

MANCHESTER COLLEGE PHASE 2 : WASTE PROVISION CALCULATION

BB JOB NO.
DOCUMENT REF
SUITABILITY & REVISION
DATE
REVISIONS:

21187
TMCP2-BBA-XX-XX-PP-A-9001
S0-P02
18-11-22

CALCULATION WASTE PROVISION CALCULATION

Project Name	Manchester College Phase 2
File Ref	TMCPH2-BBA-XX-XX-CA-A-9001-S2-P02
Description	Waste Calculation
Date	2022-11-18
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1.0 Introduction

- 1.1 The below calculation has been put together to help guide the college and FM team to determine the required area for the proposed refuse storage area for the combined City Centre Phase 1 & Phase 2 development. This is intended to be a guide only and to be reviewed with other methods of calculation to be collated from the colleges FM Teams data and experience.

2.0 Phase 1

- 2.1 During the design of Phase 1, SHP worked with the colleges FM Team and current refuse collection contractor to establish a suitable refuse provision. The methodology was reviewed the methodology of refuse collection at the colleges other city centre sites and propose that the below is suitable. The college propose to construct and dismantle theatrical sets on site. We therefore have provided a medium sized skip for disposing of bulky items

2.2 Current Phase 1 Provision

Proposed provision for city centre site

Product	Unit Type	Number of Units	No of units per week collected per week
General Waste	1100 Litre	11	55
Bulky	3.4m x 1.8m skip	1	On request
Paper/card Recycling	1100 Litre	5	10
Co-mingled	1100 Litre	3	6
Food Recycling	240 Litre	3	1.5
Glass Recycling	240 Litre	3	1.5

Refuse Storage	22340 Litres
Total litres taken from site each week	78820 Litres

3.0 Waste Forecast for Phase 1 & 2 Combined

3.1 College guidance

The college with help from their waste contractor reviewed the current waste collection from Phase 1 and the usage from StJohns building as well as Shena Simon which currently houses the accommodation expected to move into phase 2. Combined these 3 buildings currently use **22x1100l bins & 6x240l** bins which is the recommendation for the new binstore for the City Centre campus.

3.2 Alternative methods of calculations

As suggested by SHP during the design and construction of Phase 1, one method of calculation for the proposed waste within new developments would be using the ADEPT guidance document : *'Making Space for Waste : Designing waste management in new developments'* <https://www.adeptnet.org.uk/documents/making-space-waste-designing-waste-management-new-developments>.

3.3 Guidance from ADEPT

Looking at using guidance from ADEPT report which is supported by MCC, Table 4.1 – Typical Provision for Waste Storage Capacity in Commercial Developments suggests a capacity of 2600L For every 1000m² of GIFA. Based on the proposed GIFA of 5880m² this would suggest a total of **15288 Litres Required per Week**

Formula:

Provision per 1000m² x (GIFA / 1000) = Litres Required

2600 x (5880 / 1000) = **15288 litres**

Phase 1 + Phase 2 = **78820 + 15288 = 94,108 litres**

Note: Phase 1 total based off college calculation not on ADEPT Calculation

This suggests a daily collection of **18,821 Litres** or a total of **18x 1100l** (rounded up) General waste Bins

3.4 Scaled Approach.

Looking at the size of both Phase 1 & phase 2, we can compare the Gross internal Floor Area and scale the current Phase1 waste provision by a similar amount. In theory this should provide an approximate increase of waste produced in Phase 2 however this would be more accurate if the Phase 1 waste figure was updated with live in-use data rather than the hypothetical calculation produce during design. Also, the curriculum will differ between buildings and as such the students and classes will likely generate varying amounts of waste due to the differences in curriculum.

Calculation:

5880 (Phase 2 GIFA) / 18,500 (Phase 1 GIFA) x 100 = 31%

78820Litres (phase 1 waste) x 0.3 (GIFA difference) = **24,434Litres**

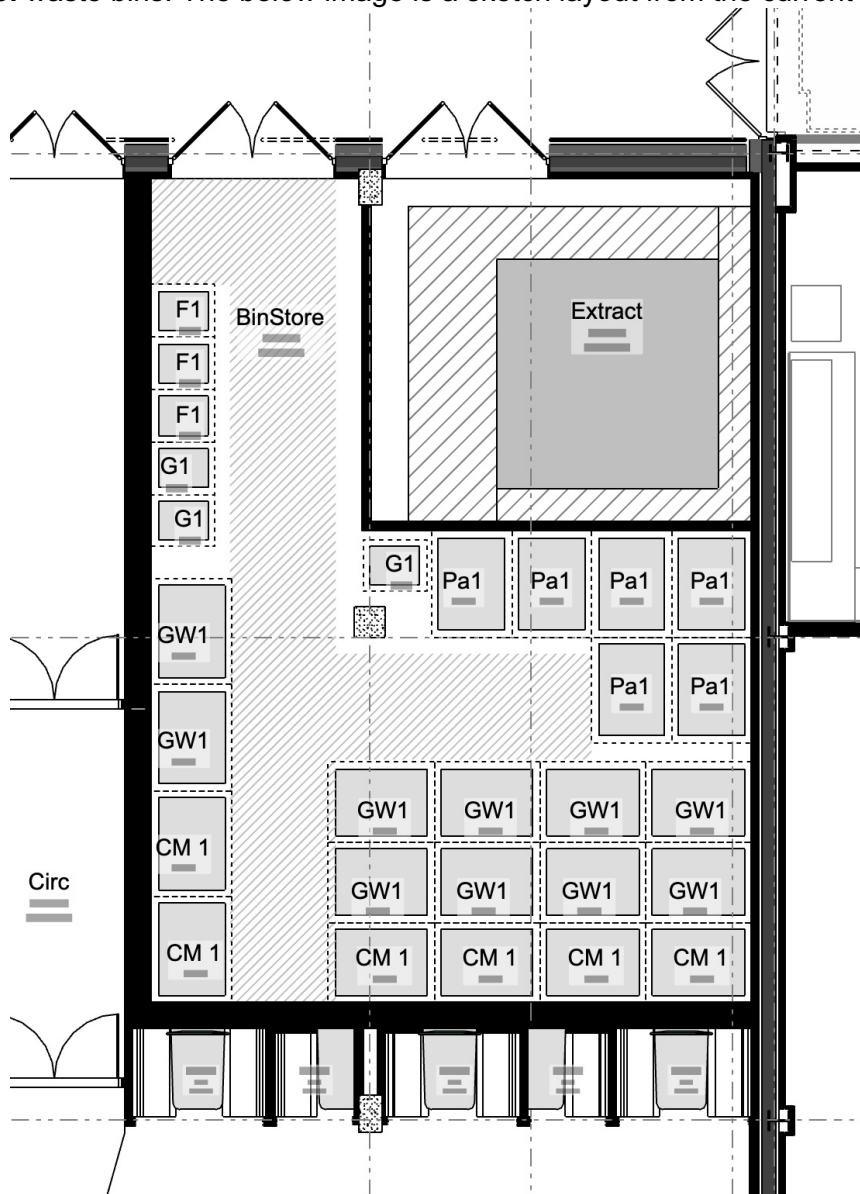
Phase 1 + Phase 2 = **78820 + 24434 = 103,254 litres**

CALCULATION WASTE PROVISION CALCULATION

This suggests a daily collection of **20,65Litres** or a total of **19x 1100l** (rounded up) General waste Bins

4.0 Proposed Layout

The current P06 plans for Phase 2 suggests the current BinStore can hold **22x 1100l** and **6x 240l** waste bins. The below image is a sketch layout from the current plans showing



This achieves the desired quantity set out by the college and achieves the following figures:

$$22 \times 1100 = 24,200 \text{ l}$$

$$6 \times 240 \text{ l} = 1440 \text{ l}$$

$$20900 + 1440 = 23840 \text{ l per Day}$$

$$119,200 \text{ l per working Week}$$

CALCULATION WASTE PROVISION CALCULATION

5.0 This is also highlighted in the table below, indicating the proposed combined phase 1 & 2 waste provision.

Proposed Provision for City Centre Site (Combined Phase 1 & 2)			
Product	Unit Type	Number of Units	Number of units per week collected per week
General Waste	1100 Litre	10	55
Bulky	3.4mx 1.8m skip	0	On request
Paper/Card Recycling	1100 Litre	6	10
Co-mingled	1100 Litre	6	6
Food Recycling	240 Litre	3	1.5
Glass Recycling	240 Litre	3	1.5
Refuge Storage		23840 Litres	
Total Litres taken from site each week		119200 Litres	