement for future C, D & E waste management capacity can be calculated by considering the following:

1. Forecasts of how much C, D & E waste may be produced in future; and
2. methods of how that waste might be managed.

This section addresses both of these matters in turn. Assessing how waste may be managed in future requires consideration of Kent County Council objectives relating to the future management of C, D & E waste that would be achieved by implementing planning policy set out in the KWMLP related to the development of appropriate capacity during the plan period.

9.1. Review of C, D & E Waste Arising Forecast for Kent

The 2017 WNA update concluded that:

> *"..., in the absence of local data on specific planned regeneration or major infrastructure projects over the timescale of the Plan at the time of writing, it is not unreasonable to forecast arisings using a zero-percentage growth rate."*

It is also noted that adopting a zero-growth rate was consistent with the approach taken in previous WNAs produced for Kent and that used in the South East Plan.

An assessment of house building and infrastructure set out in the 2020 LAA indicates the following:

"The planned level of dwellings has increased since LAA2019, an estimated 225,000 additional homes between 2019-2039 in late 2020"... "While this represents an increase, that will require an increase in aggregate supply, the overall magnitude of housing growth compared to previous monitoring periods is not markedly different."

It also notes that "*The demand projections in infrastructural development, as reported in LAA2018 have not significantly altered."*

While C, D & E waste arisings will vary from year to year according to when specific projects proceed and whether such projects are located on previously developed or greenfield land, it is considered that overall, a zero-growth rate remains justified.

10.C, D & E Waste Management Targets

The targets included in the adopted *Kent Minerals & Waste Local Plan (2020)* (see Table 20 below) were set with consideration of the non-inert content of the C, D & E waste stream and the management profile indicated in 2015 as reported in the WNA update of 2017.

Table 20: Kent MWLP Non-inert C, D & E Waste Targets

Management Route	2020/21	2025/26	2030/31
Recycling Floor	12%	13%	14%
Composting Floor	1%	1%	1%
Other Recovery Ceiling	5%	5%	5%
Remainder to Landfill Ceiling	2%	1%	0.5%

Applying the target values in Table 20 to the updated baseline value gives the management requirements displayed in Table 21 below on the basis that non-inert content accounts for 20% of total C, D & E waste arisings.

Table 21: Kent MWLP Non-inert C, D & E Waste Targets Applied to Revised 2020 Baseline at Plan Milestone (tonnes)

Management Route	KMWLP Milestone			Peak or Cumulative Requirement
	2020/21	2025/26	2030/31	
Separation for Recycling	302,189	327,372	352,554	352,554
Composting	25,182	25,182	25,182	25,182
Other Recovery	125,912	125,912	125,912	125,912
Non-inert Landfill	50,365	25,182	12,591	793,247[11]

The forecast peak capacity requirements for the C, D & E waste stream arising in Kent used to inform development of the adopted KMWLP are compared with the actual management capacity utilised in 2020 forecast in Table 22.

[11] Cumulative value

Table 22: Comparison of C, D & E waste Peak Management Requirements in KMWLP against 2020 Baseline Profile (tonnes)

	Peak Annual Requirement KMWLP (Forecast)	2020 Baseline Value (Actual)	Difference
Inert Waste			
Recycled Aggregate	1,410,217	798,685[12]	-611,532
Permanent Deposit to Land	982,116	1,184,845[13]	+202,729
Totals	**2.4Mt**	**2.0Mt**	
Non-inert Waste			
Separation for Recycling floor	352,554	364,851 [14]	+12,297
Composting floor	25,182	unknown[15]	n/a
EfW ceiling	125,912	28,781	-97,131
Non-inert Landfill ceiling (Ch 19 trommel fines)	50,365	74,657[16]	+24,292
Totals	**0.6Mt**	**0.5Mt**	

This comparison indicates that while there are discrepancies within the individual management routes for the inert component, overall, the values obtained are close to the peak predicted requirement (2.4Mt predicted vs 2.0Mt actual). The imbalance between the values for aggregate recycling and permanent deposit may simply reflect the changing composition of the inert component of the waste stream from year to year according to the types of sites being redeveloped (greenfield vs brownfield).

For the non-inert component, while separation for recycling slightly exceeds the forecast peak annual requirement, the fact that non inert landfill exceeds the KMWLP forecast ceiling there appears to be a need for more waste from this stream to go to composting and EfW. However, this exercise has highlighted a problem in that first the nature of the material actually sent to landfill. trommel fines. is neither suitable for composting or EfW. Hence it could not be diverted from landfill anyway. This suggests that the landfill target might be set too high, although it is known that the weight of trommel fines can be reduced by screening out stone which would be counted under the separation for recycling category. This also highlights the limitations of the EWC codes system as it neither accounts for separated materials from the C, D & E waste stream, meaning that some materials, such as green waste and cardboard, arising within this stream cannot be separately accounted for even if it

[12] Table 18.

[13] Exemption (Table 17) plus Table 19 Recovery to Land, Inert Landfill and Non Haz Landfill Operational Needs

[14] Mixed skip waste sorted for recycling (inputs of 17 09 04 minus outputs of 17 09 04 to Kent intermediate sites).

[15] No code for green waste under Chapter 17 so impossible to distinguish the quantity of the total amount of green waste coded under Chapter 20 might actually have arisen from the C, D & E waste stream. This indicates that this target may not be appropriate as it is not possible to monitor it reliably.

[16] Table 19.

may be managed separately. This suggests that the setting of targets to the level of precision set out in the KMWLP for composting in particular may no longer be appropriate due to the lack of data available that can be used for monitoring the achievement of such targets. It should be noted that the value for 'separation for recycling' has been derived by considering the difference between inputs and outputs of mixed skip waste (EWC code 17 09 04 from intermediate sites in Kent, with the difference taken to represent the tonnage of this waste that has been effectively sorted on the site into its component parts and managed either at the 'next step' site as a different waste and/or, as a non waste product such as recycled aggregate. i.e., separated for recycling.

Projected Management Requirement for Extended Plan Period

The proposed Kent Minerals & Waste Local Plan 2022 proposes the introduction of the following targets for the extended Plan period to 2038.

Table 23: Kent MWLP Proposed Non-Inert C, D & E Waste Targets expressed as % of non-inert arising *(past milestone in italics)*

Management Route	*2020/21*	2025/26	2030/31	2035/36	2040/41
Recycling Floor	*60%*	65%	70%	75%	80%
Residual Waste Treatment Ceiling	*30%*	30%	25%	22.5%	20%
Remainder to Landfill Ceiling	*10%*	5%	5%	2.5%	0%

These targets equate to the following on the basis that non-inert content accounts for 20% of total C, D & E waste arisings throughout the Plan period.

Table 24: Kent MWLP Proposed Non-Inert C, D & E Waste Targets expressed as % of total arising *(past milestone in italics)*

Management Route	*2020/21*	2025/26	2030/31	2035/36	2040/41
Recycling Floor	*12%*	13%	14%	15%	16%
Composting Floor	*1%*	1%	1%	n/a	n/a
Other Recovery Ceiling	*5%*	5%	5%	4.9%	4%

Remainder to Landfill Ceiling	*2%*	1%	0.5%	0.1%	0%

Applying the proposed target values in Table 24 to the updated baseline value gives the management requirements displayed in Table 25 below.

Table 25: Kent MWLP Non-inert C, D & E Waste Targets Applied to Revised 2020 Baseline at Plan Milestone (tonnes)

Management Route	KMWLP Milestone				Peak or Cumulative Requirement
	2025/26	2030/31	2035/36	2040/41	
Separation for Recycling	326,258	351,355	376,452	401,549	401,549
Composting	25,097	25,097			
Other Recovery	125,484	125,484	122,974	100,387	125,484
Non-inert Landfill	25,097	12,548	2,510	0	150,581[17]

10.1. C, D & E Waste from London

The initial *Review of Waste Flows Between London and Kent* conducted in 2017[18] concluded in relation to providing for inert waste from London that:

"*Review of the historical data suggests that the current Plan provision of 300,000 tpa for the management of inert waste from London by landfill may be slightly below requirement but not substantially so. In any event, given that the Plan area is projected to have a plentiful supply of inert waste landfill/permanent deposit to land capacity, primarily as a result of numerous mineral workings requiring restoration, it is not considered that any additional provision need be expressly planned for to cater for this stream if it is to continue to be managed by permanent deposit to land within Kent.* "

The cumulative permanent deposit capacity requirement for such waste from London equated to a further 4.5 million tonnes which converts to 3 million m^3 of capacity. When added to the converted cumulative requirement for Plan area inert waste of 13,273,670 t, which equates to 8.85million m^3, this gave a total cumulative capacity requirement of 11.8 million m^3.

This review now suggests that the capacity provision for London's waste may need to be reduced to avoid under provision for Kent's inert waste over the remainder of the Plan period. To cater for this

[17] Cumulative value

[18] Review of Waste Flows between Kent and London Updated WNA 2017 BPP Consulting.

the scope of Policy CSW 11 is proposed to be expanded to allow applications for engineering operations involving the permanent deposit of inert waste to come forward where they do not impinge adversely on supply of materials required for restoration.

11. Conclusion on Management Requirements for Kent C, D & E Waste

The current adopted KMWLP makes, and requires, no specific additional provision for the management of the C, D & E waste stream in the form of allocations of land. This position is predicated on the conclusion that existing management capacity was sufficient to meet waste management objectives set out in the targets.

This updated assessment of future management requirements, as presented in Table 23 below, indicates that the capacity available to receive inert waste for permanent deposit may fall short of the Plan period cumulative requirement. This suggests that the current Policy CSW 11 on the Permanent Deposit of Inert Waste needs to be reworded to shift away from the current exclusive focus on the restoration of landfill sites and mineral workings, with a policy expressly addressing recovery to land operations as is now proposed in the draft Kent MWLP 2023-2038 (Regulation 18) version as set out below:

Planning permission for the permanent deposit disposal of inert waste will be granted where:

a) the inert waste is being deposited for a beneficial use such as it is for the restoration of landfill sites and mineral workings and not as part of a disposal operation;

b) If the waste is to be used in an engineering operation, other than the restoration of landfill sites and mineral workings, where it is demonstrated that there is no local Kent demand for its use in such restoration operations; and,

c) The development involves the minimum quantity of waste necessary to achieve the benefit sought.

Table 26: Comparison of C, D & E waste Peak Management Requirements against 2020 Baseline Profile

Management Route	Peak Annual or Cumulative (for permanent deposit /landfill) Requirement to 2038 (tonnes) Table 25	Capacity Assessed as available	Comment
INERT COMPONENT			
Inert Recycled Aggregate	1.4M	3.9Mtpa See Table A1 in Appendix 1	KMWLP states "5.8.2 The consented secondary and recycled aggregates processing capacity within Kent currently exceeds 2.7Mtpa, 0.63 Mtpa of which is identified as temporary capacity." Para 5.8.3 includes a commitment to maintain productive capacity of at least 2.7 million tonnes per annum throughout the Plan period via Policy CSM 8. **No additional capacity required.**
Permanent Deposit to Land (Inert CDEW)	11.8 million t = 7.86Mm3 at 1.5t/m3	Table A4 in Appendix 1 indicates inert void of just over 5.7M tonnes but does not include operations permitted as recovery to land	**KMWLP states " 6.11.2** The *Needs Assessment* shows that Kent has existing permitted inert waste landfill capacity that is more than sufficient to meet Kent's need for the plan period. " However, this refreshed review suggests that void may not be as plentiful as previously assessed. Moreover, the current assessment of available void is highly dependent on minerals being worked at the rate required to create the void needed. **Additional capacity may be required.**
NON-INERT COMPONENT			
Separated for recycling	352,554	>2.4Mtpa See Table A2 in Appendix 1	**No additional capacity required.**
Non-Inert (EfW)	125,912	44ktpa (surplus)	MVV Biomass Plant at Ridham has capacity c 170,000 tpa. So, it suggests a capacity surplus of c44ktpa. **No additional capacity required.**
Non-Inert Landfill	150,581t - 150,581m3 as 1:1 assumed with trommel fines	Table A4 indicates 1.6Mm3 of non-haz void	Given the surplus of EfW capacity in Kent, the remaining landfill capacity ofc1.6Mm3 at Shelford Landfill is not required to meet a predicted need for the future management of LACW & C&I waste. Therefore, non-inert residues from C, D & E waste may be accommodated. **No additional capacity required.**

Appendix 1: Capacity Assessment by Type

Table A1- Recycled & Secondary Aggregate Production Capacity (non CDEW sites in italics)

Ref	Site Name	Operator	District	Permission Status	Kent Recycled & Secondary Capacity tpa	
					Aggregate Total	Cumulative total
Permanent sites with known capacity						
230	Sevington Rail Depot	Brett Aggregates Ltd	Ashford	AS/06/5	Redacted due to commercial sensitivity	
32	Pinden Quarry	Pinden Ltd	Dartford	DA/97/688		
245	Tilmanstone Works Pike Road Industrial Estate	R H Ovenden	Dover	DO/17/1244		
605	Richborough Hall	Thanet Waste Services	Dover	DO/10/954		
88	Allington Depot	Hanson Aggregates	Maidstone	MA/0064/2017		
259	*Ridham Dock*	*Ballast Phoenix*	*Swale*	*SW/05/1203*		
865	Land at Sanderson Way	Sheerness Recycling	Tonbridge & Malling	TM/0372/2011		
355	*FM Conway Works*	*F M Conway Ltd*	*Dartford*	*DA/06/417*		
905	Newbury Farm Dully Rd Tonge	Stephen Pack	Swale	SW/0127/2017		
	Robins Wharf	Aggregate Industries UK Ltd	Gravesham	GR/0119/2017		
	Callington Court Farm	Moores Turf & Topsoil Ltd	Folkestone & Hythe	SH/0077/2011		
	Omni Recycling (North Farm T Wells)	Omni Recycling Limited	T Wells	TW/0337/2015		
				Totals	**2,762,750**	**2,762,750**
Non-Permanent Sites that will remain operational beyond Plan Period						
130	Ridham Dock	Brett Aggregates Ltd	Swale	Not linked to any time limited event such as quarry restoration.	Redacted due to commercial sensitivity	
575	Denton Wharf	J Clubb Ltd	Gravesham			
	Sheerness Recycling [19]	Sheerness Recycling Ltd	Tonbridge			
36	Hermitage Quarry	Gallagher Aggregates	Tonbridge & Malling	TM/10/2029 Linked to the life of Hermitage Lane Quarry which is permitted to 2063.		
				Totals	**1,160,000**	**3,922,750**

This is not an exhaustive listing as sites with temporary permissions due to expire within the Plan period and sites with unclear planning status have been excluded to eliminate uncertainty.

[19] Believed to be Manor Way recycling facility in Dartford (permit issued in 2015).

Table A2 Sites Identified as Sorting Mixed Skip Waste

There may be duplication between Table A2 and Table A1

Site Name	Operator	Capacity (tpa)
Port Richborough Business Park	1/2 Skips Ltd	5,998[20]
Campsite	Mr Dermot Walsh & Mr Francis Tunney	1,953
Ridham Dock Road	Countrystyle Recycling Ltd	74,999
Folkestone Waste Transfer Station	Johnsons Recycling Ltd	16,800
Hersden Waste Transfer Station	Ling Metals Ltd	42,900
Oare Creek Recycling Centre	East Kent Recycling Ltd	200,000
Pelican 3	Sheerness Recycling Ltd	49,775
Richborough Hall Waste Transfer & Recycling Centre	F C C Recycling (U K) Ltd	380,000
Richborough Park	Thanet Waste Services Ltd	172,567[21]
Site 'b' North Farm Lane	We Load & Go Waste Management Ltd	90,000
The Dump	Leslie John Ray	4,573[22]
Ashford Transfer Station	Ashford Demo Waste Recycling Ltd	25,000
Ridham Dock Batching Plant	Brett Aggregates Ltd	249,999
Hermitage Quarry	Gallagher Aggregates Ltd	585,000
Longfield Farm	Scrapco Metal Recycling Ltd	75,000
Manor Way Materials Recovery Facility	Mark Luck Ltd	75,000[23]
Milton Pipes Materials Recovery Facility	Sheerness Recycling Ltd	150,000
North Farm Lane	Omni Recycling Limited	40,000
Land at Sanderson Way	Sheerness Recycling Ltd	150,000
Tilmanstone Works	Ovenden Tipper Services Ltd	41,000
Tilmanstone Works (Former Brickworks)	Ovenden Tipper Services Ltd	75,000
Wrotham Quarry	Ferns Surfacing Ltd	16,333[24]
	Grand Total:	2,446,897

[20] Based off peak inputs from 2019 + 2020. No inputs in 2021 but still on permit register

[21] Based off 5-yr peak input

[22] As in footnote 22

[23] Application to accept 150,000 tonnes EDC/21/0195 under consideration

[24] As in footnote 22

Table A3 Consented Organic Waste Treatment Capacity

Site Name	Capacity (tpa)	Capacity Type
Composting Facility, Shelford Landfill Site	20,000	Open windrow (green waste only)
Hope Farm	35,000	
Conghurst Farm	5,000	
Blaise Farm Quarry, West Malling	100,000	In Vessel Composting (green waste & food waste & card)
Total Composting	**155,000**	
Blaise Farm Quarry, West Malling	75,000	Anaerobic Digestion (AD) (food waste plus some green waste)
Richborough AD	*25,000*	Consented but still to be built out
Otterpool Quarry AD	20,000	Consented but still to be built out. Subject to application for non-waste use.
Conghurst Farm AD	12,500	Anaerobic Digestion (AD) (mainly agricultural waste)
Lested Farm AD	17,035	
Total AD	**150,000**	
Grand Total:	**305,000**	

Table A4 Permanent Deposit to Land Capacity

				A	B	C	
Line	**Facility Name**	**Operator Name**	**Landfill Type**	**Remaining Void EA data**	**KCC Additional Void**	**Total Inert Void**	**Notes**
1	Pinden Quarry	Pinden Limited	Hazardous Merchant	121,318			10% inert for restoration
2	Norwood Farm (East)	Waste Recycling Group (Central) Limited	Hazardous Restricted	98,187			
3	**Total (A1 to A2)**			**219,505**		21,950	
4	Shelford	Viridor Waste Management Ltd	Non-Hazardous inc cell	1,584,400			15% inert for restoration and operational needs
5			**Total**	**1,584,400**		237,660	
6	Allens Bank, Lydd	Brett Aggregates Ltd	Inert	709,000			
7	Arnolds Lodge/East Peckham Quarry	J Clubb Limited	Inert	4,400			
8	Borough Green (Platt)	Borough Green Sand Pits Ltd	Inert	465,000			
9	Borough Green	Robert Body Haulage Limited	Inert	1,567,245			
10	Hermitage Quarry	Gallagher Aggregates Limited	Inert	217,290	3,146,184		Additional consented void of 6,600,000 m3. Additional void from difference between EA void 2012 & 2019.
11			Total (A6 to A10)	2,962,935	I	259.610	**(C3+C5)**
12						389,415	**C11 x1.5 density**
	Void to be created by consented mineral extraction						
13	Hegdale Quarry	R H Ovenden Ltd			97,744		Consented clay working
14	Hammil Clay Quarry	RH Ovenden Ltd			30,000		Consented clay working
15	Lenham Quarry	Robert Brett & Sons Ltd			237,000		Consent for import of 79,000 m3 of inert materials pa for 3 years.
16			**Total (B10 to B15)**		**3,510,928**	5,266,392	**B16 x1.5 density**
17					**Grand Total**	**5,655,807**	**C16+C12**