
Dewsbury Market and Park

Operational Waste Report

DMTP-BDP-XX-XX-RP-A-98001

Rev: P03

Date: Planning Submission

BDP.

Issue	Prepared	Checked	Date	Notes
P01	RG	JGR	30/05/2024	First Issue for review
P02	RG	SMM	26/07/2024	Draft Planning
P03	RG	SMM	11/08/2024	Planning Submission

Introduction

This document has been produced by BDP to outline forecast waste production and storage requirements for the redevelopment of Dewsbury Market. These calculations will go on to inform the Operational Waste Strategy for the Market, including the spatial requirements of the Waste Compound.

The report is a demonstration of compliance with The Building Regulations 2010, Schedule 1, Part H, H6 Solid waste storages. It uses BS 5906:2005 as referred to in Approved Document H, Section H6, 1.23 as the alternative approach to best estimate the waste generation for the facilities and provide Kirklees Council a starting point for their waste management plan for the markets.

Commercial Waste Storage Capacity Estimations

The volume of waste produced and associated storage capacity has been calculated by using the guidance within BS 5906: 2005 the equation for weekly waste arising in Table 1.

Table 1 Commercial Waste Volume and Storage Capacity

Estimated Weekly Waste Capacity and Container Requirements										
Location/ Use	BSI Category	Floor Area GIA	Litres (per m2)	Occupancy	Minimum Bin Capacity (litres)	Segregated waste			Total Number 1100l bins	
						Recycling Capacity (litres)	Number of 1,100l bins	General Refuse Capacity (litres)		Number of 1,100l bins
Market Hall										
Market F&B	Fast Food	735			0.0	0.0	0.0	0.0	0.0	
Market F&B	Restaurant		75	168	12600.0	6300.0	5.7	6300.0	5.7	
Market Hall Food Retail	Small Super Market	182	10		1820	910	0.8	910	0.8	
Market Hall Office	Office			4	200	100	0.1	100	0.1	
Semi Covered Market										
Leased Stalls	Shopping Centre	360	10		3600	1800	1.6	1800	1.6	
Outdoor area used for temporary market	Shopping Centre	540	10		5400	2700	2.5	2700	2.5	
Overall Total					23620.0	11810	10.7	11810	10.7	22

Assumptions

Recycling – the target 50% recycling rate set by Kirklees is achieved.

Market Hall Food and Beverage (F&B) – Uses "restaurant" as the nearest applicable building type in BS 5906. The calculation is based on 75l of waste per 1 cover. BDP have used a floor space factor of 1 person per 1m² of space dedicated to dining in the Market Hall. This amounts to 168 covers.

Another option would have been to use the "fast food" building type in BS 5906. This calculation uses 5l of waste per sale. As the number of sales is unknown, BDP have not used this building type. Further to this, it is assumed that the majority of "fast food" is consumed on single use plates with single use cutlery. This conflicts with the operational proposals for the market which is to use reusable plates, cutlery and glasses which will be cleaned in the pot wash.

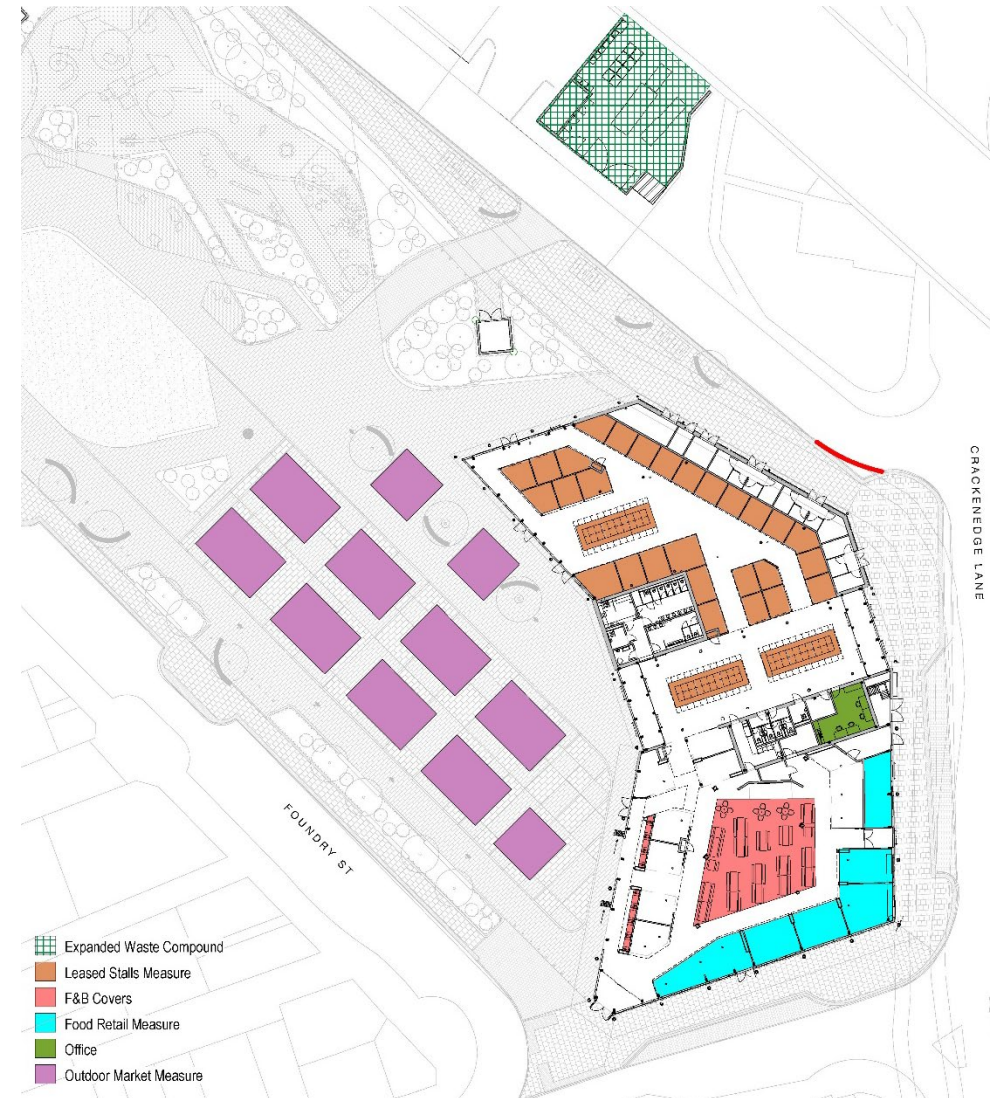
Market Hall Food Retail - Uses "small supermarket" as the nearest applicable building type in BS 5906.

Market Office – based on 4-person occupancy.

Leased Stalls – Uses "shopping centre" as the nearest applicable building type in BS 5906.

Outdoor area used for temporary markets - Uses "shopping centre" as the nearest applicable building type in BS 5906. The equation allows for 10l of waste per m² of sales area. The area used is a measure of 60 stalls at 3x3m. This equation suggests approximately 6 bins in the waste compound will be filled by waste generated from the outdoor market.

Figure 1 Indicative areas used to calculate waste amounts



Outdoor area used for events – There is no guidance in BS 5906:2005 for waste produced during events, nor any outdoor activities. If events are run by a third party operator, then waste management would need to be agreed with Kirklees in the details of the organisation of the event. The Council’s aspiration to hold 1 large scale outdoor event per month equates to circa 3% of the year.

To give an approximate benchmark “entertainment complex/ leisure centre” has been used as the nearest applicable type in Table 2. The British Standard gives guidance on weekly waste amounts, however BDP assume that normal duration for on-site events will be one day. BDP have therefore worked out the additional amount of waste produced daily, over and above the amount produced when the outdoor area is hosting a market.

On a day during which an event is taking place, an *additional* 0.28 of a 1100l bin will be needed for waste storage or, if segregated, 0.14 bins for recycling and 0.14 bins for general waste. Of the 22 bins needed when the outdoor area is in use as a market, 0.6 of the 22 bins is theoretically spare capacity and therefore enough to accommodate the

additional waste produced during an event, with capacity for up to two events per week. The council may still wish to organise for additional waste collections during weeks where an event is due to take place to mitigate the risk of exceeding full capacity.

The Park – BS 5906 is applicable to buildings, therefore no information is given for the provision of litter, animal waste and cigarette bins or green waste production from planting management. BDP would note that Kirklees should advise the design team in relation to the council policy for provision of facilities (e.g. fixed external bins) for the disposal and collection of: general litter, recycling waste, animal waste (e.g. dog faeces bins), and cigarette ash disposal. Unless Kirklees Council notes otherwise it is assumed that waste from planting management (e.g. tree, bushes and grass clippings) is disposed of by arrangement with the organisation providing the service.

Waste from the maintenance of the park has not been included in the allowances.

Table 2 Additional Capacity Required for Outdoor Events

Estimated Daily Waste Capacity and Container Requirements For Outdoor Events										
Outdoor Events	BSI Category	Floor Area GIA	Litres (per m ²)	Occupancy	Minimum Bin Capacity (litres)	Segregated waste				Total Number 1100l bins
						Recycling Capacity (litres)	Number of 1,100l bins	General Refuse Capacity (litres)	Number of 1,100l bins	
Weekly waste	Entertainment complex/ leisure centre	1512	5		7560.0	3780.0	3.44	3780.0	3.44	
Additional weekly capacity compared with the outdoor space as a market					2160.0	1080.0	0.98	1080.0	0.98	
Additional daily capacity compared with the outdoor space as a market					308.6	154.3	0.14	154.3	0.14	0.28

Waste Compound Expansion Proposals

Compactors

There are two existing compactors in the market waste compound, one 32m³ cardboard compactor and a 14m³ general waste compactor. The estimated weekly amount of waste produced in the indoor market and the temporary outdoor market could be stored in 22 no. 1100 litre euro bins however, this figure does not consider the two existing compactors. As the Council wish to retain the two compactors, they should be considered in the proposals.

Table 3 Total volume of waste if compacted

Waste produced	Total volume of waste		
	litres	m ³	m ³ if compacted at 3:1 ratio
General non-recyclable waste	11810.0	11.8	3.94
Recyclable waste	11810	11.8	3.94
Estimated cardboard waste (43%)	5078.3	5.1	1.69

General Waste

Based on 50% of the waste produced being recycled, the 14m³ waste compactor exceeds the capacity needed to store general non-recyclable waste produced on a weekly basis. The general waste compactor will need to be collected every three weeks. Should the Council wish to maintain the current monthly collection, additional eurobins will be required for which the proposed layout allows sufficient space.

Recyclable Waste Segregation

To futureproof the scheme the Kirklees Council may wish to consider possible future legislation which requires more segregation of waste at source rather than mixed residual collections (as noted in the email from the Waste Operational Planning Coordinator on 22/04/2024). Sufficient space will be provided to accommodate this.

UK statistics on waste, "Table 4: Packaging waste and recycling, split by material, UK 2021" has been used to estimate percentages of different recyclable waste materials that will be produced in the Market. The below table uses the UK packaging waste statistics and applies the material percentages to the total estimated volume of recyclable waste produced in the new market. This has been used to estimate the number of eurobins needed to store and segregate recyclable waste.

Table 4 Estimated amount of segregated recyclables

Material	Packaging waste arising in the UK	Percentage	Estimated recyclable waste arising at the market (L)	Number of 1,100l bins	Actual no. of 1,100l bins
Metal*	756	5.95%	703.24	0.64	
Plastic*	2,514	19.80%	2338.56	2.13	3
Paper and Cardboard**	5,389	42.45%	5012.92	N/A	N/A
Glass	2,581	20.33%	2400.88	2.18	3
Wood	1,433	11.29%	1333.00	1.21	2
Other***	23	0.18%	21.39	0.02	0
Total (for recycling)	12696	100.00%	11810.00		8

Based on the above percentages, there will be ample space in the 32m³ cardboard compactor for the paper and cardboard waste to be stored and continue to be collected monthly, as shown in Table 3.

Animal By Products

Following consultation with the Waste Operational Planning Coordinator and JG Pears, (the company who currently collect Animal By Products for Dewsbury Market) Kirklees Council have advised that there will be an additional 3 no. 240l bins in the waste compound dedicated to the storage of Animal By Products. Each occupier who produces animal by products will have a dedicated refrigerated bin within their stall to store waste prior to transporting to the waste compound area.

Proposed Waste Storage Provision

The amount and type of waste storage, proposed collection frequency is shown in Table 5. The indicative layout of the expanded compound is shown in Figure 2.

Table 5 Proposed Waste Storage and Segregation

Proposed Waste Storage and Segregation			
Waste Type	Container Type	Quantity	Collection Frequency
General waste	14m3 compactor	1	3 weeks
Paper & cardboard	32m3 compactor	1	Monthly
Metals & plastics	1100l eurobin	3	Weekly
Glass	1100l eurobin	3	Weekly
Wood	1100l eurobin	2	Weekly
Animal By Products	240l bin	3	Monthly
WEEE	240l bin	1	TBA

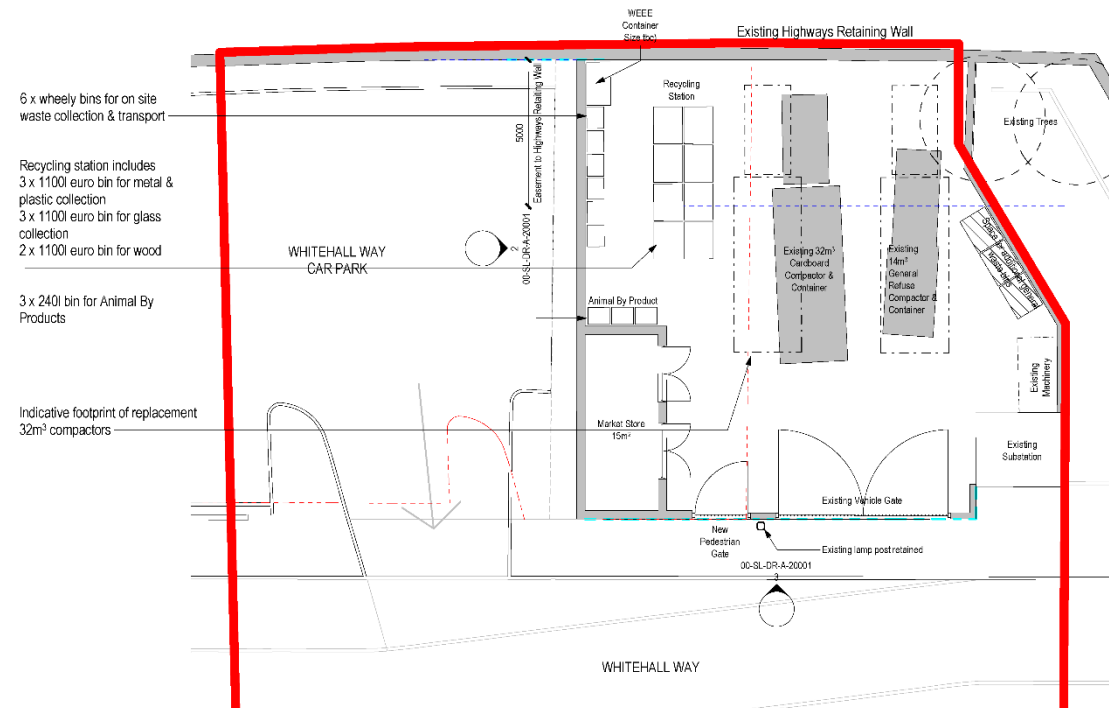


Figure 2 Proposed Waste Compound Layout (not to scale – refer to drawing number DMTP-BDP-00-SL-DR-A-20001 for scaled plan)