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SYON GARDENS

HOMEBASE BRENTFORD SITE, TW7 5QE

Operational Waste and Recycling Management Strategy

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Quality information

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1. Executive Summary

- 1.1 AECOM Infrastructure and Environment Limited (Ltd) (hereafter referred to as 'AECOM') have been appointed by St Edward Homes Limited (Ltd) (hereafter referred to as the 'Applicant') to prepare an Operational Waste and Recycling Management Strategy (hereafter referred to as the 'Strategy'). This Strategy is for the proposed 'Syon Gardens' development (hereafter referred to the 'Proposed Development') located in the administrative boundary of London Borough of Hounslow (LBH).
- 1.2 The Applicant is seeking permission for;
- "Full planning application for the demolition of existing building and car park and erection of buildings to provide residential units, a replacement retail foodstore, with additional commercial, business and service space, and a flexible community space, and ancillary plant, access, servicing and car parking, landscaping and associated works"*
- 1.3 The principle aim of this Strategy is to demonstrate how sustainable methods for waste and recycling management have been considered for the operational phase of the Proposed Development. Furthermore, with regards to the waste and recycling management within the Proposed Development, this Strategy has the following aims:
- To contribute towards achieving current and long-term national, regional (West London Waste Authority (WLWA)) and local (London Borough of Hounslow (LBH)) targets for waste minimisation, recycling and re-use;
 - To comply with all applicable legal requirements for handling operational waste and recycle material;
 - To achieve high standards of waste management performance, through giving due consideration to the waste generated during operation of the Proposed Development; and
 - To provide a convenient, clean, and efficient waste management strategy that enhances the operation of the Proposed Development and promotes recycling.
- 1.4 The assessment conducted within this Strategy were undertaken based on the old use classes which preceded the new class classifications which came into force on 1 September 2020. It is not considered the changes will affect the results of the assessment and the effects have been accurately reported.
- 1.5 Once complete and operational the Proposed Development will provide approximately 42,786 square meters (m²), Gross Internal Area (GIA) of residential use. The residential space will consist of 473 units within five cores (A, B, C, D and E). The Proposed Development will also provide commercial areas including: 10,550 m² GIA of Tesco foodstore, 200 m² GIA of community space, and 137 m² GIA of commercial, business and service space.
- 1.6 Based on the proposed uses expected to comprise the Proposed Development is anticipated that once operational approximately 102,662 L of waste from both residential and commercial uses will be generated per week. Of this, 96,458L will arise from residential uses, and 6,202 L will arise from commercial uses. Waste arisings per week will equate to approximately 692 tonnes of waste per year (considering the following densities: Plastic – 58 kg/m³, Card – 60 kg/m³, Paper – 294 kg/m³, Cans/aerosols – 30 kg/m³, Glass – 277 kg/m³, Food – 667 kg/m³, Residual – 81 kg/m³) (Ref. 1).
- 1.7 Within residential areas, localised bin stores will be provided per core for residents to deposit their waste and recycling material. Each localised store will have the space to accommodate one bin per waste / recycle stream. In order for residents to transport waste / recycle from their unit to the localised bin stores internal lifts will be provided per core. When residents arrive at the bin store they will dispose of/sort their waste / recycle into the following material streams; Plastic, Cardboard, Paper, Cans/aerosols, Glass, Food and Residual (non-recyclable general waste).
- 1.8 Bins within the localised stores will be monitored daily, once full, the internal management team will exchange these bins with empty containers dependant on material stream via the use of tugs. The localised residential stores should be free of any commercial waste as to comply with BS 5906:2005. The internal

management team will then transfer the full bins to the main bin store located within the Lower Ground Floor via tugs through the use of service lifts and ramps.

- 1.9 Prior to the time of collection (or as agreed), the internal management team will transfer the full bins via tugs for the appropriate material stream (i.e. Plastic, Carboard, Paper, Cans/aerosols, Glass, Food and Residual) scheduled to be collected on the day to the presentation area located on the Lower Ground Floor (that has been designed to be located within 10m of the collection point). It should also be noted, Recyclate and Residual materials are currently collected on a weekly basis however, in the near future, Residual waste will be collected by LBH on a fortnightly basis. Bin storage requirements based on the weekly collection frequency of Residual waste are sufficient for the future fortnightly collection frequency as agreed by LBH. It is envisioned the internal management team will be on hand to rotate bins at the time of collection (if it is not possible for all bins of the specific waste stream to be presented at once). From the presentation area, the collection operatives will transport the bins to the Refuse Collection Vehicle (RCV) for emptying purposes. Once these bins have been emptied, the collection operatives will return these bins to the presentation area from where the internal management team will transfer these bins back to the main bin store and localised stores as necessary.
- 1.10 Where bins are manoeuvred by the Proposed Developments internal management team, the route from bin stores to the designated presentation area will not exceed ramps of 1:12 (as in line with BS 5906:2005 requirements). It should be noted, all routes and areas of collection made by the council's external management team will not exceed slopes of 1:20, as in line with LBH guidance. The council's external management team will not at any point be required to move waste and recyclate bins from the bin store to the designated presentation area, this will be the responsibility of the Proposed Development's internal management team only.
- 1.11 A central bin store will be provided within the commercial building that would provide sufficient space to hold bins needed for the commercial uses occupying the Proposed Development, based on a weekly collection frequency.
- 1.12 Daily (or as agreed), the commercial tenants will collect waste / recyclate material from the Proposed Developments commercial units (excluding Tesco) and dispose of this material into separate bins dependant on the material stream (i.e. Mixed Dry Recyclate (MDR), food, and Residual waste). The commercial bin store will be free of any residential waste / recyclate material as to comply with BS 5906:2005 requirements.
- 1.13 At the time of writing this Strategy, it is envisioned that a private waste contractor will be commissioned to undertake the collections from the Proposed Development's commercial areas (excluding Tesco foodstore). Prior to the collection time (or as agreed), the internal management team will transfer bins for the appropriate material stream (i.e. MDR, food and residual waste) scheduled to be collected on the day to the presentation area located on the Lower Ground Floor (located within 10m of the collection point). From this area, the collection operatives will transport the bins to the RCV for emptying purposes. Once, these bins have been emptied, the collection operatives will return all bins to the presentation area from where the internal management team will return these bins to the central bin store.
- 1.14 These provisions will result in waste / recyclate material produced during the operation of the Proposed Development being managed in accordance with The Waste (England and Wales) Regulations 2011 (as amended). Additionally, all infrastructure / management procedures introduced to the Proposed Development will comply with national, regional and local policy (WLWA and LBH), British Standard Institute (BSI) 5906:2005 (Waste Management in Buildings Code of Practice) and Part H6 of the Building Regulations.
- 1.15 This Strategy acknowledges that anyone producing, handling and carrying waste on the Proposed Development, and to and from the Proposed Development will do so in accordance with the Duty of Care Code of Practice, 2018 (as amended). In relation to this Strategy, Waste is defined as per the Waste Framework Directive (2008/98/EC) as "*any substance or object which the holder discards or intends or is required to discard*".

2. Introduction

- 2.1 St Edward Homes Limited is bringing forward the redevelopment of both the Tesco Osterley and Homebase Brentford sites. The existing Tesco store would be re-provided on the Homebase site as part of a mixed-use development with residential above, which releases the opportunity to deliver a comprehensive residential-led mixed-use development on the Tesco site.
- 2.2 This Operational Waste and Recycling Management Strategy (hereafter referred to as the 'Strategy') has been prepared by AECOM Infrastructure and Environment Limited (Ltd) ('AECOM') on behalf of St Edward Homes Limited (Ltd) (hereafter referred to as the 'Applicant') for the Homebase Brentford Site, proposed 'Syon Gardens' development (hereafter referred to as the 'Proposed Development') located within the administrative boundary of the London Borough of Hounslow (LBH).
- 2.3 This Strategy provides a review of the requirements placed upon the Proposed Development under legislation and implemented policy at all levels of government (i.e. national (England), regional (West London Waste Authority (WLWA)) and local (LBH). Consideration has also been given to the requirements included in local standards, local planning policy and guidance documents (i.e. LBH Guidance document – Recycling and Refuse guidance, Guide for Architects and Planner submitting applications to Hounslow council) (Ref. 2), British Standard Institute (BSI), Waste Management in Buildings, Code of Practise (BS 5906:2005) (Ref. 3) as to comply with relevant objectives and targets.
- 2.4 The methodology used to identify and estimate the volumes of waste / recyclate material; generated during operation of the Proposed Development is provided in Section 5 (methodology) of this Strategy. Following this, the approach taken towards waste and recyclate management within the Proposed Development is discussed. This includes a breakdown of the management process, including handling, storage area provision, and collection arrangements. All waste reduction measures are compliant with BS 5906:2005, the Waste (England and Wales) Regulations, 2011 (as amended) (Ref. 4) and Part H6 of the building Regulations (2010) (incorporating all amendments) (Ref. 5) Document.
- 2.5 This Strategy has been written by AECOM, using information provided by Patel Taylor (hereafter referred to as the 'Architects').

3. Legislation/Planning Policy

- 3.1 A summary list of the legislation relevant to the management of operational waste is provided in this section:

National Waste Legislation

- The Animal By-Products (England) Regulations 2009 (as amended 2015) (Ref. 6);
- Clean Neighbourhoods and Environment Act 2005 (as amended 2015) (Ref. 7);
- Control of Pollution Act (COPA) 1974 (as amended 1989) (Ref. 8);
- The Controlled Waste (England and Wales) Regulations 2012 (as amended 2012) (Ref. 9);
- The Environment Act 1995 (Ref. 10);
- Environmental Protection Act 1990 (EPA) (Ref. 11);
- The Landfill Tax Regulations 1996 (as amended 2017) (Ref. 12);
- The List of Wastes (England) Regulations (as amended 2005) (Ref. 13);
- The Packaging (Essential Requirements) Regulations 2015 (Ref. 14);
- The Pollution Prevention and Control (Fees) (Miscellaneous Amendments) Regulations 2017 (Ref. 15);
- The Producer Responsibility Obligations (Packaging Waste) Regulations 2007 (as amended 2017) (Ref. 16);
- The Hazardous Waste Regulations 2005 (as amended 2016) (Ref. 17);

- The Waste (England and Wales) Regulations, 2011 (as amended 2014);
- The Waste Batteries and Accumulators Regulations 2009 (as amended 2015) (Ref. 18);
- The Waste Electrical and Electronic Equipment (WEEE) Regulations 2015 (Ref. 19); and
- The Waste Management (England and Wales) Regulations 2006 (as amended 2007) (Ref. 20).

National Planning Policy Framework (2019)

- 3.2 An update to the revised National Planning Policy Framework (NPPF) (Ref. 21) has been published in February 2019 that sets out the Government planning policies for England and how these are expected to be applied. This NPPF supersedes the previous NPPF published in July 2018 and March 2012.
- 3.3 The revised NPPF maintains the presumption in favour of sustainable development which should be delivered in accordance with three main objective areas: economic, social and environmental (Paragraph 8 of the Framework document). The revised NPPF aims to enable local people and their local authorities to produce their own distinctive local and neighbourhood plans, which should be interpreted and applied to meet the needs and priorities of their communities.
- 3.4 The environmental objective refers to the importance of waste management and resource efficiency. The NPPF should be read in conjunction with the National Planning Policy for Waste (2014) (Ref. 22) including the Waste Management Plan for England (2013) (Ref. 23) and Planning Practice Guidance (Ref. 24) which are discussed in the following sections of this Strategy.

National Planning Policy for Waste (2014)

- 3.5 The National Planning Policy for Waste provides the planning framework to enable Local Authorities to put forward, through local waste management plans, strategies that identify sites and areas that are suitable for new or enhanced facilities to meet the waste management needs of their areas. Information is also included concerning non-waste developments, including any development whose end function is not directly related to waste, waste developments include: landfills; waste disposal; waste treatment; waste recycling plants; and Household Waste Recycling Centres (HWRCs).
- 3.6 The National Planning Policy for Waste states that when determining planning applications for non-waste developments, Local Authorities should ensure that:
- *“the likely impact of proposed, non-waste related developments on existing waste management facilities, and on-sites and areas allocated for waste management, is acceptable and does not prejudice the implementation of the Waste Hierarchy and/or the efficient operation of such facilities”;*
 - *“new, non-waste developments make sufficient provision for waste management and promote good design to secure the integration of waste management facilities with the rest of the development and, in less developed areas, with the local landscape. This includes providing adequate storage facilities at residential premises, for example, by ensuring that there is sufficient and discrete provision for bins, to facilitate a high quality, comprehensive and frequent household collection service”; and*
 - *“the handling of waste arising from the construction and operation of development maximises reuse/recovery opportunities, and minimises off-site disposal.”*

Waste Management Plan for England (2013)

- 3.7 The Waste Management Plan for England is a high-level document, which outlines the steps required to move towards a zero-waste economy, as part of the transition to a sustainable economy.
- 3.8 The Waste Management Plan fulfils the Waste Framework Directive (WFD) Article 28 mandatory requirements (Ref. 25), and other required content as set out in Schedule 1 to the Waste (England and Wales) Regulations 2011 as amended. The Waste Management Plan provides an analysis of current waste management practices in England and evaluates implementation of the objectives and provisions of the revised WFD.

National Planning Practice Guidance (Continually Updated)

3.9 The Planning Practice Guidance (PPG) comprises a continually updated web-based resource in support of the NPPF. The guidance document entitled 'Waste' (Ref. 26) outlines the consideration local planning authorities should give towards waste management, both within Local Plans and with regards to the Waste Hierarchy. This includes guidance on considerations to be included within development planning applications:

- *The promotion of the “sound management of waste from any proposed development, such as encouraging internal management of waste where this is appropriate, or including a planning condition to encourage or require the developer to set out how waste arising from the development is to be dealt with”;*
- *“Ensuring that collections of household and similar waste are organised so as to help towards achieving the higher levels of the Waste Hierarchy”;*
- *That steps are “taken to ensure effective segregation of wastes at source including, as appropriate, the provision of waste sorting, storage, recovery and recycling facilities”;* and
- *That it will be useful for proposals that are likely to generate significant volumes of waste through the development or operational phases to include a waste audit. “This audit should demonstrate that in both construction and operational phases of a proposed development, waste will be minimised as far as possible and that such waste as is generated will be managed in an appropriate manner in accordance with the Waste Hierarchy”.*

A Green Future: Our 25-year Plan to Improve the Environment

3.10 The government published the 25 Year Plan to Improve the Environment (Ref. 27) in 2018. This plan sets out the government actions to help the natural world regain and retain good health. It aims to deliver cleaner air and water, protect threatened species and provide richer environment. One of the measures set out in this Plan to decrease pressure on the environment in by minimising the generation of waste. This will be done by:

- “Working towards our ambition of zero avoidable waste by 2050; and
- Meeting all existing waste targets – including those on landfill, reuse and recycling – and developing ambitious future targets and milestones”.
- Significantly reducing and where possible preventing all kinds of marine plastic pollution – in particular material that came originally from land”.

3.11 Chapter 4 of this plan outlines the government aim to increase resource efficiency and reduce pollution and waste. This will be done by:

- “Make sure that resources are used more efficiently and kept in longer to minimise waste and reduce its environmental impacts by promoting reuse, remanufacturing and recycling; and
- Work towards elimination all avoidable waste by 2050 and all avoidable plastic waste by end of 2042”.

Our Waste, Our Resources: A Strategy for England

3.12 Within the 25 Year Environmental Plan, the Government pledged to leave the environment in a better condition for the next generation. To meet this commitment, the Strategy for England (2018) (Ref. 28) has been developed. The Strategy for England commits to the following policy instruments, and a provision of dates for their introduction:

Extended Producer Responsibility (EPR)

- EPR is “a policy approach through which a producer’s responsibility for a product is extended to the post-use stage. This incentivises producers to design their products to make it easier for them to be reused, dismantled and/or recycled at end of life”.
- It is anticipated that EPR for waste electronic and electrical equipment is to be introduced in 2020, and EPR for packaging will come into force in 2023 (subject to consultation).

Deposit Return Scheme (DRS)

- In a deposit return scheme, a small deposit will be added to the price of a drink's container bought in a store. Once the container has been used, the consumer will dispose of it in a reverse vending machine and the deposit will be returned to the consumer.
- The government is aiming to roll-out a UK-wide approach to DRS in 2023 (subject to consultation).

Consistent Collections

- Subject to consultation, legislation enforcing the government to “*specify a core set of materials to be collected by all local authorities and waste operators*” will be introduced. It is envisioned that specifying a consistent set of dry recyclable materials to be collected from all households and businesses will improve England's recycling rate.
- The provisional date for consistent collections to be introduced will be subject to discussions at spending review.

3.13 At the current time these policy instruments are out for consultation and so how they will interact with future operational waste arisings at the time of writing is dependent on the subsequent constitution of these policies. These policies will therefore be considered but no predictions as to waste makeup applied at this stage.

Regional Policy

The London Plan, Spatial Development Strategy for Greater London (Consolidated with Alterations since 2011) (2016)

3.1 The London Plan (Ref. 29) outlines the Mayor's commitment to making better use of waste and its management, in an attempt to reduce London's impact on climate change, such as exploiting opportunities to utilise energy from waste (EfW). The London Plan describes waste as a valuable resource which can be exploited for London's environmental, economic and social benefit. The London Plan contains five policies which are relevant to waste and are outlined in Table 1 of this Strategy.

Table 1. London Plan Waste Policies

Policy	Description
Policy 5.3 Sustainable Design and Construction	States that the highest standards of sustainable design and construction should be achieved in London to improve the environmental performance of new developments and to adapt to the effects of climate change over their lifetime. This should be achieved through a number of sustainable design principles, including minimising the generation of waste and maximising re-use and recycling
Policy 5.16 Waste Net Self-sufficiency	States that the Mayor will work with various stakeholders and authorities to manage as much of London's waste within London as practicable, working towards managing the equivalent of 100% of London's waste within London by 2026, whilst also working towards zero biodegradable or recyclable waste sent to landfill. This should be achieved by a number of ways, including minimising waste, encouraging the reuse of materials, exceeding recycling/composting levels in local authority collected waste (LACW) and commercial and industrial waste, improving London's net self-sufficiency, through reducing the proportion of waste exported from the capital over time, and working with neighbouring regional and district authorities to co-ordinate strategic waste management across the greater south east of England.
Policy 5.17 Waste Capacity	States the need to increase the waste processing capacity in London and that all new developments should have suitable waste and recycling storage facilities.
Policy 5.18 Construction, Excavation and Demolition Waste	States that waste should be removed from construction sites, and materials should be brought to the site, by water or rail transport wherever that is practicable.
Policy 5.19 Hazardous Waste	States that there is a capacity gap for dealing with London's hazardous waste and identifies the need for hazardous waste treatment sites.

The Intend to Publish London Plan- Spatial Development Strategy for the Greater London 2019

3.2 The Examination in Public (EiP) on the Draft New London Plan was held between 15th January and 22nd May 2019. Since this time, a Panel of Inspectors, appointed by the Secretary of State, issued their report and recommendations to the London Mayor on 8th October 2019.

3.3 The London Mayor has since considered these recommendations and, on the 9th December 2019, issued to the Secretary of State his intention to publish the London Plan as well as publishing the Intend to Publish Version of the London Plan. The Secretary of State wrote to the Mayor to request that changes were made to the Intend to Publish London Plan in March 2020. At present, the text of the Draft New London Plan (Ref. 30) is being informally agreed with MHCLG and Secretary of State, with a view of adoption in Summer 2020. The majority of the Secretary of State's directions related to housing supply within London and do not impact draft policies related to the Proposed Development.

3.4 As such, the Intend to Publish London Plan has significant weight given its stage of preparation. Generally, the policies referenced in this Statement are not affected by the Secretary of State's comments and therefore

can be given full weight. For those that are under discussion with the Secretary of State, this is identified and accounted for. .

- 3.5 Like the adopted London Plan (2016), the Intend to Publish London Plan details the Mayor’s commitments towards a greener London by tackling climate change and moving towards a zero-carbon city by 2050. The Intend to Publish London Plan contains five policies that are relevant to operational waste and recycling and these are displayed in Table 2 of this Strategy.

Table 2. Intend to Publish London Plan Waste and Recycling Management Policies

Policy	Description
Intend to Publish Policy SI 7 Reducing Waste and Supporting the Circular Economy	This policy states that waste reduction and reduction in the quantity of waste going for disposal from London can be achieved by promoting circular economy i.e. By encouraging the reuse of material and by using fewer resources in the production and distribution of products; By ensuring that zero biodegradable or recyclable waste is sent to landfill by 2026; By meeting the set recycling targets (i.e. 65% for municipal waste by 2030 and 95% for construction and demolition waste); and By designing developments that would provide adequate, flexible and easily accessible storage space to support collection of dry recyclables (at least card, paper, mixed plastics, metals, glass) and food.
Intend to Publish Policy SI8 Waste Capacity and New Waste Self Sufficiency	This policy indicates the Mayor’s intent of sustainably managing the equivalent of 100% of London’s waste within London by 2026. This can be achieved by identifying techniques/methods to reduce waste, in line with the principles of the Circular Economy and determining ways to manage waste that cannot be reduced. In addition to this, existing waste sites are to be safeguarded and their capacities optimised.
Intend to Publish Policy SI9 Safeguarded Waste Sites	This policy states that developments should not result in the loss of an existing waste site unless appropriate compensatory capacity is made within London that is at or above the same level of the waste hierarchy, or the waste site will be relocated within London (providing strategic waste management outcomes are achieved).
Intend to Publish Policy D8 Public Realm	This policy states that development plans and development proposals should ensure the provision and future management of free drinking water at appropriate locations in the new or redeveloped public realm.
Intend to Publish Policy T7 Deliveries, Servicing and Construction	This policy states that development proposals must consider the use of rail/water for the transportation of material with increased levels of direct vision on waste. Development plans and development proposals should facilitate sustainable freight movement by rail, waterways and road. At large developments, facilities to enable micro-consolidation should be provided, with management arrangements set out in Delivery and Servicing Plans.

Mayor of London Environmental Strategy (2018)

- 3.6 The London Environment Strategy (Ref. 31) sets out a framework that identifies the stages to London becoming a zero-waste city. However, this Strategy focuses on the management of bio-degradable or recyclable waste and sets targets for waste sent to landfill and doesn’t provide any specific policies related to the management of construction waste

The Business and Waste Management Strategy (2011)

- 3.7 In addition to the policies outlined in the London Plan, the Business Waste Management Strategy (Ref. 32) provides further guidance on the management of business waste. It sets out initiatives to help London businesses (including shops, restaurants and offices) save money and reduce harm to the environment, through better waste management practices. The strategy is aimed at encouraging waste reduction and

promoting better re-use and recycling from commercial activities. It looks to improve the efficiency of resource management and reduce the financial and environmental impact of waste by managing as much as is practical within London's boundaries.

The Municipal Waste Management Strategy (2011)

- 3.8 The Municipal Waste Management Strategy (Ref. 33) provides further guidance on the management of municipal waste, in addition to policies contained within the London Plan. The strategy sets six additional targets, which aim to reduce the amount of municipal waste generated by the capital and significantly increase recycling and composting performance. The strategy goes on to explain that municipal waste, which cannot be re-used or recycled, will be used to produce EfW in the most environmentally sensitive way possible.

Local Policy

West London Waste Plan (2015)

- 3.9 Six west London Boroughs (Brent, Ealing, Harrow, Hillingdon, Hounslow and Richmond upon Thames) have agreed to co-operate in order to plan for the future management of waste generated within the boroughs over the next 15 years. The West London Waste Plan (WLWP) (Ref. 34) accounts for all waste in the policy area up to 2031. The Plan contains policy to support site development and promote sustainable waste management, which gives priority to waste reduction, recycling and composting. This is done by identifying suitable sites for development of new facilities and safeguarding all existing waste sites within west London. The key elements of the West London Waste Plan are summarised as follows:
- The estimated generation of various waste streams that are likely to be produced in West London up to 2031;
 - Identifies and protects the current waste management sites within the area;
 - Identifies the shortfall of capacity required to meet the London Plan apportionment targets; and
 - Allocates a number of sites for the purpose of waste management to meet the shortfall in capacity.
- 3.10 **Policy WLWP 4:** Ensuring High Quality Development provides a range of criteria to guide developers in the consideration of mitigation of the impacts of their development on the environment, the community and appearance of the local area. Developers are expected to have actively considered innovative and sustainable design approaches so that developments are in accordance with best practice. Developers are expected to submit details of proposed control measures with any planning applications.
- 3.11 **Policy WLP 6:** Sustainable Site Waste Management states that the management of waste from a development should be in accordance with the waste hierarchy and developments should support the management of wastes as far up the hierarchy as possible.

London Borough of Hounslow Local Plan (2015)

- 3.12 LBH's Local Plan was adopted in September 2015 (Ref. 35) and sets out the council's spatial vision for the development of the Borough over the next 15 years, highlighting the key areas for regeneration and investment. With regards to waste, Policy CC2 'Urban Design and Architecture' states that:
- *"All development proposals to make the acceptable storage of refuse, materials for recycling and composting and for convenient access for its deposit and collection in consultation with the council's waste services".*
- 3.13 Within the WLWA, the LBH is responsible for 3.5% of London's waste and must manage 412,000 tonnes each year up until 2031. The WLWP protects existing facilities and allocates a site for waste management in Hounslow at Western International Market. Policy EQ7 'Sustainable Waste Management' within the Local Plan establishes how the LBH will work with the WLWA to:
- *"Meet our waste apportionment whilst promoting the prevention, re-use, recycling and recovery of waste, consistent with the waste hierarchy." alongside "incorporate suitable arrangements for waste management, including the location, size and design of waste and recycling facilities and transport access"*

London Borough of Hounslow Emerging Local Plan Review Pre-Submission Regulation 19 Consultation (2019)

- 3.14 Hounslow is currently in the process of preparing its Great West Corridor Local Plan Review (Ref. 36) and Site Allocations Documents, setting out a vision for the borough for the next 15 years. The Plans have undergone extensive consultation but not yet been taken to Examination, so has to be considered in this context and given proportionate weight compared to adopted policy. However, it is noted that it comprises more recent policy that responds to other key emerging and adopted policies. The relevant policies to this Strategy include Policy 'GWC5: Design and Heritage':
- *“Have full regard to circular economy principles in the design and implementation of energy, waste and waste infrastructure as set out in the new draft London Plan.”*
- 3.15 The Local Plan Review Site Allocations document sets out at Site allocation 11 that the Homebase Syon Lane is allocated for a mixed-use development.

4. The Proposed Development

- 4.1 The Homebase Brentford Site (the Proposed Syon Gardens Development) is a rectangular plot of land located on the corner of Syon Lane and the Great West Road at Gillette Corner. It has an area of approximately 1.4 ha. The site is developed with a large Homebase store (4,180sqm) and associated surface car parking and under-croft car parking (295 spaces). The Homebase store comprises of a large industrial style shed with metal cladding. The building is effectively two storeys high with a central pylon to the front.
- 4.2 The site is bound by the A4 Great West Road to the north, and Syon Lane to the south-west. There is a car showroom to the east, and a service road, Syon Gate Way which extends along the south-eastern boundary, and further along is the railway line. The site is 400 metres from the nearest small neighbourhood centre at 1-9A Spur Road and 142-156 London Road which south-east of the Tesco Osterley Site (which is 260 m from the site). St Johns Road Neighbourhood Centre is around 2km to the south of the site. The site is also approximately 900 metres west from Brentford Town Centre and over 2km east from Hounslow Town Centre.
- 4.3 The site has a public transport accessibility rating of PTAL 2/3. The southern part of the site falls into a PTAL 3 area, due to its proximity to bus services on London Road. Syon Lane station is in Zone 4. National Rail services direct to London Waterloo, Richmond and Weybridge. Furthermore, Osterley Station provides access to the Piccadilly line service and is within 2km of the site.
- 4.4 There are bus stops directly adjacent to the site on A4 Great West Road and Syon Lane within 50m. Bus stops on London Road, adjacent to Syon Park are also accessible to the site, approximately 600m south of the site. The site is well served by bus routes with seven regular bus services within walking distance of the site. The H28 bus route runs along Syon Lane and stops and turns around at Tesco Osterley. The H91 can be accessed from the A4 at bus stops K/C respectively and serves destinations which include Chiswick, Hammersmith and Hounslow Town Centre.
- 4.5 The immediate surrounding area comprises a mix of uses including commercial and residential development. There are semi-detached houses on the western side of Syon Lane, opposite the site. Along the Great West Road there is a variety of commercial and industrial uses as well as some residential uses, and further along Syon Lane the uses are predominantly residential.
- 4.6 Once the construction phases are complete, the Residential areas of the Proposed Development will provide approximately 42,786 meters squared (m²) of Gross Internal Area (GIA) or 30,758 m² Net Internal Area (NIA). Table 3 of this Strategy shows the residential unit breakdown per block. Table 4 of this Strategy provides the commercial land uses of the Proposed Development.

Table 3. Residential Breakdown by Core

Block	Number of Units
A	65
B	266
C	76
D	34
E	32
Total number of units:	473

Please note, the residential make up as presented within this table has been based off the area schedule '579-PTA-MP-ZZ-SH-A-0001_ACCOMMODATION_STACK_P37' dated 28.08.2020.

Table 4. Commercial Breakdown by Land Use Type

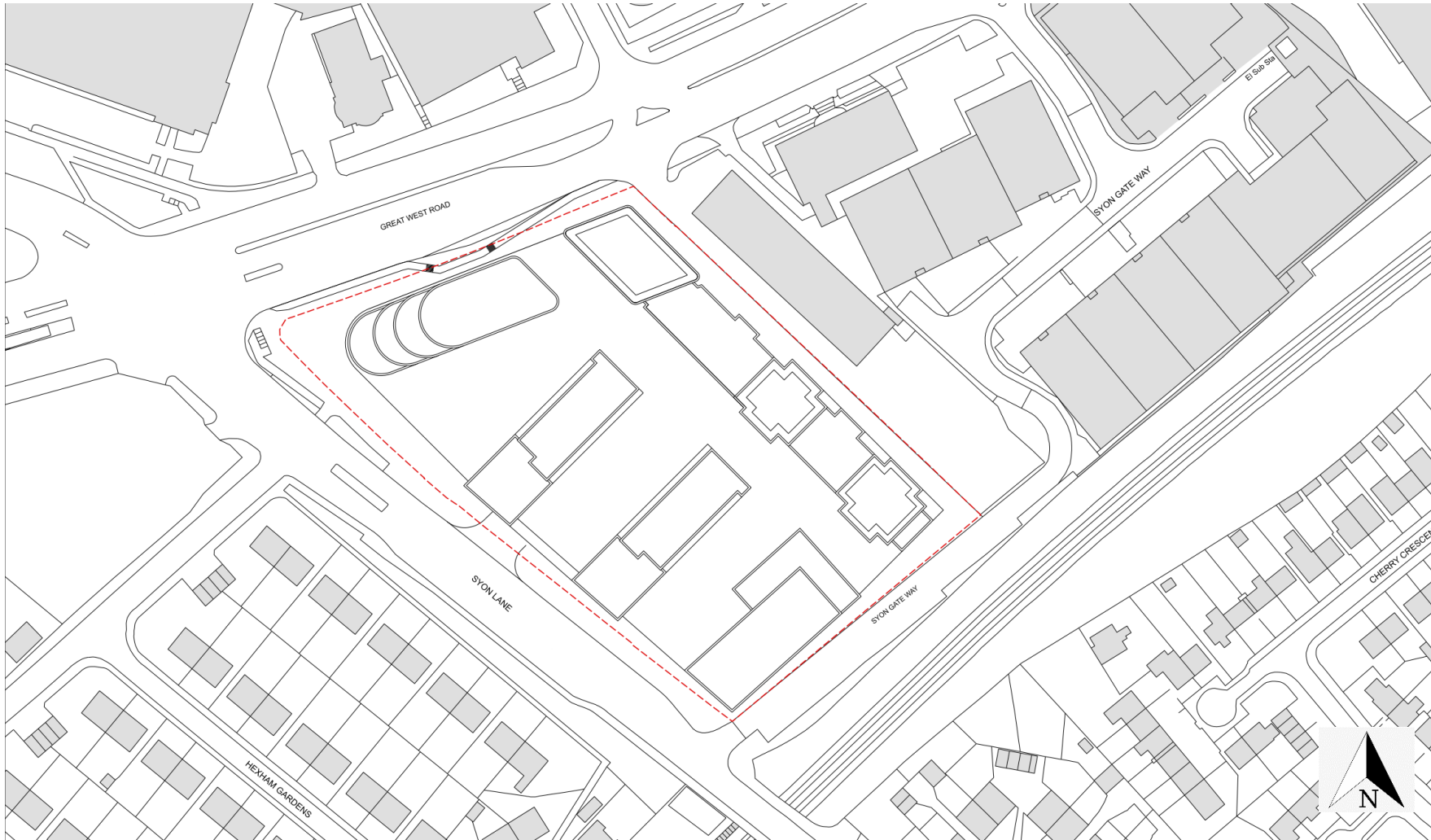
Land Use	GIA	NIA
Tesco foodstore	10,550 m ²	-
Community	200 m ²	-
Commercial, business and service space	137 m ²	128 m ²
Resident Facilities	568 m ²	547 m ²

Please note, the GIA's presented within this table have been based off the area schedule '579-PTA-MP-ZZ-SH-A-0001_ACCOMMODATION_STACK_P37' dated 28.08.2020.

It should be noted, community space will form part of the Tesco retail store. Therefore, alike the Tesco foodstore, waste and recyclate arisings/storage provisions for this area have not been included within this Strategy.

4.7 Figure 1 of this Strategy shows the red line boundary for the Proposed Development, whereas Figure 2 of this strategy demonstrates the Proposed Developments North West facing elevation.

Figure 1. Red Line Boundary



Please note, this figure is not drawn to scale.

Figure 2. Proposed Developments North West facing Elevation



Please note, this figure is not drawn to scale.

5. Methodology

Residential Waste

- 5.1 Waste / recycle material arising from the operational phases of the Proposed Development have been calculated based on the methodology set out within LBH's 'Recycling and Refuse Guidance, Guide for Architects and Planners submitting applications to Hounslow Council' 2019 document. Table 6 of this Strategy breaks down the methodology for weekly Recyclate and Residual waste arisings as provided by LBH Recycling and Refuse Guidance. Further to this, Table 6 of this Strategy shows the recyclate and residual waste stream split required by LBH for the total waste arising requirements per unit. It should be noted, Recyclate and Residual materials are currently collected on a weekly basis however, in the near future, Residual waste will be collected by LBH on a fortnightly basis. Appendix A of this Strategy provides communication with LBH council which explains the waste arisings for the weekly collection of Residual waste presented in this Strategy are sufficient for LBH's future fortnightly collection frequency.

Table 5. LBH Residential Weekly Recyclate and Residual Waste Arisings Methodology

Number of Bedrooms	Methodology	Total Waste Arising Requirements
1 Bedroom	(30 L per dwelling + 70 L per bedroom)	100 L
2 Bedroom	(30 L per dwelling + 70 L per bedroom)	170 L
3 Bedroom	(30 L per dwelling + 70 L per bedroom)	240 L
4 Bedroom	(30 L per dwelling + 70 L per bedroom)	310 L

Table 6. LBH Residential Weekly Recyclate and Residual Waste Stream Split

MDR					Food	Residual	Total
50 %					10 %	75 %	125 %
Plastic	Cardboard	Paper	Cans/aerosols	Glass			
33%	33%	15%	12%	7%			

It should also be noted, Recyclate and Residual materials are currently collected on a weekly basis however, in the near future, Residual waste will be collected by LBH on a fortnightly basis. Waste arisings based on the weekly collection frequency of Residual waste are sufficient for the future fortnightly collection frequency as agreed by LBH.

Commercial Waste

- 5.2 LBH provides guidance within their 'Recycling and Refuse Guidance, Guide for Architects and Planners submitting applications to Hounslow Council' that commercial calculations should follow the methodology as provided by British Standards. Therefore, reference to BS906:2005 has been made in order to calculate waste / recycle material arisings and storage requirements. Table 7 of this Strategy provides the methodology used for determining the weekly commercial arisings and storage requirements based on weekly waste calculations with a 50:50 split assumed between MDR and Residual (non-recyclable general) waste.

Table 7. BS906:2005 Weekly Waste and Recyclate Arisings Methodology

Description	Land Use	Methodology	Waste Storage requirements	Waste Stream Ratios
Commercial, business and service space	A3	BS 5906:2005	75 L per Cover per Week. With 1 Cover calculated as 1 per 3m ² of NIA.	50 : 30 : 20 MDR : Food : Residual
Resident Facilities	D2 (Assembly and leisure)	BS 5906:2005	5 L per m ² of NIA	50 : 50 MDR : Residual

This assessment was undertaken based on the old use classes which preceded the new class classifications which came into force on 1 September 2020. It is not considered the changes will affect the results of the assessment and the effects have been accurately reported.

For the purposes of this Strategy, Commercial, business and service space is considered as A3 land use to provide worst case figures for waste arisings and bin storage requirements.

- 5.3 From the Applicants previous experience with Tesco Stores, the waste and recyclate stream breakdown for the A1 Tesco foodstore and community area will be as follows: Recycling (card, plastic, oil and metal): 69 %, Food waste: 10 %, Residual waste, 18 % and Surplus materials: 3 %. It should be noted, waste and recyclate arisings will not be calculated for the Tesco foodstore and community areas of the Proposed Development. Waste and recyclate arisings deriving from the Tesco foodstore and community areas will be managed independently from the residential and commercial elements of the Proposed Development.

Growth Rates

- 5.4 Data from the Department for Environment, Food and Rural Affairs (Defra) for the years from 2014 to 2018 show that household waste arisings in England have remained relatively stable at around 22,000 – 23,000 kilo tonnes per year, with periods of slight increase and decline (Ref. 37). The total waste collected has decreased by 322 kilo tonnes from 2014 to 2018, and waste per person has decreased from 413 kg (Ref. 38) to 394 kg per person from 2014 to 2018 respectively. Whilst volumes of waste generation have fluctuated over recent years, the data supports longer term results and projections of Defra figures, which suggest that waste growth has stabilised and may be declining at a rate of 0.5% per year (Ref. 39). It is possible that in the future the Proposed Development will also see a decline in waste growth.
- 5.5 This is also because the commercial status and the long-term population of the Proposed Development is unlikely to change significantly. Combining this with widespread initiatives such as the deposit return scheme (DRS), extended producer responsibility (as driven by policy in Our waste, our resources: A strategy for England) waste prevention, and reuse and recycling efforts from the Applicant, the long-term production of waste from the Proposed Development should reduce in-turn leading to decreased waste and recyclate materials collected from kerbside. Improvements in data security and storage with increasing reliance on information technology is also likely to lead to a reduction in paper usage in the long-term. These waste prevention and reuse measures have been included in the GLA's waste arisings modelling, which planned for a 5% reduction in commercial waste over the period of 2015/16 to 2031 (Ref. 40).
- 5.6 In addition to paragraphs 1.1 and 1.2 of this Strategy, recent changes and uncertainties (due to COVID-19) may see a change in waste and recyclate composition from households and businesses in the future. It is likely workforces will continue to work from home, adopting a paperless working culture resulting in less waste and recyclate materials arising from commercial premises. However, in addition to this an increase in household waste and recyclate materials may arise due to increased time spent at home.
- 5.7 It is therefore likely that the current waste production and storage requirements will represent a reasonable worst-case scenario and have therefore formed the basis for the calculation of the long-term waste management and storage provisions for the Proposed Development.

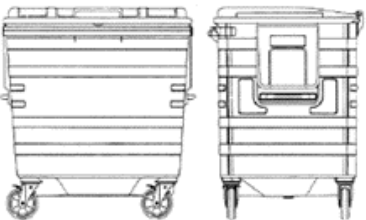
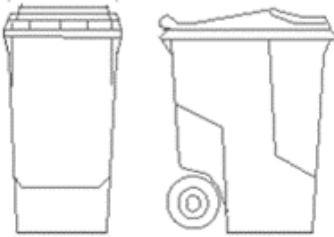

6. Operational Waste and Recycling Management Strategy

Storage Requirements

6.1 The storage requirements for waste / recycle material arisings from the operational phase of the Proposed Development is based on guidance provided by LBH in their document 'Recycling and Refuse Guidance, Guide for Architects and Planner submitting applications to Hounslow Council'. The standard bin types as required by LBH are shown within Table 8 of this Strategy.

- Usage of 1,100 L Euro Bins for Plastics;
- Usage of 1,100 L Euro Bins for Cardboard;
- Usage of 360 L Wheeled Bins for Paper;
- Usage of 360 L Wheeled Bins for Cans/Aerosols;
- Usage of 360 L Wheeled Bins for Glass;
- Usage of 240 L Wheeled Bins for Food;
- Usage of 1,100 L Wheeled Bins for Residual;
- Usage of 1,100 L Euro Bins for Commercial Mixed Dry Recyclate Waste;
- Usage of 240 L Wheeled Bins for Commercial Food Waste; and
- Usage of 1,100 L Euro Bins for Commercial Residual Waste.

Table 8. LBH Bin Dimensions including lid opening heights.

1,100 L	
	Capacity (L): 1,100
	Width (mm): 1,370*
	Height (mm): 1,410*
	Height with lid open (mm): 2,410*
	Depth (mm): 1,000*
360 L	
	Capacity (L): 360
	Width (mm): 620*
	Height (mm): 1095*
	Height with lid open (mm): 1,945*
	Depth (mm): 850*
240 L	
	Capacity (L): 240
	Width (mm): 575*
	Height (mm): 1055*
	Height with lid open (mm): 1,785*
	Depth (mm): 730*
*Please note, dimensions may vary between manufactures.	

6.2 The storage requirements for waste / recyclate material arising from the operational phase of the Proposed Development is based on guidance provided by LBH in their document 'Recycling and Refuse Guidance, Guide for Architects and Planners submitting applications to Hounslow Council'.

Residential Waste and Recycling Management and Storage Strategy

6.3 Temporary storage areas will be provided within the fourth floor of the Proposed Development. Localised bin stores will be located within each core (A, B1, B2, B3, C, D and E). Within each localised bin store, one bin per material stream will be held (as seen in Table 9 of this Strategy).

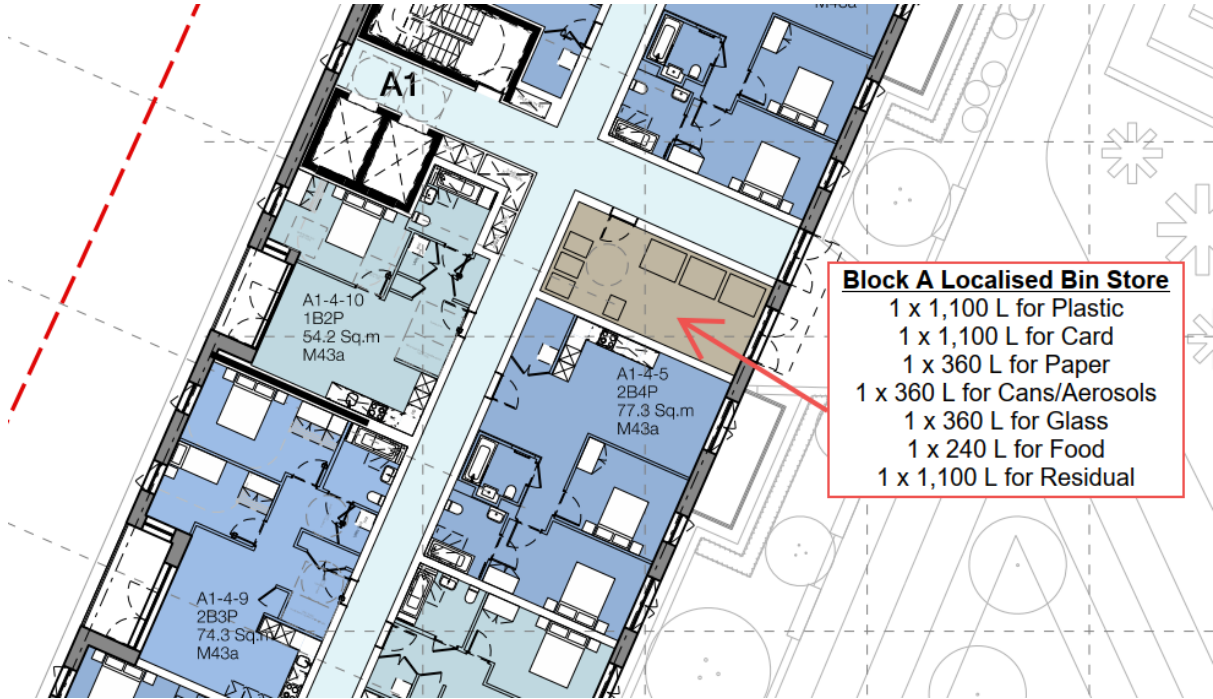
Table 9. Residential Bin Storage Requirements within Podium Level Localised Bin Stores per Core.

Block	Plastic	Cardboard	Paper	Cans/aerosols	Glass	Food	Residual
A (65 units)	1 x 1,100 L	1 x 1,100 L	1 x 360 L	1 x 360 L	1 x 360 L	1 x 240 L	1 x 1,100 L
B1 (102 units)	1 x 1,100 L	1 x 1,100 L	1 x 360 L	1 x 360 L	1 x 360 L	1 x 240 L	1 x 1,100 L
B2 (89 units)	1 x 1,100 L	1 x 1,100 L	1 x 360 L	1 x 360 L	1 x 360 L	1 x 240 L	1 x 1,100 L
B3 (75 units)	1 x 1,100 L	1 x 1,100 L	1 x 360 L	1 x 360 L	1 x 360 L	1 x 240 L	1 x 1,100 L
C (76 units)	1 x 1,100 L	1 x 1,100 L	1 x 360 L	1 x 360 L	1 x 360 L	1 x 240 L	1 x 1,100 L
D (34 units)	1 x 1,100 L	1 x 1,100 L	1 x 360 L	1 x 360 L	1 x 360 L	1 x 240 L	1 x 1,100 L
E (32 units)	1 x 1,100 L	1 x 1,100 L	1 x 360 L	1 x 360 L	1 x 360 L	1 x 240 L	1 x 1,100 L

It should be noted, Recyclate and Residual materials are currently collected on a weekly basis however, in the near future, Residual waste will be collected by LBH on a fortnightly basis. Bin storage requirements based on the weekly collection frequency of Residual waste are sufficient for the future fortnightly collection frequency as agreed by LBH.

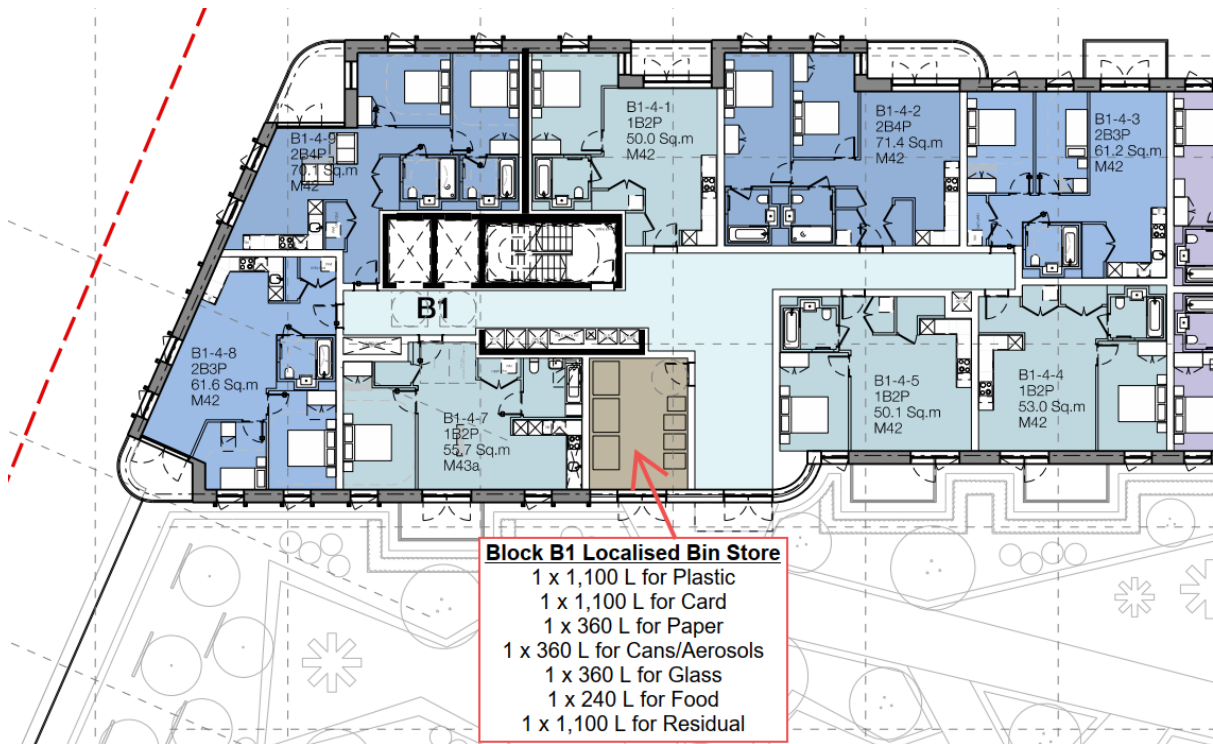
6.4 Residents will transport waste from their unit to the localised bin store via internal lifts. When residents arrive at the bin store they will dispose of/sort their waste / recyclate material into the following material; streams; Plastic, Cardboard, Paper, Cans/aerosols, Glass, Food and Residual. Localised bin stores will provide sufficient space to hold one bin of each material stream as shown in Figure 3 to Figure 9 of this Strategy.

Figure 3. Block A Podium Level Localised Bin Store



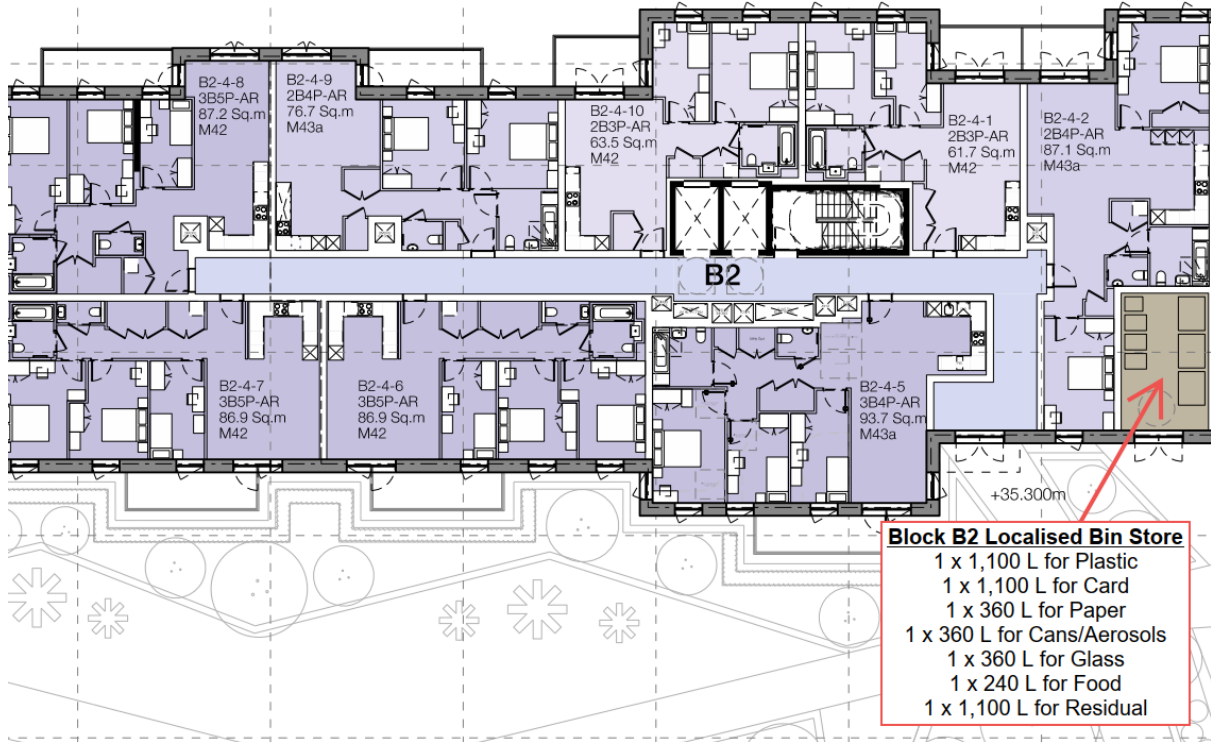
Please note, this figure is not drawn to scale.

Figure 4. Block B1 Podium Level Localised Bin Store



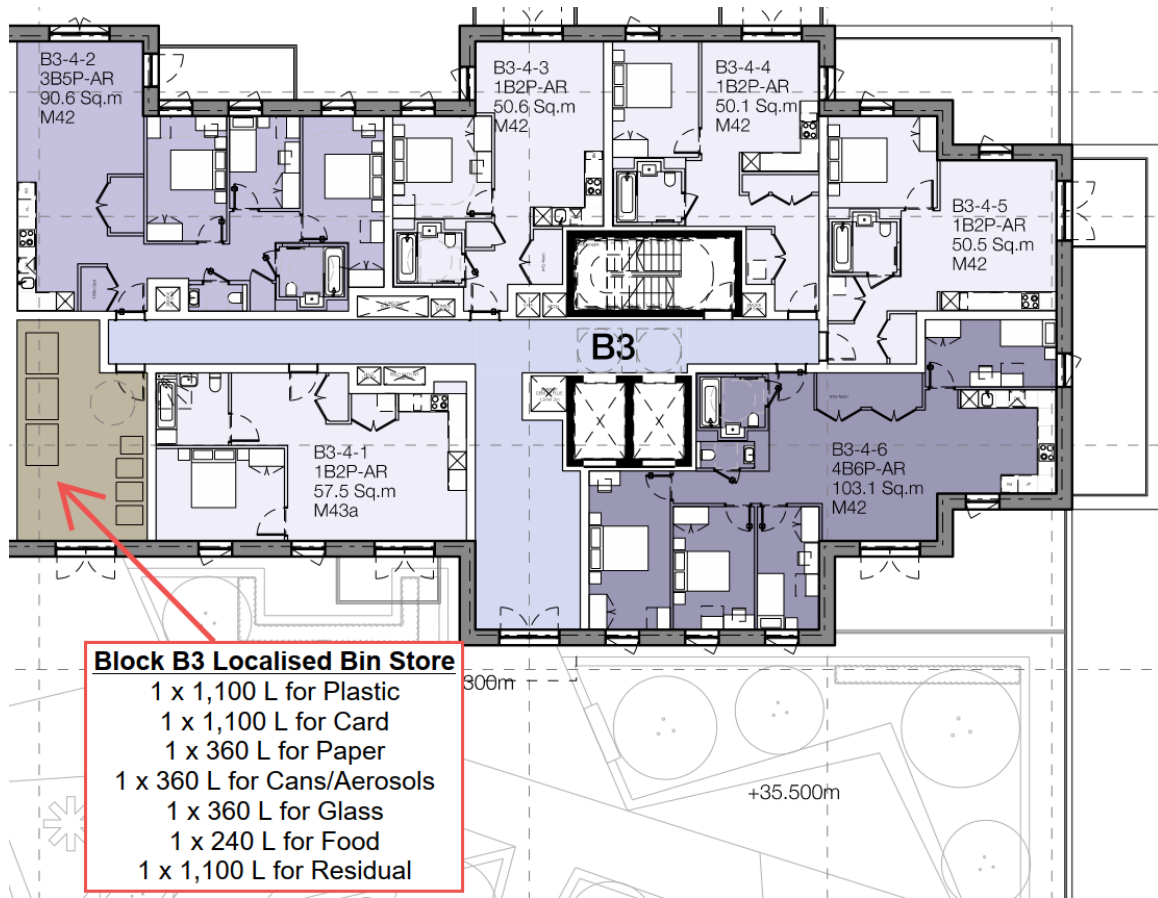
Please note, this figure is not drawn to scale.

Figure 5. Block B2 Podium Level Localised Bin Store



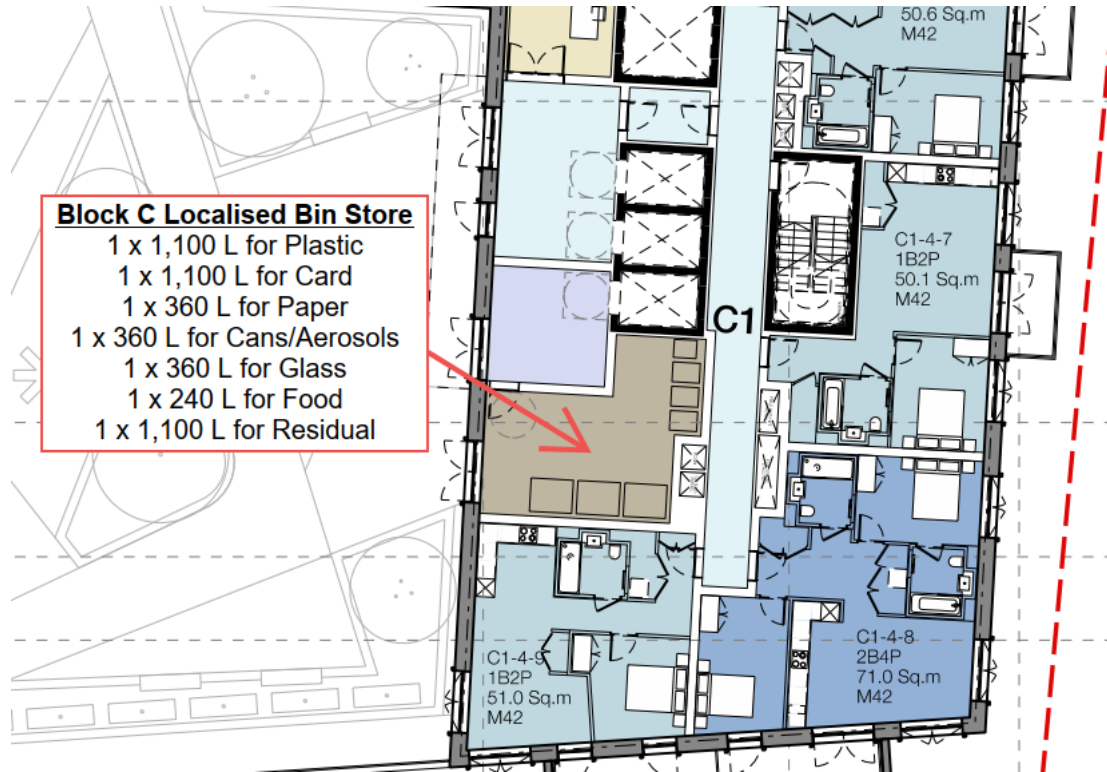
Please note, this figure is not drawn to scale.

Figure 6. Block B3 Podium Level Localised Bin Store



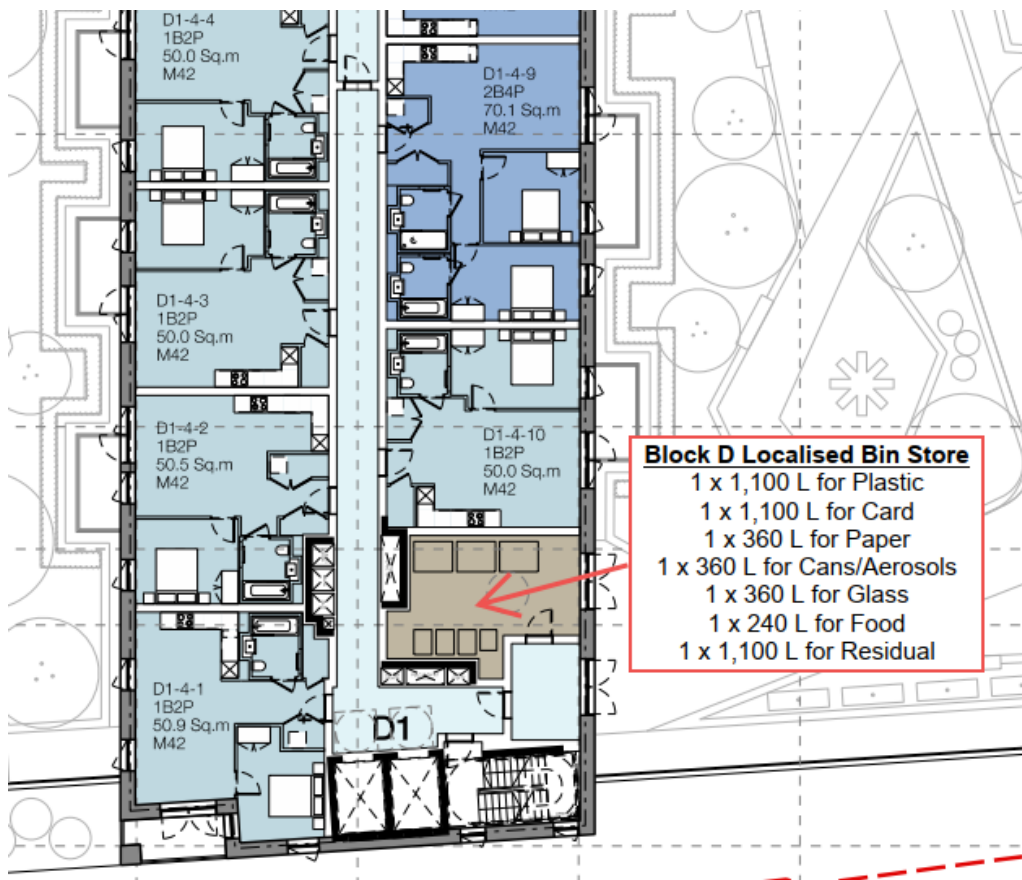
Please note, this figure is not drawn to scale.

Figure 7. Block C Podium Level Localised Bin Store



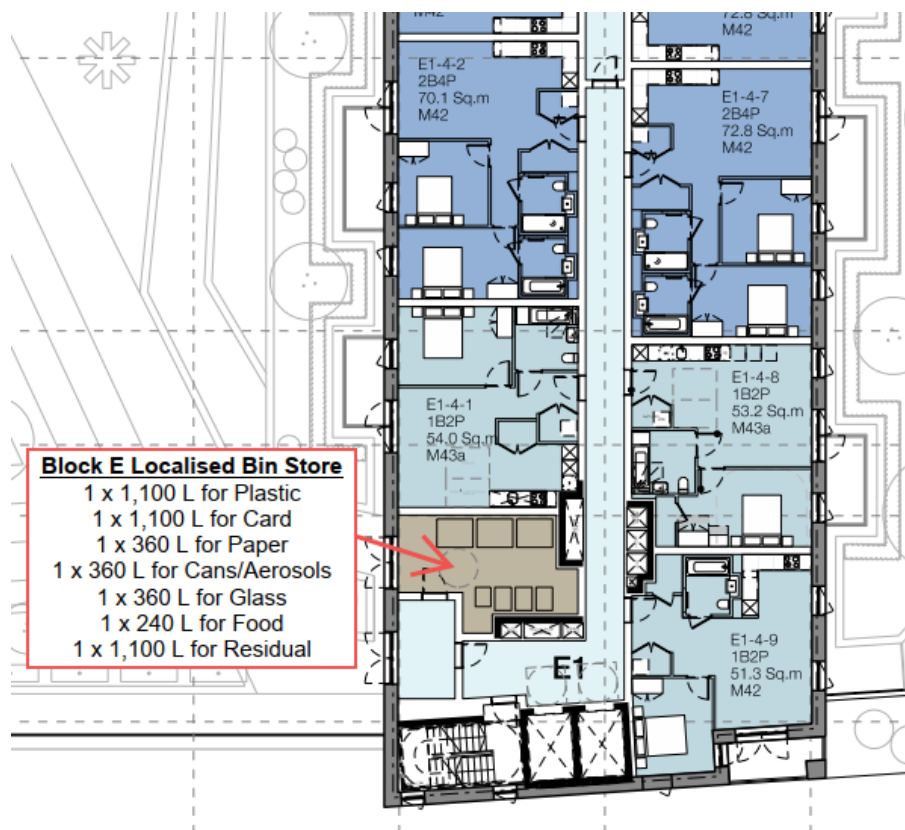
Please note, this figure is not drawn to scale.

Figure 8. Block D Podium Level Localised Bin Store



Please note, this figure is not drawn to scale.

Figure 9. Block E Podium Level Localised Bin Store



Please note, this figure is not drawn to scale.

6.5 Bins within the localised stores will be monitored daily, once bins within the localised stores are full, the internal management team will exchange these bins with empty containers dependant on the material stream via the use of tugs (similar to the examples provided in Figure 10 of this Strategy). The internal management team will then transfer the full bins to the main bin store located within the Lower Ground Floor via tugs through the use of service lifts. Vehicle/tug tracking is appended as Appendix C of this Strategy. Table 10 advises on the number of bins required within the main bin store based on weekly collection frequency for Recyclate and Residual materials.

Figure 10. Example of Towing tugs



These examples are provided for reference only.

6.6 The main bin store located on the Lower Ground Floor will have adequate storage space to house bins for the weekly collection of Plastic, Cardboard, Paper, Cans/aerosols, Glass, Food and Residual waste as provided in Table 10 of this Strategy. It should be noted, Recyclate and Residual materials are currently collected on a weekly basis however, in the near future, Residual waste will be collected by LBH on a fortnightly basis. Bin storage requirements based on the weekly collection frequency of Residual waste are sufficient for the future fortnightly collection frequency (agreed by LBH in Appendix A of this Strategy).

6.7 Figure 11 of this Strategy shows the layout of the main bin store. It should be noted, residents will not have access to this store, therefore bins have been stacked side-by-side to best utilise space within the store.

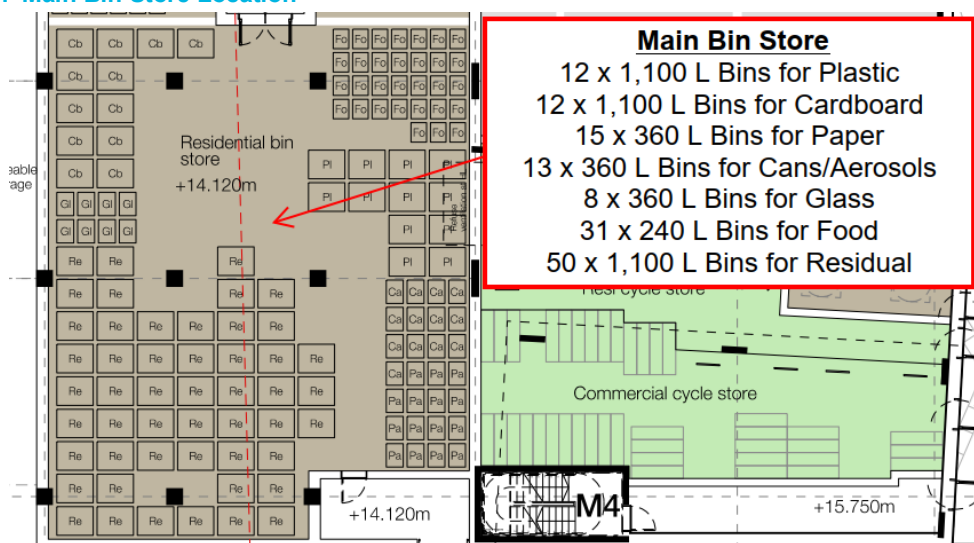
Table 10. Residential Storage Requirements within the Main Bin Store based on a Weekly Collection Frequency for Recyclate and Residual Materials.

Store	Plastic	Cardboard	Paper	Cans/aerosols	Glass	Food	Residual	Total
Main Bin Store	11 x 1,100 L	11 x 1,100 L	15 x 360 L	12 x 360 L	7 x 360 L	30 x 240 L	49 x 1,100 L	71 x 1,100 L 34 x 360 L 30 x 240 L

Please note, the calculations within this table have been based on the area schedule '579-PTA-MP-ZZ-SH-A-0001_ACCOMMODATION_STACK_P37' dated 28.08.2020.

It should also be noted, Recyclate and Residual materials are currently collected on a weekly basis however, in the near future, Residual waste will be collected by LBH on a fortnightly basis. Bin storage requirements based on the weekly collection frequency of Residual waste are sufficient for the future fortnightly collection frequency as agreed by LBH.

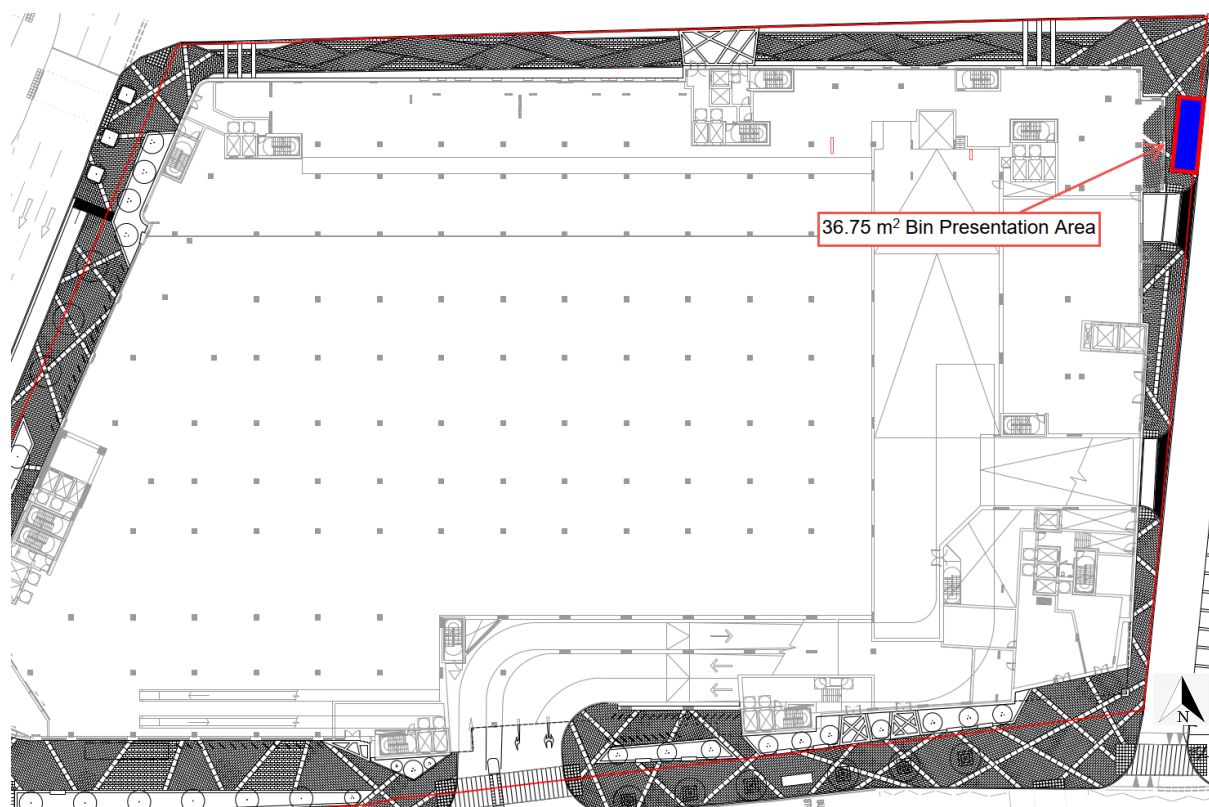
Figure 11. Main Bin Store Location



Please note, this figure is not drawn to scale.

- 6.8 Please note, the main bin store within the Proposed Development has an over provision of: 1 x 1,100 L bin for Plastic, 1 x 1,100 L bin for Cardboard, 1 x 360 L bin for Cans/Aerosols, 1 x 360 L bin for Glass, 1 x 240 L bin for Food and 1 x 1,100 L bins for Residual waste.
- 6.9 Prior to the time of collection (or as agreed), the internal management team will transfer the full bins via tugs for the appropriate material stream (i.e. Plastic, Carboard, Paper, Cans/aerosols, Glass, Food and Residual) scheduled to be collected on the day to the 36.75 m² presentation area located on the Lower Ground Floor (that has been designed to be located within 10m of the collection point). It is envisioned the internal management team will be on hand to rotate bins at the time of collection (if it is not possible for all bins of the specific waste and recyclate streams to be presented in the 36.75 m² area at once). From the presentation area, the collection operatives will transport the bins to the Refuse Collection Vehicle (RCV) for emptying purposes. Once these bins have been emptied, the collection operatives will return these bins to the presentation area from where the internal management team will transfer these bins back to the main bin store and localised stores as necessary.
- 6.10 Figure 12 of this Strategy demonstrates the designated presentation area for bins to be collected by the collection operatives. Please see Appendix C for the RCV Swept Path Analysis.

Figure 12. 36.75 m² Bin Presentation Area



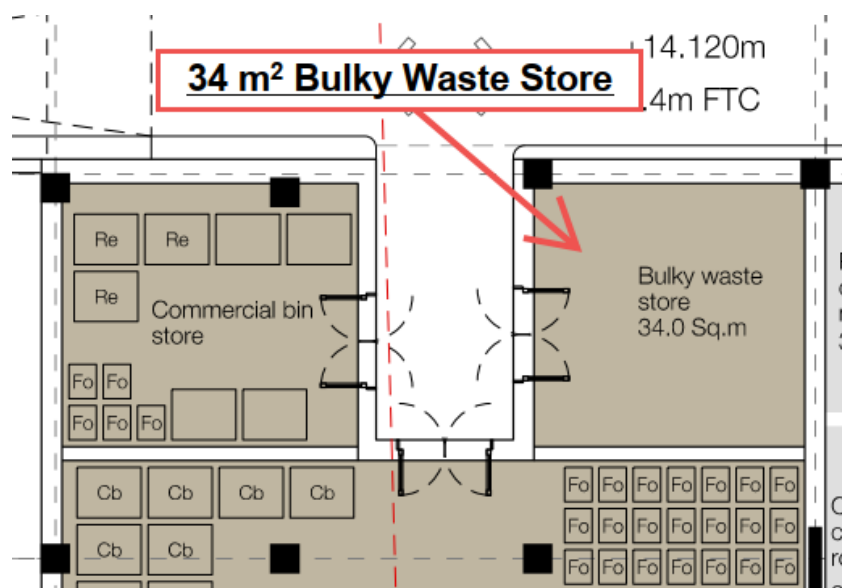
Please note, this figure is not drawn to scale.

- 6.11 Where bins are manoeuvred by the Proposed Development's internal management team, the route from bin stores to the designated presentation area will not exceed ramps of 1:12 (as in line with BS 5906:2005 requirements). It should be noted, all routes and areas of collection made by the council's external management team will not exceed slopes of 1:20, as in line with LBH guidance. The council's external management team will not at any point be required to move waste and recycle bins from the bin store to the designated presentation area, this will be the responsibility of the Proposed Development's internal management team only.

Bulky Waste

- 6.12 The Proposed Development will provide 34 m² to accommodate a Bulky waste store. This storage space will be located within the Lower Ground Floor of the Proposed Development, adjacent to the main bin store. The internal management team will collect bulky waste from individual residential units. Here, they will transfer the waste to the bulky waste store via refuse lifts. The internal management team will also ensure that bulky waste is frequently cleared. The location of the bulky waste store can be seen within Figure 13 of this Strategy.

Figure 13. 34 m² Bulky Waste Store Location



Please note, this figure is not drawn to scale.

Tesco foodstore Commercial Waste and Recycling Management Strategy

- 6.13 The waste and recycling management strategy for the replacement Tesco store and community space will comprise a series of tried and tested measures common to all Tesco stores. This begins with the separation of recyclable materials and includes specific management procedures employed by Tesco to ensure appropriate division of waste is adhered to.
- 6.14 Separation of recycle materials will take place within a designated 'Recycle Zone' which is a controllable disposal point for staff. Here, the waste will be segregated into the following streams:
- General Waste;
 - Animal by Product (ABP);
 - Food Waste;
 - Bakery Surplus;
 - Produce Surplus;
 - Card;
 - Plastic; and
 - Metal.
- 6.15 From the Applicants previous experience working with Tesco Stores, the approximate breakdown of waste and recycling for Tesco as a business overall, is as follows;
- Recycling (card, plastic, oil and metal): 69 %
 - Food waste: 10 %
 - Residual waste: 18 %
 - Surplus materials: 3 %
- 6.16 Segregated waste will be stored in wheeled cages in back of house areas for removal (or 'backhauling') by empty delivery HGV's. These will leave the store for transit via the Tesco distribution network for disposal at Recycling Service Units (RSU). It should be noted, empty HGV movements to the Tesco store will not interrupt the day to day operations or waste collection routes of the residential and commercial uses of the Proposed Development. Please see Appendix C of this Strategy for the Swept Path analysis of the Tesco servicing bay.

6.17 The procedure for managing each waste and recycle stream within the Tesco store is as follows:

- **General Waste:** segregated and placed in a lined cage, before being stored in a designated area prior to removal to the RSU for disposal.
- **ABP:** segregated and sealed in blue bags and placed in a lined cage. Cages are stored in the freezer prior to removal to the RSU for disposal.
- **Food Waste:** segregated and sealed in brown food waste bags and placed in a lined cage. Cages are stored in the 'Not for sale' area of the chiller prior to removal to the RSU. Food waste is used to create electricity using Anaerobic Digestion technology, with the final waste from this process used for compost.
- **Bakery Waste:** segregated and stored in pink bags and placed in cages. Cages are stored in designated areas of the warehouse prior to removal to the RSU, where it is converted to animal feed.
- **Card:** cardboard boxes are segregated, broken down and placed in cages. Cages are stored in a designated area of the warehouse prior to removal to the RSU, where it is recycled into new packaging materials.
- **Plastic:** segregated and placed in cages. Cages are stored in a designated area of the warehouse prior to removal to the RSU, where it is recycled.
- **Metal:** segregated and placed in cages. Cages are stored in a designated area of the warehouse prior to removal to the RSU, where it is recycled.

6.18 All waste and recycle materials arising from the Tesco foodstore and community area will be collected independently, separate from the residential and commercial areas of the Proposed Development. The Applicant is not responsible for costs of waste collection or disposal from the Tesco foodstore and community area as this will be the responsibility of the commercial occupier (Tesco).

Commercial Waste and Recycling Management Strategy (excluding Tesco foodstore)

6.19 Based on the methodology provided in Table 7 of this Strategy, the subsequent storage requirements (based on a weekly collection frequency) are provided in Table 11 of this Strategy. For the details on the weekly waste arisings from the commercial units, please see Appendix B of this Strategy.

Table 11. Commercial Weekly Waste Storage Requirements

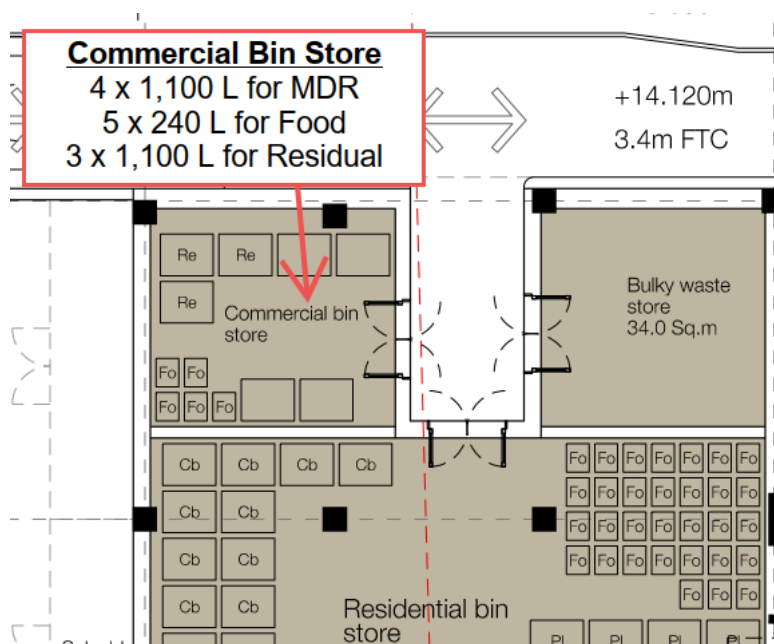
Land Use	NIA	Working Capacity	MDR	Food	Residual	Total
Commercial, business and service space (A3)	128 m ²	43 Covers	2 x 1,100 L	4 x 240 L	1 x 1,100 L	3 x 1,100 L 4 x 240 L
Resident Facilities (D2)	547 m ²	547 m ²	2 x 1,100 L	1 x 240 L	2 x 1,100 L	2 x 1,100 L 1 x 240 L
Combined Bin Store	-	-	4 x 1,100 L	5 x 240 L	3 x 1,100 L	7 x 1,100 L 5 x 240 L

This assessment was undertaken based on the old use classes which preceded the new class classifications which came into force on 1 September 2020. It is not considered the changes will affect the results of the assessment and the effects have been accurately reported. For the purposes of this Strategy, Commercial, business and service space is considered as A3 land use to provide worst case figures for waste arisings and bin storage requirements.

A 240 L bin for food waste is required for the Resident Facilities to cater for any food waste arisings from the shared kitchen area. It should be noted, bin composition for the Residential Facilities can be changed to suit the real waste and recycle arisings once the development is complete and operational.

- 6.20 A central bin store will be provided within the commercial building that would provide sufficient space to hold bins (bin numbers are provided in Table 11 of this Strategy) for all material streams (i.e. MDR, Food and Residual waste) based on a weekly collection frequency.
- 6.21 Daily (or as agreed), the commercial tenants will collect waste / recycle material from all commercial units (excluding Tesco) and dispose of this material into the bins store, into separate bins dependant on material stream (i.e. MDR, food and Residual waste). The commercial bin store will be free of any residential waste / recycle material as to comply with BS 5906:2005 requirements. Figure 14 of this Strategy provides details of the commercial bin store within the Lower Ground Floor.

Figure 14. Commercial Bin Store Location



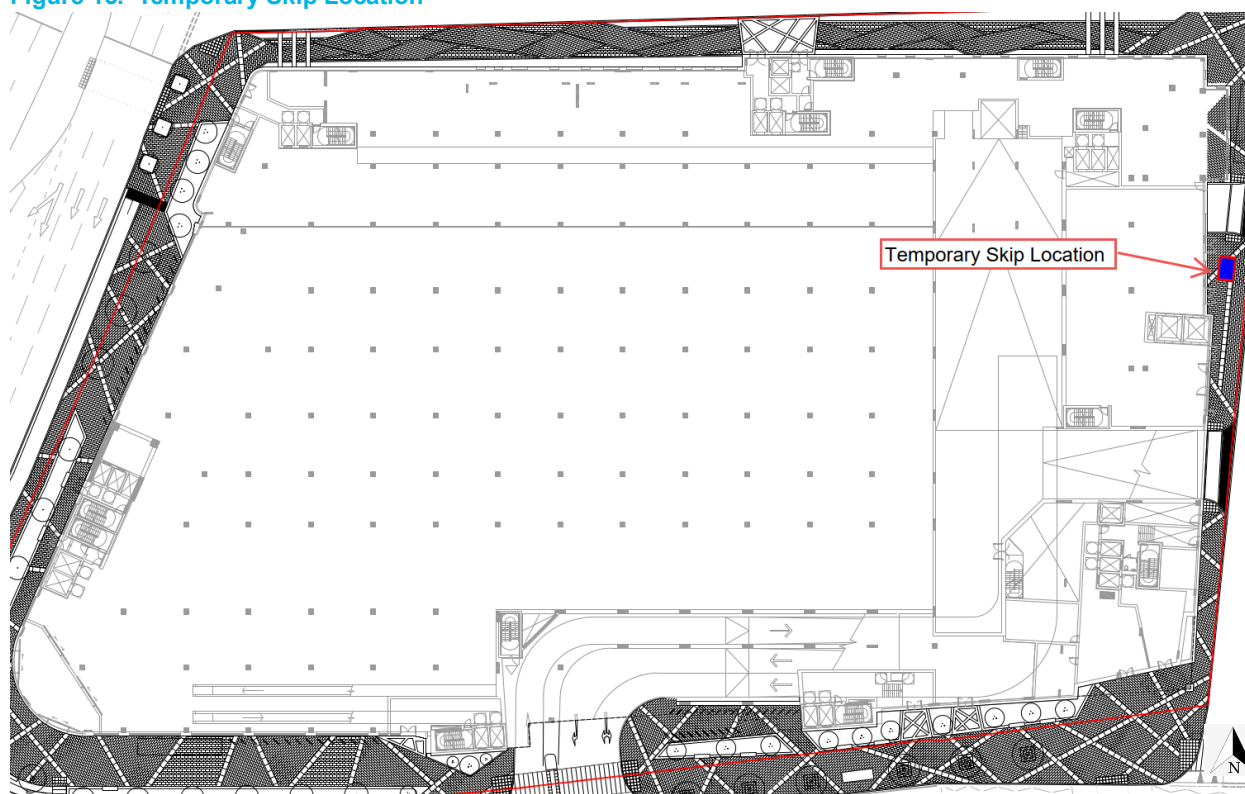
Please note, this figure is not drawn to scale.

- 6.22 At this stage, it is envisioned that a private contractor will be commissioned to undertake the collection of waste / recycle material arising from the commercial elements of the Proposed Development. Prior to the collection time (or as agreed), the internal management team will transfer full bins for the appropriate material stream (i.e. MDR, food and residual waste) scheduled to be collected on the day to the presentation area located on the Lower Ground Floor (that has been designed to be located within 10m of the collection point). From this area, the collection operatives will transport the bins to the RCV for emptying purposes. Once, these bins have been emptied, the collection operatives will return these bins to the presentation area from where the internal management team will return these bins to the central commercial bin store.

Maintenance and Fit Out

- 6.23 If there are any maintenance and fit-out activities to be carried out from the residential units of the Proposed Development, an area located adjacent to the loading bay will be used to locate a temporary skip. Please see Figure 15 of this Strategy for the location of the temporary skip. Please Appendix C of this Strategy for the Swept Path Analysis for the Skip Collection Vehicle.

Figure 15. Temporary Skip Location



Please note, this figure is not drawn to scale.

- 6.24 Commercial tenants that require the use of a skip to undertake any future maintenance and fit out activities will be advised to contact the local authority. A skip permit is not required if needed for occupation on private land, however, if a skip is to be placed on the public highway, a permit must be applied for. This permit is subject to approval from the council and a fee is payable for this permit.
- 6.25 Once a skip is in place, commercial tenants will make their own private arrangements for the delivery, management and collection of the skip.

Unique Waste

- 6.26 There is likely to be a small component of the overall waste arisings from the Proposed Development that will comprise other waste streams, such as waste electrical and electronic equipment (WEEE), printer and toner cartridges and fluorescent light tubes. Building maintenance will also give rise to materials such as paints and waste lubricating oils that will require separate storage in dedicated sealed containers.
- 6.27 This type of waste is termed “unique” as it will not be produced on a regular basis and therefore its management will be on special arrangement with a registered waste handler for the specific waste that is produced. The commercial bin store will provide space to store this type of waste along with other waste and separate arrangements will be made for the safe disposal of these waste streams, as covered by the Hazardous Waste (Amendment) Regulations 2016 and WEEE Regulations 2015. All waste management will have to comply with Environmental Protection Act 1990 and The Waste (England and Wales) (Amendment) Regulations 2014.
- 6.28 Management of similar waste arising from the residential units will be the responsibility of the residents, who can take this waste to the nearby Household Waste Recycling Centres.

7. Waste and Recycling Storage Provision

- 7.1 In accordance with BS EN 840 (Ref. 41), as set out in BS 5906:2005 (for all bin stores), all waste / recycling containers within the Proposed Development will be stored under cover in specially designed bin storage rooms. The walls and roofs of these stores will be formed of non-combustible, robust, secure and impervious material, and have a fire resistant of one hour when tested in accordance with BS 476-21 – Fire tests on building materials and structures: Part 21 (Ref. 42), whilst the door of the store will be made of steel, and will have a fire resistance of 30 minutes when tested in accordance with the BS 476-22 – Fire tests on building materials and structure: Part 22 (Ref. 43).
- 7.2 Further to these requirements, the Proposed Development will also comply with the guidance set out in LBH's, 2019 '*Recycling and Refuse Guidance, Guide for Architects and Planners submitting applications to Hounslow Council*', BS 5906:2005 and Part H6 of the Building Regulations (2010) (2015 Edition) (hereafter referred to as 'Part H6') as provided in the following sub-sections of this Strategy:

Location

- Facilities will not be placed so far from the point of entry that residents choose to place their waste / recycle material in a more convenient location.
- Storage area doors will not open over the public footway or road. Expectations will only be made where it would require structural and visual change that the council find unacceptable.
- Premises will have an off-street collection area at lower ground level.
- Waste / Recycling collection areas will be located at a point where the collection vehicle can safely stop for loading. The stopping point for the vehicle shall be safe, legal and designed to minimise any obstruction traffic.

Convenience

- Bin stores will be situated in readily accessible positions and shall not require householders to carry waste / recycle material more than 30m from the entrance of their residential Block (excluding any vertical distance from each dwelling).

Bulky Waste

- A separate area for bulky waste (i.e. fridges, mattresses) will be provided within the Proposed Development so that bulky waste does not block the bins. Bulky waste will be disposed using the chargeable council bulky waste services, or a private contractor.

Screening or covering

- Obscuring bin stores for aesthetic reasons is ideal.
- Bins will be kept off the public highway and screened.
- Enclosures shall be robust, well ventilated and attractively integrated with the building and screened for privacy and security.
- Internal built storage areas will conform to British Standard BS 5906-2005 – Waste management in buildings.
- Storage containers shall be inside or at least enclosed. Bins will not be outside however, if they are to be placed outdoors in the future, they will be secured in a compound.
- Bins shall be fitted with close fitting lids to prevent vermin access.

Signage

- Clear signage will be provided to make it easy for residents to differentiate which bins are for recycling. This should be done with suitable door or wall signs and, where appropriate, floor markings. This combats misuse of the recycling bins which cannot be tolerated.
- Signage will allow residents to identify with bin store is for their flats and locate the bin store if it is obscured from view.
- Commercial and Domestic mixed-use developments will have a separation of facilities, including appropriate signage.
- Residents shall be made aware of the fire risk from waste / recycle and bulky waste and or hazardous material storage. This should be done using applicable signage displaying the dangers of carelessly stored items.
- All roads will be clearly marked to prevent unauthorised parking which may disrupt waste management practises.

Bin store design

- The residential bin stores will be large enough for the bins to sit next to each other, not behind each other. Residents will not take responsibility for rotating bins.
- The height of the bin store shall be sufficient for all bin lids to be opened.
- The bin storage areas will be large enough to accommodate, and allow the safe storage of, the required number of bins for the size of the development.
- An allowance shall be made for any reasonable change to the collection service (i.e. introduction of new material streams).
- Residential and Commercial uses will have their own independent store for waste and recycling.

Accessibility

- Storage will be designed to be accessible for disabled and other public as set out by the Disability and Discrimination Act (DDA), as specified in BS 8300:2009 (Ref. 44) the design of buildings and their approaches to meeting the full range of needs of all people.
- Facilities will be readily accessible by both residents and the collection crews with adequate space.
- Bulky items blocking access to the bins will be removed privately.
- The entrance of the bin stores will be free from steps and projections.
- If the site has a gate key, fob or code, it will need to be supplied to provide access.
- Residual waste and recycling should be placed together for ease of use by residents. The full range of recycling will be available in each bin store.

Access Paths

- Facilities shall be designed so that bins can be pulled easily and safely to the vehicle for collection, including dropped kerbs where required. This will avoid slopes and narrow access.
- There is a 10 m maximum pull distance for four-wheeled bins (euro) and a 15m maximum for two-wheeled bins, from the bin store to the vehicle collection point.
- The ground surface will have a solid foundation, be smooth (i.e. no cobbled surfaces), and have minimum width of 2 m.
- Paths between the bin presentation area and collecting vehicles shall be free from kerbs or steps or inclines with a gradient more than 1:20 and be non-slip. The council's external management team will not be required at any time to move bins from the bin store to the presentation area.
- Buildings will have an off-street collection area at ground level, this will reduce environmental impacts of placing storage containers and or material for collection on pavements.

- For storage containers up to 240L steps will be avoided between the container store and the collection point, however if steps are unavoidable, they should not exceed three in number.

Vehicle Access

- A minimum street width of 5m for waste collection vehicles will be provided. However, Manual for Streets recognises that smaller general widths are likely to be acceptable, for example where on-street parking is discouraged.
- Loading bays will have headroom appropriate to the method of waste collection.
- Any part of the building through which a waste collection vehicle passes shall have a minimum clearance height of 4.5m.
- If vehicles are required to reverse, then the distance will not exceed 25m (only in exceptional circumstances).

7.3 Table 12 of this Strategy provides the dimension of the RCV's provided by LBH.

Table 12 LBH Standard Waste Collection Vehicle Dimension

Dimensions	
Minimum Vehicle Clearance Length	11 m
Height	3.6 m
Width	2.65 m
Weight (Tonnes)	26
Turning Circle (diameter)	23 m

- Commercial occupiers are likely to be less constrained in their choice of collection vehicles than residents. The size and type of vehicles used by different firms to collect a given commercial waste stream may vary widely, offering a greater potential to fit the collection vehicle to the public realm.

Collections

- The developer will contact the Principal Waste and Recycling Officer to commence collections and allow 4 weeks' notice.
- The management, storage and collection of recycling from commercial premises will be prioritised over residual waste.
- Provisions for commercial collections have been designed to minimise spillage of waste and recycle material.
- Buildings will have an off-street collection area at ground-level.

Materials and Finishing

- The walls and roofs of the of the all bin storage areas will be formed of non-combustible robust and secure materials with a smooth finish suitable of washing down. The door of the storage area will be made of steel.
- Where appropriate, a trapped gully and water supply will be provided to make cleaning easier.
- To allow Euro bins or similar wheeled bins to pass easily through the doors of the bin store without damaging the doors, or causing accidents to collection operatives, doors will have door retainers on them.

Safety and anti-social behaviour

- Unsightly bins can damage the visual amenity and contribute to increased levels of anti-social nuisance such as odour and litter. Therefore, bins will be planned carefully and shall be stored in a non-publicly accessible area.

- The doors will be capable from being opened from the inside as well as the outside for reasons of safety.

Locks

- A universal lock and key system can be used to secure bin stores. The standard Fire Brigade (FB) mortise lock and key would be the preferred option.
- If the site has a gate key, fob or code, it will need to be supplied to the council before collection services, to provide access.

Fire Safety

- Fire safety guidance states that all wheeled bins should be 6m or further from a building, unless the bins are in a purpose-built brick bin store which has a roof and fire doors. See BS 9999:2008 Code of practice for fire safety in the design, management and use of buildings including Disability Discrimination Act compliance (Ref. 45).
- The walls and roofs of all bin stores will be formed of non-combustible, robust, secure and impervious material, and have a fire resistance of one hour when tested in accordance with BS 476-21, whilst the door of the stores should be made of steel or have a fire resistance of 30min when tested in accordance with BS 476-22.
- Caged or screened bins shall be locked if in a public accessed area and have a lid and wheel locking mechanism.
- Consideration will be taken to align with a development of fire strategy and plans and review emergency access and egress routes.
- Storage containers and sacks shall not be left in entrances, atriums, gangways, shared communal areas or balconies.
- Any internal storage areas adjacent to a fire escape route will be fitted with fire doors, automatic fire detection and a sprinkler system and comply with the Regulatory Reform (Fire Safety) Order 2005 (Ref. 46).

Ventilation and Lighting

- Facilities will be readily accessible with adequate ventilation (if internal) and lighting.
- Where the area is to be enclosed in a roofed building, adequate ventilation shall be provided. Permanent ventilators will be provided giving a total ventilation area of not less than 0.2m².
- Passive ventilators will be fly and vermin proof and located near the ceiling and floor of the chamber as possible but away from windows and dwellings.
- Electrical lighting shall consist of sealed bulkhead fittings with houses related to IP65 in BS EN 60529: 1992 (Ref. 47) for the purposed of cleaning down with hoses and inevitable splashing.
- Luminaires will be low energy light fittings or low energy lamp bulbs, controlled by proximity detection or a time delay button to prevent lights being left on.

Maintenance

- Bins will be regularly cleaned and checked.
- Bin stores will have drainage to ensure that any liquid from commercial waste does not end up to the public highway.
- Storage facilities shall be kept clean, maintained and managed.
- Arrangements will be made for cleaning of the chamber with water. A hose union tap should be provided in agreement with the local water authority and the environment agency.
- The floor of the chamber will have suitable fall towards the drainage points. Gullies shall be positioned not to be in the track of container wheels and should incorporate a trap, which maintains a seal, even during prolonged periods of disuse.

7.4 In addition to the above requirements, the following points will also be adhered to:

- The ground where bins are stored will be level and will not have a gradient greater than 1:12 as required by BS5906:2005. Only the internal management team will be responsible for movement of bin within the Proposed Development. Areas between the bin presentation area and the RVC will not have a gradient greater than 1:20 as required by LBH Guidance.
- Residential and commercial waste and recycle material will not be stored within the same bin store and will have independent stores.

8. Further Consideration

Building Research Establishment Environmental Assessment Method

- 8.1 Building Research Establishment Environmental Assessment Method (BREEAM) provides assessment criteria for newly constructed developments, such as the Proposed Development, for a range of environmental factors, including waste and recycle. These assessment criteria are detailed within the BREEAM New Construction Non-Domestic Buildings Technical Manual (Ref. 48). With regards to waste and recycle generated during the operational phase of the Proposed Development, one credit is available for meeting requirements of Wst 03 Operational. A BREEAM excellent rating is being targeted for the shell of the Proposed Development, hence this credit will assist in meeting this target.
- 8.2 In order to meet the Wst 03 Operational, the following criteria must be complied with:
- Provision of dedicated storage space to cater for the segregation and storage of operational MDR and waste volumes generated by the Proposed Development, its occupants and activities;
 - The dedicated space must be:
 - Clearly labelled, to assist with segregation, storage and collection of the MDR and waste streams;
 - Accessible to occupants/facilities operators (i.e. management teams) for the deposit of materials and collections by waste management contractors; and
 - Of a capacity appropriate to the building type, size, number of units (if relevant) and predicted volume of waste that will arise from daily/weekly operational activities and occupancy rates.
- 8.3 It is understood that providing the storage requirements discussed within this Strategy are adhered to, it is considered that the Proposed Development will meet the Wst 03 Operational criteria.

9. Summary

- 9.1 In keeping with national, regional (WLWA), and local (LBH) policy, this Strategy demonstrates how the Proposed Development will promote sustainable waste management methods for waste and recycling. The Strategy displays the prospective space requirements for weekly recycling and waste management for both the residential and commercial units and explores the segregation of Card, Plastics, Cans/Aerosols, Paper, Glass, Food and Residual waste streams (for residential) and mixed dry recyclables, food, and residual waste (for commercial units). It be noted, Recyclate and Residual materials are currently collected on a weekly basis however, in the near future, Residual waste will be collected by LBH on a fortnightly basis. Bin storage requirements based on the weekly collection frequency of Residual waste are sufficient for the future fortnightly collection frequency as agreed by LBH.
- 9.2 Having a successful waste and recycling management Strategy is key in helping the Proposed Development reach LBH's objectives as those demonstrated in LBH's Local Plan (2015). This Strategy helps the Proposed Development reach local objectives by following the sustainability hierarchy, to increase and encourage recycling and reuse of waste materials before disposal. The Strategy also highlights the sustainable arrangements of waste management including appropriate bin store locations, sizes, waste facilities, alongside the transportation and collection of waste and recycling materials from the Proposed Development.
- 9.3 Alongside striving towards local policy objectives, a successful Strategy can help achieve wider district goals such as reaching recycling targets (65% of municipal waste) alongside providing adequate, flexible, and easily accessible bin stores to support recyclables and food waste as set by the Intend to Publish London Plan – Spatial Development for the Greater London, 2019. It should be noted, bin storage requirements within the Proposed Development currently holds the capacity to facilitate 44 % recycling rates on a weekly basis (42,872 L of recyclate residential material per week), once residual waste is collected on a fortnightly basis from the Proposed Development, this percentage is expected to increase. Allocations for waste and recyclate materials within the Strategy have been based on the council's requirements to provide a compliant approach for planning. With aspirations to continually increase recycling rates to achieve the Intend to Publish London Plan recycling targets, bin composition will be monitored and reallocated as recycling trends change.
- 9.1 This Strategy has reviewed policy alongside best practise to provide guidance and recommendations for a sustainable waste and recyclate management strategy for both the residential and commercial elements of the Proposed Development, helping achieve the BREEAM Wst 03; Operational Waste Credit. The Strategy has taken into consideration logistical challenges within the Proposed Development such as space constraints within the ground floor to recommend an internally managed waste and recyclate strategy. This Strategy has located 'localised' bin stores within each residential block of the Proposed Development to allow convenient disposal of Card, Plastics, Cans/Aerosols, Paper, Glass, Food and Residual waste for residents which will then be transferred by the internal management team to the combined bin store, located at lower ground floor level. The Strategy has also demonstrated the locations of accessible and conveniently located bin stores for both residential and commercial uses, alongside introducing technologies such as tugs to help with the safe transportation of waste and recyclate materials around the Proposed Development where necessary.

10. References

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- Ref. 48 Building Research Establishment Environment Assessment Method (BREEAM), (2011); BREEAM New Construction Non-Domestic Buildings Technical Manual.

Appendix A

Communication with LBH Council

Ansell, Yasmin

From: Pezhman Goudarzi <Pezhman.Goudarzi@hounslow.gov.uk>
Sent: 24 September 2019 12:37
To: Ansell, Yasmin
Cc: Lees, Katherine; Maskrey, Rebecca
Subject: RE: Guidance for new developments refuse/recycling

Hi Yasmin,

Yes that's correct. Only refuse will be collected fortnightly and recycling will be collected weekly.

Kind Regards,

Pezhman Goudarzi
Contract Monitoring Field Officer
2nd Floor, Hounslow House
Customer Relations, Environment and Culture
London Borough of Hounslow
Office: 0208 583 3188

www.hounslow.gov.uk



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If you have a question about the new services, please use this link: [Household recycling and waste collections | London Borough of Hounslow](#)

If you need to report a missed collection you can do this using this link: [Report a missed bin | London Borough of Hounslow](#)

Please note that a missed bin cannot be reported until after we have confirmed that we have completed collections in your street, and must be reported within one working day of the day the collection was due.

Use this link to find your collection day: [Recycling and waste collection day finder | London Borough of Hounslow](#)

If you need to request a new or replacement recycling box you can do this using this link: [Order an additional or replacement container | London Borough of Hounslow](#)

If you are requesting a replacement garden waste bin or sack please email recycling@hounslow.gov.uk



From: Ansell, Yasmin <yasmin.ansell@aecom.com>
 Sent: 24 September 2019 12:36
 To: Pezhman Goudarzi <Pezhman.Goudarzi@hounslow.gov.uk>
 Cc: Lees, Katherine <katherine.lees@aecom.com>; Maskrey, Rebecca <rebecca.maskrey@aecom.com>
 Subject: RE: Guidance for new developments refuse/recycling

Hi Pezhman

Thank you for your help.

Can I please confirm that the fortnightly collection is just for residual waste?

Also, within the example, should :

$$\text{Total Cardboard Capacity (L)} = (30L \text{ per dwelling} + 70L \text{ per bedroom}) \times 60\% \times 30\%$$

Instead read:

$$\text{Total Cardboard Capacity (L)} = (30L \text{ per dwelling} + 70L \text{ per bedroom}) \times 60\% \times 33\%$$

As 33% is the material type split for cardboard?

Many thanks,

Yasmin Ansell
 Graduate Waste Management Consultant
 Environmental Liability Solutions

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From: Pezhman Goudarzi <Pezhman.Goudarzi@hounslow.gov.uk>
Sent: 24 September 2019 12:19
To: Ansell, Yasmin <yasmin.ansell@aecom.com>
Cc: Lees, Katherine <katherine.lees@aecom.com>; Maskrey, Rebecca <rebecca.maskrey@aecom.com>
Subject: RE: Guidance for new developments refuse/recycling

Hi Yasmin,

I have reviewed previous calculation for total capacity of waste and recycling required. Please use below methodology to calculate total capacity required for both refuse and recycling. Below calculation is based on fortnightly waste collection.

$$\begin{aligned} \text{Total Residual Capacity (L)} &= (30L \text{ per dwelling} + 70L \text{ per bedroom}) \times 75\% \\ \text{Total Recycling Capacity (L)} &= (30L \text{ per dwelling} + 70L \text{ per bedroom}) \times 60\% \end{aligned}$$

Based on average volumes produced we recommend the following split by material type;

Cardboard 33%, Plastic 33%, Paper 15%, Can/Aerosol 12%, Glass 7%, Food 10%.

Example:

$$\begin{aligned} \text{Total Cardboard Capacity (L)} \\ &= (30L \text{ per dwelling} + 70L \text{ per bedroom}) \times 60\% \times 30\% \end{aligned}$$

Kind Regards,

Pezhman Goudarzi
Contract Monitoring Field Officer
2nd Floor, Hounslow House
Customer Relations, Environment and Culture
London Borough of Hounslow
Office: 0208 583 3188

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If you need to request a new or replacement recycling box you can do this using this link: [Order an additional or replacement container | London Borough of Hounslow](#)

If you are requesting a replacement garden waste bin or sack please email recycling@hounslow.gov.uk



From: Ansell, Yasmin <yasmin.ansell@aecom.com>
Sent: 24 September 2019 10:24
To: Pezhman Goudarzi <Pezhman.Goudarzi@hounslow.gov.uk>
Cc: Lees, Katherine <katherine.lees@aecom.com>; Maskrey, Rebecca <rebecca.maskrey@aecom.com>
Subject: RE: Guidance for new developments refuse/recycling

Hi Pezhman,

We are looking to understand the methodology behind the waste calculations e.g. waste arisings per bedroom or per unit, so we can apply this to our development.

Could you possibly provide a break-down of the calculation methodology per bedroom, per waste stream, so we can supply the architects with the correct waste arisings (the proposed development will contain 515 units with an average of 2 bedrooms per unit)

Many thanks

Yasmin Ansell
Graduate Waste Management Consultant
Environmental Liability Solutions

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From: Pezhman Goudarzi <Pezhman.Goudarzi@hounslow.gov.uk>
 Sent: 24 September 2019 10:05
 To: Ansell, Yasmin <yasmin.ansell@aecom.com>
 Cc: Lees, Katherine <katherine.lees@aecom.com>; Maskrey, Rebecca <rebecca.maskrey@aecom.com>
 Subject: RE: Guidance for new developments refuse/recycling

Dear Yasmin,

I have previously provided you with our calculation for total number of containers required for 200 bedrooms development. Could you please confirm if this is what you looking for?

Below calculation is based on 50% recycling rate for 200 Bedrooms development:

	Refuse	Cardboard	Plastic	Paper	Cans	Glass	Food
Capacity	14000 L	3300 L	3300 L	1100 L	1100 L	1100 L	500 L
Total number of containers	11 x 1100 L	3 x 1100 L	3 x 1100 L	3 x 360 L	3 x 360 L	3 x 360 L	2 x 240 L

Capacity (l)	1100	360	240
Width (mm)	1265*	620	575
Height (mm)	1410	1095	1055
Depth (mm)	1000	850	730
Max Load (kg)	440	136	96

Kind Regards,

Pezhman Goudarzi
 Contract Monitoring Field Officer
 2nd Floor, Hounslow House
 Customer Relations, Environment and Culture
 London Borough of Hounslow

Office: 0208 583 3188

www.hounslow.gov.uk

Hounslow recycles

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If you have a question about the new services, please use this link: [Household recycling and waste collections | London Borough of Hounslow](#)

If you need to report a missed collection you can do this using this link: [Report a missed bin | London Borough of Hounslow](#)

Please note that a missed bin cannot be reported until after we have confirmed that we have completed collections in your street, and must be reported within one working day of the day the collection was due.

Use this link to find your collection day: [Recycling and waste collection day finder | London Borough of Hounslow](#)

If you need to request a new or replacement recycling box you can do this using this link: [Order an additional or replacement container | London Borough of Hounslow](#)

If you are requesting a replacement garden waste bin or sack please email recycling@hounslow.gov.uk



From: Ansell, Yasmin <yasmin.ansell@aecom.com>

Sent: 24 September 2019 09:38

To: Pezhman Goudarzi <Pezhman.Goudarzi@hounslow.gov.uk>

Cc: Lees, Katherine <katherine.lees@aecom.com>; Maskrey, Rebecca <rebecca.maskrey@aecom.com>

Subject: FW: Guidance for new developments refuse/recycling

Good morning Pezhman

Thank you for all of your previous correspondence.

Sorry to chase, but would it be possible to get a response to the below email?

We are currently under a tight deadline to provide a waste strategy detailing waste arisings for the proposed development. The architects require the strategy from us as soon as possible.

Thank you in advance for your help, I look forward to hearing from you soon.

Kind regards,

Yasmin Ansell

Graduate Waste Management Consultant
Environmental Liability Solutions

M +44-(0)-7827-414464

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www.aecom.com

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From: Ansell, Yasmin

Sent: 18 September 2019 17:39

To: Pezhman Goudarzi <Pezhman.Goudarzi@hounslow.gov.uk>

Cc: Bin Afan, Nafey <NafeyBin.Afan@aecom.com>; Lees, Katherine <katherine.lees@aecom.com>; Maskrey, Rebecca <rebecca.maskrey@aecom.com>

Subject: RE: Guidance for new developments refuse/recycling

Hi Pezhman,

Thank you for answering our questions on compaction waste and collection frequencies.

We understand you are updating the planning guidance document. Would it be possible for you to send over the updated calculations to us before this document is sent over? This would allow us to understand the methodology behind the waste arisings you provided within your previous email.

Kind Regards,

Yasmin Ansell

Graduate Waste Management Consultant
Environmental Liability Solutions

M +44-(0)-7827-414464

Yasmin.ansell@aecom.com

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From: Pezhman Goudarzi <Pezhman.Goudarzi@hounslow.gov.uk>
Sent: 17 September 2019 10:32
To: Maskrey, Rebecca <rebecca.maskrey@aecom.com>; Lees, Katherine <katherine.lees@aecom.com>
Cc: Ansell, Yasmin <yasmin.ansell@aecom.com>; Bin Afan, Nafey <NafeyBin.Afan@aecom.com>
Subject: RE: Guidance for new developments refuse/recycling

Dear Kat,

The planning guideline was passed over to myself by previous member of staff and I have just went through the calculation for number of containers required, and there seems to be a misunderstanding on the document. I will update the document this week and send you an updated copy.

I have provided you with my calculation based on the fact that refuse will soon be collected fortnightly with 50% ratio of recycling. No further containers are required to be provided for residents, as below calculation would be sufficient for 100 dwellings with all 2 bed units. (200 Bedrooms)

- Compaction Unit – we do not collect compacted waste or recycling
Understanding the council themselves do not collect compacted waste. It is assumed that should a private contractor be commissioned to collect refuse and recycle material from the commercial elements of the development then compaction of waste would be acceptable.
It is unlikely that the client would want to commission a private waste contractor for the collection of residential refuse and recycle material as this is a free service offered by the Local Authority, however if they choose to do so would this then like the commercial elements open up the option to compact residential refuse and recycle?

As a local Authority, we do not collect compacted waste and recycling, however client may choose to use alternative private contractor, where they provide compacted waste and recycling collection.

- Collection Frequencies – Both refuse and recycling are currently being collected on weekly basis, however refuse will be soon changed to fortnightly collection. all containers will be collected by 4 different crew. (Refuse, Cardboard, Plastic and (Glass, Cans & Paper))
We assume, (inline with your 110% buffer arisings) and alike other councils you have already taken fortnightly collections into consideration when providing waste arisings calculations to AECOM, as these calculations were provided after July 2019 (the date of the recycling and refuse guidance document) . We would assume we would not need to recalculate additional waste arisings for when the new collection frequency comes into place especially given the 110% buffer - can you please confirm this?

As you have stated food waste is to be calculated as a waste stream, would you require this to be collected in 240L bins? I realise there isn't any container requirements for this waste stream for communal waste facilities.

The total number of containers calculated below is in line with fortnightly refuse collection, and no additional containers will be required.

Food waste project is something we are currently working on as by end of 2022 all properties are obliged to have food waste collection facilities for all residents, the food waste units (240 L) will be installed either inside the bin store or ideally outside with easy access for all residents covered with a metal frame.

	Refuse	Cardboard	Plastic	Paper	Cans	Glass	Food
Capacity	14000 L	3300 L	3300 L	1100 L	1100 L	1100 L	500 L
Total number of containers	11 x 1100 L	3 x 1100 L	3 x 1100 L	3 x 360 L	3 x 360 L	3 x 360 L	2 x 240 L

* Paper, Cans and Glass containers can only be provided in 240 L and 360 L sizes

Kind Regards,

Pezhman Goudarzi
Contract Monitoring Field Officer
2nd Floor, Hounslow House
Customer Relations, Environment and Culture
London Borough of Hounslow
Office: 0208 583 3188

www.hounslow.gov.uk



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Please note that a missed bin cannot be reported until after we have confirmed that we have completed collections in your street, and must be reported within one working day of the day the collection was due.

Use this link to find your collection day: [Recycling and waste collection day finder | London Borough of Hounslow](#)

If you need to request a new or replacement recycling box you can do this using this link: [Order an additional or replacement container | London Borough of Hounslow](#)

If you are requesting a replacement garden waste bin or sack please email recycling@hounslow.gov.uk



From: Maskrey, Rebecca <rebecca.maskrey@aecom.com>

Sent: 16 September 2019 16:28

To: Lees, Katherine <katherine.lees@aecom.com>; Pezhman Goudarzi <Pezhman.Goudarzi@hounslow.gov.uk>

Cc: Ansell, Yasmin <yasmin.ansell@aecom.com>; Bin Afan, Nafey <NafeyBin.Afan@aecom.com>

Subject: RE: Guidance for new developments refuse/recycling

Importance: High

Hi Pezhman

Apologies to chase, please could I kindly get a response to the below?

We are under a deadline to get a waste strategy detailing estimated waste arisings for the development over to the architects for as soon as possible, your assistance here would be greatly appreciated.

Many thanks

Rebecca Maskrey GCIWM

Waste Management Consultant, Waste, Materials & Resources Management
Environmental Liability Solutions

M +44-(0)-774723-6827

Rebecca.maskrey@aecom.com

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aecom.com

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From: Lees, Katherine <katherine.lees@aecom.com>
 Sent: 10 September 2019 19:06
 To: Pezhman Goudarzi <Pezhman.Goudarzi@hounslow.gov.uk>
 Cc: Ansell, Yasmin <yasmin.ansell@aecom.com>; Maskrey, Rebecca <rebecca.maskrey@aecom.com>; Bin Afan, Nafey <NafeyBin.Afan@aecom.com>
 Subject: RE: Guidance for new developments refuse/recycling

Good afternoon Pezhman,

Thank you for your response and for sending over the Recycling and Refuse Guidance dated July 2019.

In regards to waste calculations, could you please confirm the below method and results are accurate to your methodology provided

(Calculations below are based on an example 100 unit development all with 2 bed apartments)

Waste arisings for the building per week: $70L * 2 + 30L = 170L$ per unit
 $170 * 100 \text{ units} = 17,000L$ for the developments weekly waste arisings.

	Refuse	Cardboard	Plastic	Paper	Cans	Glass	Food
Method	$17,000 * 0.5 = 8,500L$	$17,000 * 0.6 * 0.30 = 3,060L$	$17,000 * 0.6 * 0.33 = 3,366L$	$17,000 * 0.6 * 0.15 = 1,530L$	$17,000 * 0.6 * 0.12 = 1,224L$	$17,000 * 0.6 * 0.07 = 71.4L$	$17,000 * 0.6 * 0.07 = 71.4L$
Arisings per week	8,500L	3,060L	3,366L	1,530L	1,224L	71.4L	71.4L
Bin Numbers	8 x 1,100L Bins	3 x 1,100L Bins	3 x 1,100L Bins	1 x 1,280L Bin	1 x 1,280L Bin	1 x 240L Bin	4 x 240L Bins

- Rounding-Up has been applied where >0.3 is seen

On the premise of your previous email, please find our concerns/queries displayed in the green text below.

- Compaction Unit – we do not collect compacted waste or recycling
 Understanding the council themselves do not collect compacted waste. It is assumed that should a private contractor be commissioned to collect refuse and recycle material from the commercial elements of the development then compaction of waste would be acceptable.
 It is unlikely that the client would want to commission a private waste contractor for the collection of residential refuse and recycle material as this is a free service offered by the Local Authority, however if they choose to do so would this then like the commercial elements open up the option to compact residential refuse and recycle?
- Collection Frequencies – Both refuse and recycling are currently being collected on weekly basis, however refuse will be soon changed to fortnightly collection. all containers will be collected by 4 different crew. (Refuse, Cardboard, Plastic and (Glass, Cans & Paper))
 We assume, (inline with your 110% buffer arisings) and alike other councils you have already taken fortnightly collections into consideration when providing waste arisings calculations to AECOM, as these calculations were provided after July 2019 (the date of the recycling and refuse guidance document) . We would assume we would not need to recalculate additional waste arisings for when the new collection frequency comes into place especially given the 110% buffer - can you please confirm this?

As you have stated food waste is to be calculated as a waste stream, would you require this to be collected in 240L bins? I realise there isn't any container requirements for this waste stream for communal waste facilities.

In regards to alternative waste management measures, we were hoping to understand what the councils stance is on the use of underground waste storage pods.

Thank you in advance for your help. I look forward to hearing from you soon.

Kind regards

Kat Lees, BSc (Hons), MA, MCIWM, CRWM, CEnv
Associate Director, Waste, Materials & Resources Management
Environmental Liability Solutions
Chartered Environmental and Waste Management Consultant

M +44-(0)-7887-541293
Katherine.Lees@aecom.com

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FORTUNE
WORLD'S MOST
ADMIRED
COMPANIES 2018



From: Pezhman Goudarzi [<mailto:Pezhman.Goudarzi@hounslow.gov.uk>]

Sent: 10 September 2019 11:06

To: Lees, Katherine <katherine.lees@aecom.com>

Cc: Ansell, Yasmin <yasmin.ansell@aecom.com>; Maskrey, Rebecca <rebecca.maskrey@aecom.com>; Bin Afan, Nafey <NafeyBin.Afan@aecom.com>

Subject: RE: Guidance for new developments refuse/recycling

Importance: High

Dear Ms Lees,

I am writing in regards to your recent enquiry for refuse and recycling strategies for large developments. I have attached our latest planning guideline which may answer all your questions for waste and recycling criteria's.

- Chutes – As long as there are separate chutes for all 5 recycling materials and general waste, we are ok with developers providing chutes, however we have previously had issues with chutes getting regularly blocked when residents have disposed bulky items or large dry recycling through.
- Tugs – our crew do not have any with them during collection however the care taker may use these to pull the bins out from the basement and have them presented ready for collection on collection day.(please note, we do not collect from basements)
- Compaction Unit – we do not collect compacted waste or recycling
- Collection Frequencies – Both refuse and recycling are currently being collected on weekly basis, however refuse will be soon changed to fortnightly collection. all containers will be collected by 4 different crew. (Refuse, Cardboard, Plastic and (Glass, Cans & Paper))
- Bulky waste collection can be arranged by residents through their council tax records. It would be ideal to allocate a collection point for bulky waste collection on ground floor, easily accessible for all residents.

If you require further assistance, please do not hesitate to contact myself directly.

Kind Regards,

Pezhman Goudarzi
 Contract Monitoring Field Officer
 2nd Floor, Hounslow House
 Customer Relations, Environment and Culture
 London Borough of Hounslow
 Office: 0208 583 3188

www.hounslow.gov.uk



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If you need to request a new or replacement recycling box you can do this using this link: [Order an additional or replacement container | London Borough of Hounslow](#)

If you are requesting a replacement garden waste bin or sack please email recycling@hounslow.gov.uk



From: Lees, Katherine [<mailto:katherine.lees@aecom.com>]

Sent: 02 September 2019 13:01

To: Aneta Szkodlarska <Aneta.Szkodlarska@hounslow.gov.uk>; Anna Humphries <Anna.Humphries@hounslow.gov.uk>

Cc: Ansell, Yasmin <yasmin.ansell@aecom.com>; Maskrey, Rebecca <rebecca.maskrey@aecom.com>; Bin Afan, Nafey <NafeyBin.Afan@aecom.com>

Subject: RE: Guidance for new developments refuse/recycling

That's Great

Thank you so much.

I have noticed that you do not have a separate requirement for food waste. With the changes expected within in policy off the back of the Waste and Resource Strategy we are expecting that it will become mandatory for food waste to be collected separately.

At this stage of design would you be happy for us to assume that the food waste element would be taken from the Residual waste stream. And assume that approximately 7 Litres of food waste would be produced per unit per week.

This will allow us to advise the architects on the approximate space requirements for this stream of waste. Obviously should we find this to differ once the development is operational then some of the space allocated for refuse could be swapped to provide a few more food waste bins as the population becomes better adjusted to separating out the food waste element.

We would also like to discuss with you the use of:

- chute systems;
- compaction;
- collection frequencies;
- innovative technologies and for management and collection;
- bulky waste requirements

for such high density developments

Kind regards

Kat Lees, BSc (Hons), MA, MCIWM, CRWM, CEnv
Associate Director, Waste, Materials & Resources Management
Environmental Liability Solutions
Chartered Environmental and Waste Management Consultant

M +44-(0)-7887-541293

Katherine.Lees@aecom.com

Appendix B

Residential Waste Arisings

Waste and Recyclate Arisings based on a Weekly Collection Frequency for Recyclate and Residual Materials.

Store	Plastic	Cardboard	Paper	Cans/aerosols	Glass	Food	Residual	Total
Main Bin Store	11,790 L	11,790 L	5,359 L	4,287 L	2,501 L	7,145 L	53,588 L	96,458 L

It should also be noted, Recyclate and Residual materials are currently collected on a weekly basis however, in the near future, Residual waste will be collected by LBH on a fortnightly basis. Waste arisings based on the weekly collection frequency of Residual waste are sufficient for the future fortnightly collection frequency as agreed by LBH.

Commercial Waste Arisings

Waste and Recyclate Arisings based on a Weekly Collection Frequency

Land Use	NIA	Working Capacity	MDR	Food	Residual	Total
Commercial, business and service space (A3)	128 m ²	43 Covers	1,613 L	968 L	645 L	3,226 L
Resident Facilities (D2)	547 m ²	547 m ²	1,368 L	240 L	1,368 L	2,976 L

This assessment was undertaken based on the old use classes which preceded the new class classifications which came into force on 1 September 2020. It is not considered the changes will affect the results of the assessment and the effects have been accurately reported.

Appendix C Swept Path Analysis

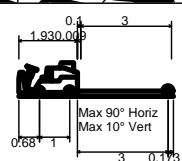
DO NOT SCALE



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Refuse Tugs will transport bins from bins store to the bin presentation area.

Refuse Tugs will transport all bins from the blue circled areas within each block to the red circle in Block C.



Refuse Tug Dimensions
Overall Length 5.112m
Overall Width 1.200m
Overall Body Height 1.125m
Min Body Ground Clearance 0.131m
Max Track Width 0.990m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 1.400m

TITLE
**INTERNAL SITE REFUSE COLLECTION -
REFUSE TUG SWEEP PATH ANALYSIS**

PROJECT
SYON LANE



JOB No.
PB9144
DATE
29/07/20
SCALE
1:500

DRAWN
TH
REV
P01
SUIT
S3

CHECKED
CS
AUTOCAD REF.
PB9144-0114
DRG No.
PB9144-RHD-GE-SW-DR-R-0114

PASSED
CS

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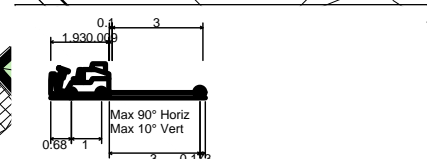
INBOUND

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OUTBOUND

Refuse Tugs will transport bins from bins store to the bin presentation area.

Charlotte TE.201 Baggage Tug
 Overall Length 1.939m
 Overall Width 1.000m
 Overall Body Height 1.125m
 Min Body Ground Clearance 0.131m
 Max Track Width 0.900m
 Lock to lock time 4.00s
 Kerb to Kerb Turning Radius 1.400m



SYON GATE WAY

SYON GATE WAY

TITLE
SWEPT PATH ANALYSIS -
ELECTRIC REFUSE TOW

PROJECT
SYON LANE



JOB No.
PB9144
DATE
29/07/20
SCALE
1:250

DRAWN
TH
REV
P02
SUIT
S3

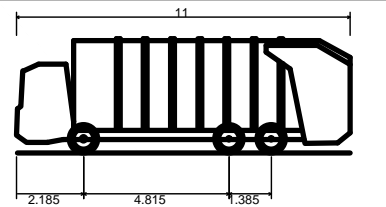
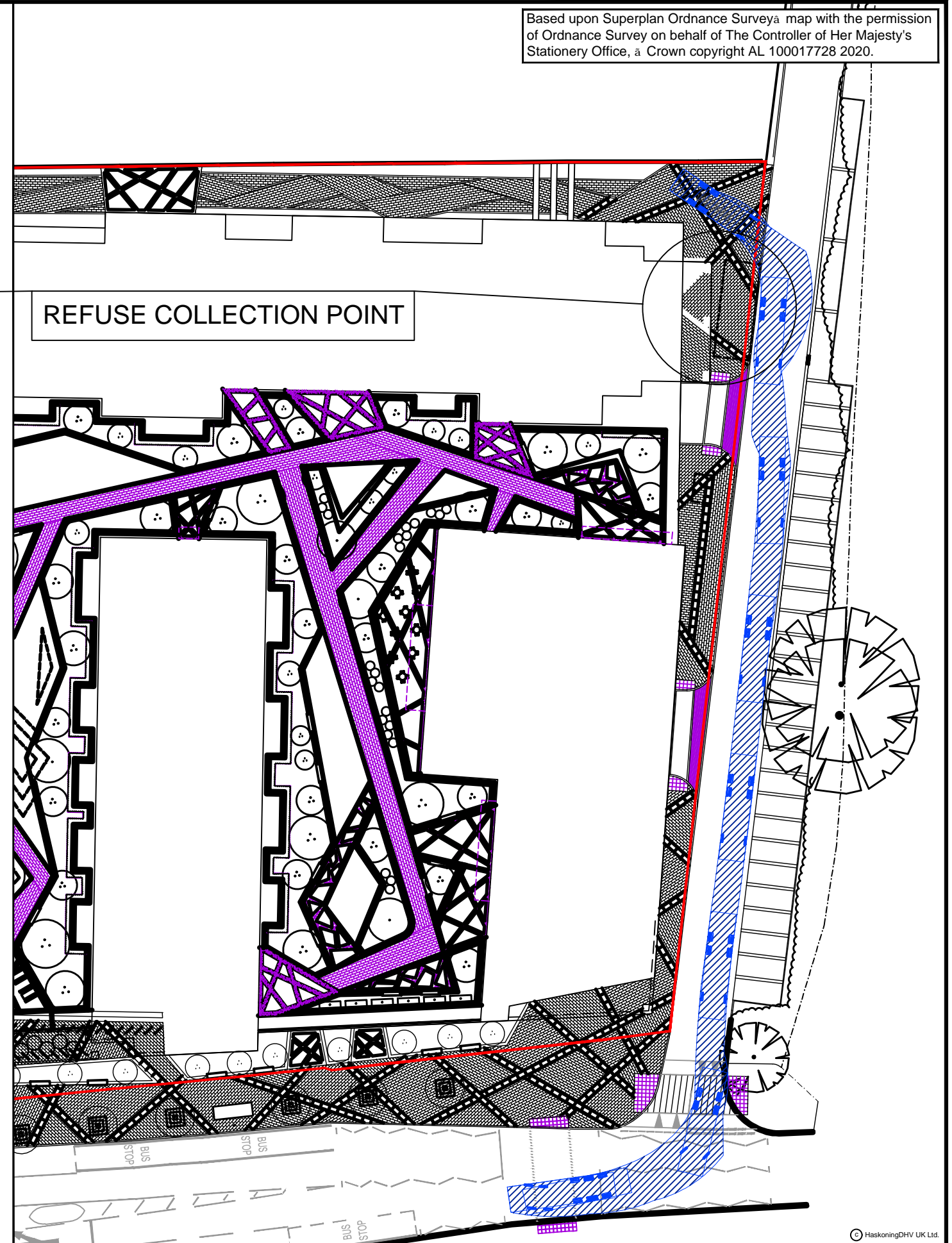
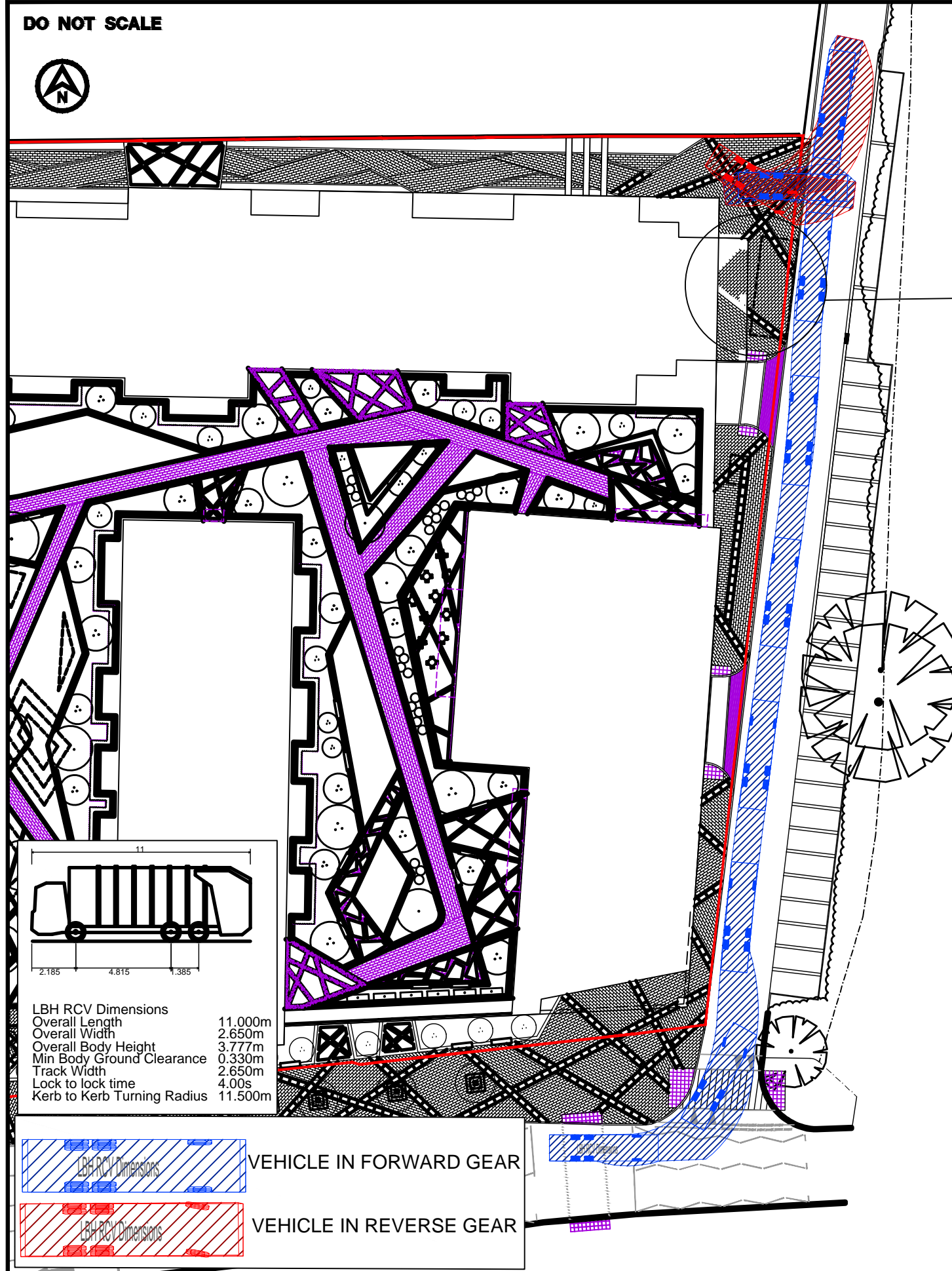
CHECKED
CS
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AUTOCAD REF.
PB9144-108
DRG No.
PB9144-RHD-GE-SW-DR-R-0108

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LBH RCV Dimensions
 Overall Length 11.000m
 Overall Width 2.650m
 Overall Body Height 3.777m
 Min Body Ground Clearance 0.330m
 Track Width 2.650m
 Lock to lock time 4.00s
 Kerb to Kerb Turning Radius 11.500m

 VEHICLE IN FORWARD GEAR
 VEHICLE IN REVERSE GEAR

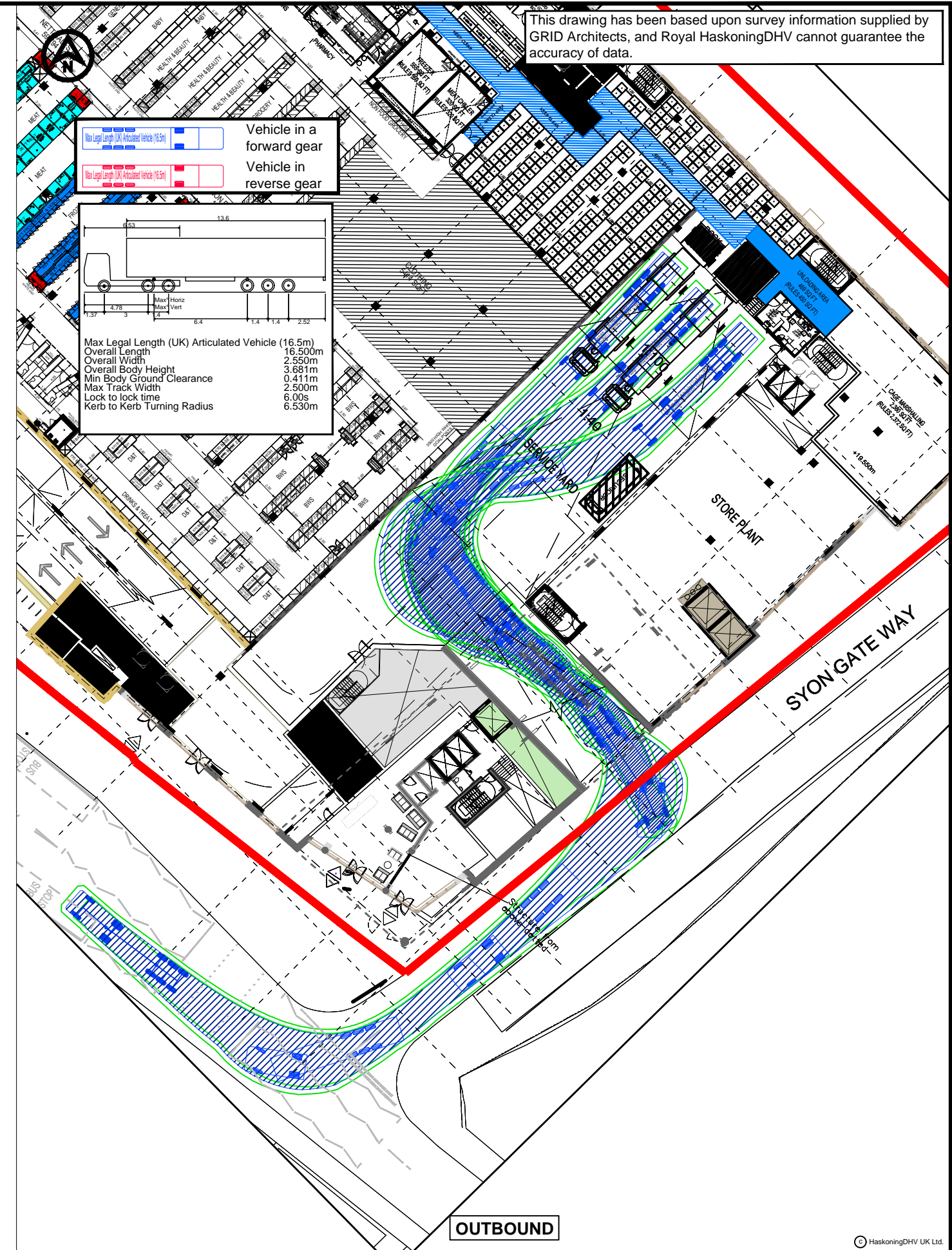
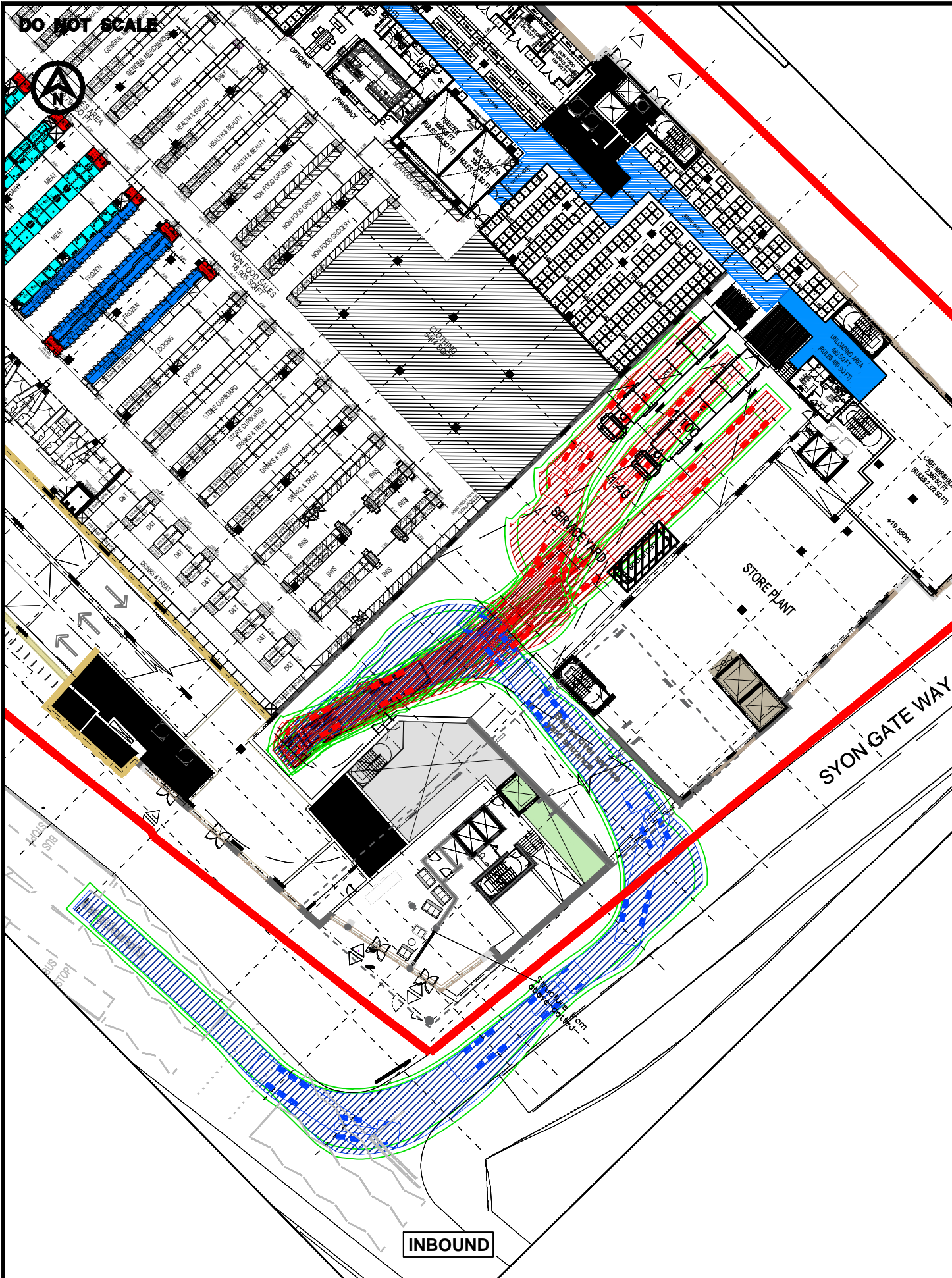
TITLE
SWEPT PATH ANALYSIS - 11M REFUSE VEHICLE (LBH RCV)

PROJECT
SYON LANE

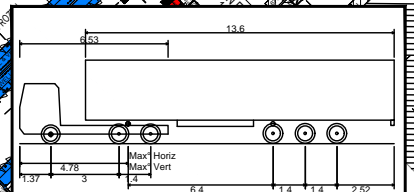


JOB No. PB9144	DRAWN TH	CHECKED CS	PASSED CS
DATE 29/07/20	REV P01	AUTOCAD REF. PB9144-0115	
SCALE 1:500	SUIT S3	DRG No. PB9144-RHD-GE-SW-DR-R-0115	

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■ Max Legal Length (UK) Articulated Vehicle (16.5m) Vehicle in a forward gear
■ Max Legal Length (UK) Articulated Vehicle (16.5m) Vehicle in reverse gear



Max Legal Length (UK) Articulated Vehicle (16.5m)
 Overall Length 16.500m
 Overall Width 2.550m
 Overall Body Height 3.681m
 Min Body Ground Clearance 0.411m
 Max Track Width 2.500m
 Lock to lock time 6.00s
 Kerb to Kerb Turning Radius 6.530m

TITLE
SWEPT PATH ANALYSIS
 16.5m ARTIC

PROJECT
HOMEBASE SYON LANE
 BRENTFORD

JOB No.
PB9144
 DATE
 30/06/20
 SCALE
 1:500

DRAWN
 KM
 REV
 P05
 SUIT
 S3

CHECKED
 AW
 PASSED
 AW
 AUTOCAD REF.
 PB9144-0050
 DRG No.
 PB9144-RHD-GE-SW-DR-R-0050

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Copy Of Small Skip Lorry

Overall Length 6.700m
 Overall Width 2.500m
 Overall Body Height 3.668m
 Min Body Ground Clearance 0.414m
 Track Width 2.500m
 Lock to lock time 6.00s
 Kerb to Kerb Turning Radius 6.340m

VEHICLE IN FORWARD GEAR

VEHICLE IN REVERSE GEAR

TITLE
**SWEPT PATH ANALYSIS -
SKIP LORRY**

PROJECT
SYON LANE

Royal HaskoningDHV
Enhancing Society Together

JOB No.
PB9144

DATE
29/07/20

SCALE
1:500

DRAWN
TH

REV
P01

SUIT
S3

CHECKED
CS

AUTOCAD REF.
PB9144-0116

DRG No.
PB9144-RHD-GE-SW-DR-R-0116

PASSED
CS

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