100 Avenue Road

Circular Economy Statement

February 2025

REGAL

Circular Economy Statement

100 Avenue Road

Prepared for Regal Avenue Road Ltd

Report No. 12077-WCL-ZZ-ZZ-RP-Y-0005

Revision 03

13 February 2025

Contents

Revisions:

Rev No:	Date:	Status/Comments:	Prepared by:	Checked by:
01	11-12-2024	Issue 1	EH	KV
02	21-01-2025	Issue 2	EH	KV
03	13-02-2025	Issue 3	KV	EH

Executive Summary

This Circular Economy Statement has been prepared by Whitecode Consulting Ltd on behalf of Regal Avenue Road Limited ('the Applicant') in support of a s.73 Amendment Application for the redevelopment of 100 Avenue Road ('the Site') within London Borough of Camden ('LBC').

The description of development is as follows:

"Demolition of the existing building and redevelopment comprising residential units (Class C3) and flexible commercial, business and service use (Class E) and community use (Class F2(b)) with associated works including enlargement of the existing basement level to contain disabled car parking spaces and cycle parking, landscaping and access improvements."

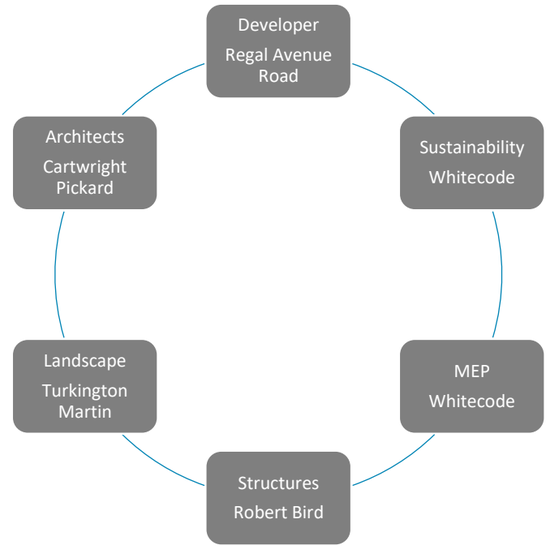
The development provides 1187m^2 Class E commercial floorspace and 1372m^2 Class F2(b) community floorspace along with 237 residential units. There are two building proposed for the site comprising 'the Tower' which is 25 storeys and 'the Lower Block' which is part 7 storey and part 5 storey.

It is important to note that the Implemented Scheme - 2014/1617/P -was not required to complete a circular economy statement, as this is a new requirement under London Plan 2021.

The purpose of this document is to show the scheme meets the requirements of Policy SI7 of the London Plan 'Reducing waste and supporting the Circular Economy' and the following circular principles

- promote a more circular economy that improves resource efficiency and innovation to keep products and materials at their highest use for as long as possible
- encourage waste minimisation and waste prevention through the reuse of materials and using fewer resources in the production and distribution of products
- ensure that there is zero biodegradable or recyclable wate to landfill by 2026
- meet or exceed the municipal waste recycling target of 65% by 2030
- meet of exceed the targets for each of the following waste and material streams
    - construction and demolition – 95% reuse/recycling/recovery
    - excavation – 95% beneficial use
- design developments with adequate, flexible, easily accessible storage space and collection systems that support, as a minimum, the separate collection of dry recyclables (card, paper, mixed plastics, metals, glass) and food.

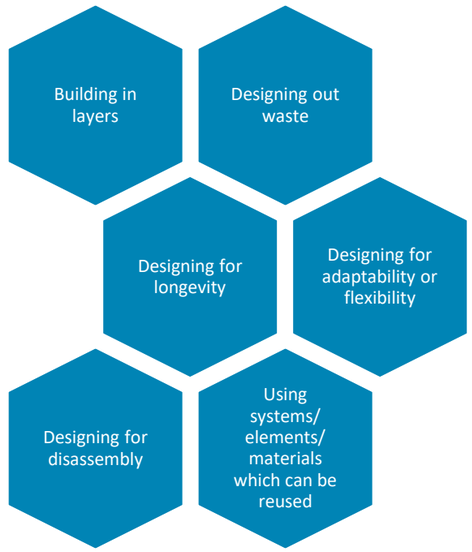
The design team has met and discussed the strategy at whole life-cycle carbon (WLC) and circular economy workshops which took place in September 2024, and continued through design development to ensure the principles were intrinsic to the scheme. The team have had further circular economy workshops to discuss the reports required to support this statement at pre-commencement stage. There was also a sustainability workshop with Camden in December 2024 in which they agreed the circular economy principles for the scheme. It is important that circular economy principles are embedded at the start of the project and throughout the RIBA stages to fully realise the benefits of this approach. The organisations engaged in the development, design and delivery of this scheme are shown below:



This report promotes circular economy outcomes and aims to be net-zero waste by demonstrating:

- how all materials arising from demolition and remediation works will be re-used and /or recycled
- how the proposal's design and construction will reduce material demands and enable building materials, components and products to be disassembled and re-used at the end of their useful life
- opportunities for managing as much waste as possible on site
- adequate and easily accessible storage space to support recycling and re-use
- how much waste the proposal is expected to generate, and how and where the waste will be handled
- how performance will be monitored and reported

There are six principles that support the circular economy and underpin the overall circular economy methodology, GLA Circular Economy Guidance March 2022.



The report and GLA circular economy template show how the proposed s.73 Amended Application at 100 Avenue Road will be achieving this. The report shows the strategic targets presented in GLA Table 1, the detailed commitments and strategies are covered in GLA Table 2 and explored in further detail in the circular economy narrative.

The key to the success of circular economy principles is to ensure the effective implementation of the strategies into the design drawings and specifications. This will be achieved by completing the required supporting documents, regular review of the circular economy statement at each RIBA stage through workshops and the integration with the BREEAM requirements and the BREEAM AP on site.

Camden Local Plan 2017 sets out long term energy and sustainability related standards for the Borough. The planning policies of relevance to the circular economy in the Local Plan are as follows:

- Policy CC1 Climate Change Mitigation
- Policy CC2 Adapting to Climate Change
- Policy CC5 Waste

Local Plan policy CC1 states we will e) require all proposals that involve substantial demolition to demonstrate that it is not possible to retain and improve the existing building; and f) expect all developments to optimise resource efficiency. The supporting 'Retrofit report' completed by DSDHA architects fully investigates the feasibility of retrofit options for the scheme.

The Camden Planning Guidance (CPG 2021) document on energy efficiency and adaptation expects all developments to seek to optimise resource efficiency and use circular economy principles. This has been addressed in this report.

1. Introduction

1.1 Existing site

The Site is bounded on its western side by Avenue Road and the Swiss Cottage/Finchley Road junction and gyratory. Ye Olde Swiss Cottage pub is located directly opposite on the western side of Avenue Road, facing on to the junction. On the northern side the Site is bounded by the western end of Eton Avenue which is pedestrianised. To the east of the Site is Swiss Cottage Open Space and to the south of the Site is Swiss Cottage Library.

The Implemented Permission (ref. 2014/2617/P) was granted via Appeal (ref. APP/X5210/W/14/3001616) on 18 February 2016. It has been subject to further scheme amendments facilitated under Section 96a of the Town & Country Planning Act (1990) (As Amended) and has been lawfully implemented, which was confirmed with a certificate of lawfulness issued on 8 February 2018 (ref: 2017/6884/P). Whilst demolition works and basement construction works have undertaken by the previous owner (Essential Living), above ground construction works in respect of the Implemented Permission have stalled.

Regal Avenue Road Limited acquired the Site in 2024 and intend to bring forward the scheme as soon as practicable, subject to securing some amendments to the Implemented Permission to ensure its deliverability and compliance with the latest standards / Building Regulations.

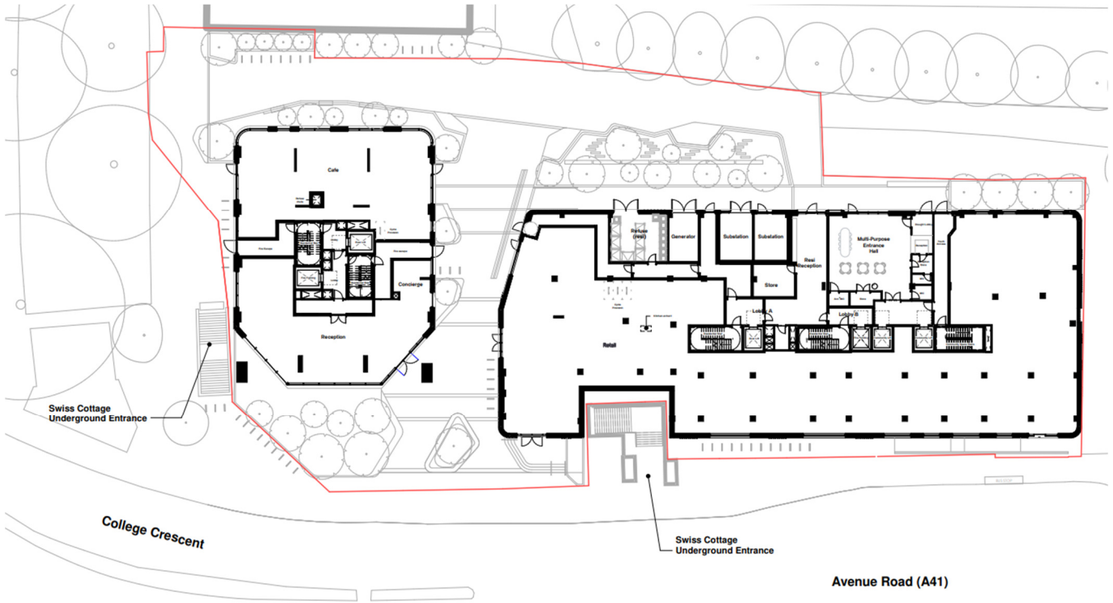
The Implemented Permission was not required to assess against Circular Economy principles as the policy was not part of the London Plan. The design team have therefore applied the Circular Economy principles to the s.73 Amended Application scheme whilst taking into account the existing scheme constraints.

1.2 Proposed site

The description of development is as follows:

"Demolition of the existing building and redevelopment comprising residential units (Class C3) and flexible commercial, business and service use (Class E) and community use (Class F2(b)) with associated works including enlargement of the existing basement level to contain disabled car parking spaces and cycle parking, landscaping and access improvements."

The development provides 1187m^2 Class E commercial floorspace and 1368m^2 Class F2(b) community floorspace along with 237 residential units. There are two building proposed for the site comprising 'the Tower' which is 25 storeys and 'the Lower Block' which is part 7 storey and part 5 storey.



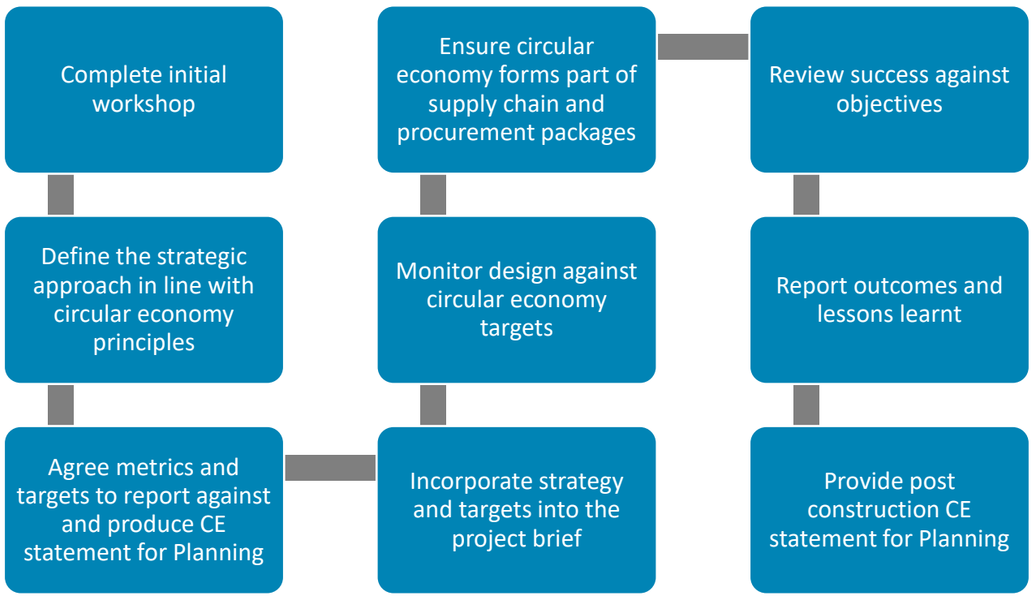
1.3 Method statement

The circular economy statement summarises the principles of circular economy and how the design team have worked collaboratively from the outset to ensure an integrated approach. A circular economy workshop was held in September 2024 and included the following members of the design team. Further follow up sessions were completed where necessary, including pre-commencement meetings to further discuss the evidence required.

- Regal Avenue Road Ltd – developer and client
- Cartwright Pickard – architects
- Turkington Martin – landscape architects
- Whitecode – sustainability and MEP
- Robert Bird - structural

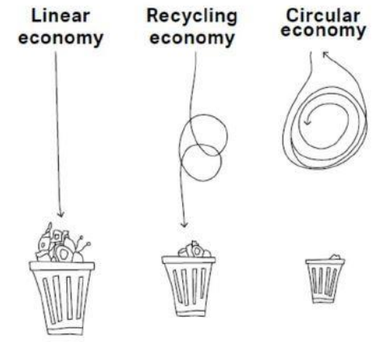
The aim of the workshop was to introduce the team to circular economy principles, assign responsibilities and set up strategic targets for the RIBA stages. The potential for reuse and recycling across all disciplines was discussed and documented.

The key steps shown below will be followed to ensure successful implementation of the circular economy principles throughout the project.



1.4 Circular economy aspirations

Circular economy is a holistic economic model which aims to move away from the linear based model of "take, waste and make" to one where everything is engineered to be constantly reused or recycled through a regenerative cycle. The concept of circular economy also requires the construction industry to go beyond the reduce, reuse and recycle and aims to maximise total material resources efficiency.



FROM TAKE • MAKE • USE • DISCARD TO RE-MAKE • USE-AGAIN
Diagram courtesy of Circular Flanders

The need for the construction industry to address the issue is clear, material extraction will triple in the next 30 years and waste production will do the same by 2100. In the UK, construction is responsible for 60% of all materials used and one third of its waste.

For buildings, there must be an integrated approach to ensure an adaptable and flexible design is prioritised which avoids demolition in the future. An allowance for some or all parts of the building to be deconstructed in a way which allows reuse and recycling of components, therefore avoiding residual waste.

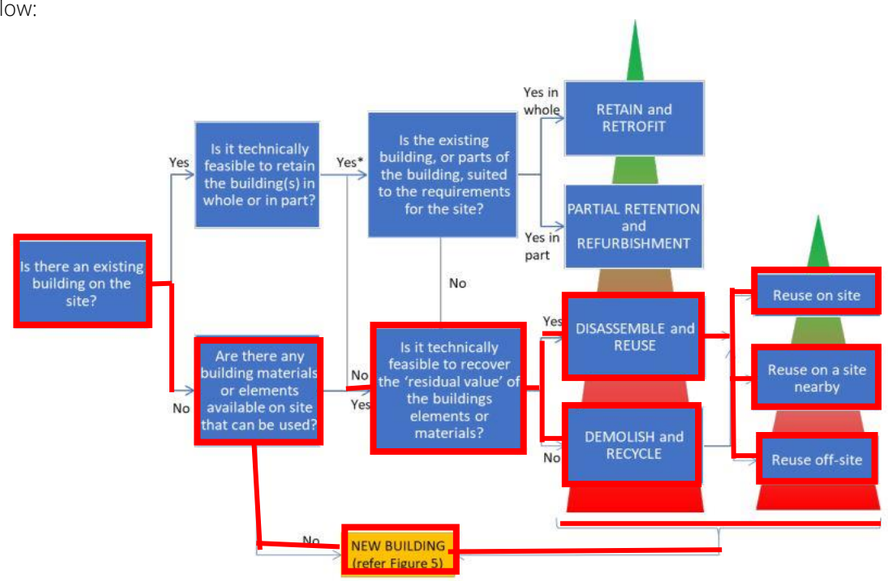
The circular economy guidance describes the process of 'building in layers' where each building layer has its own life cycle. This allows different approaches and solutions to be applied to each layer which increases their longevity and adaptability. To support reuse and recycling, the different layers should be independent, accessible and removable whilst maintaining their value, where possible. This is especially important for layers that may need more frequent replacement, such as building services and internal fit-outs.

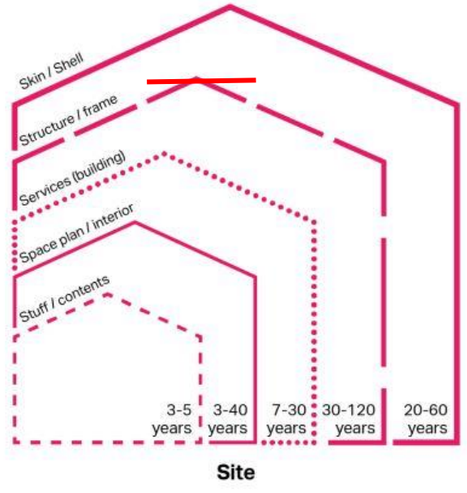
2. Existing building approach

The design team have used the circular economy design approach for existing buildings to inform the design process for the development, alongside the pre-development and whole-life cycle carbon assessment.

The site consists of a basement which was constructed as part of the Implemented Permission, there are no existing buildings and no significant demolition to take place. The design team have worked incredibly hard to ensure that the current scheme can proceed by utilising the existing basement. There is a very small amount of demolition required in the existing basement to allow for updated plant layouts but this does not require a pre-demolition audit, due to the small scale.

The decision tree (from GLA Circular Economy guidance figure 4) was discussed at an early stage and completed as below:

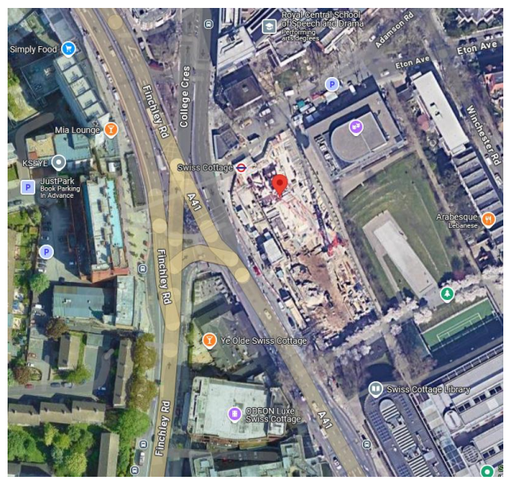




To follow the approach set out in Figure 3 (London Plan Policy D3 Figure 3.2), retaining existing built structures totally or partially should be prioritised before considering substantial demolition, as this is typically the lowest carbon option.

Local planning authorities should be involved in this process from an early stage, along with other stakeholders. A dialogue is strongly encouraged early on between CE statement authors and local planning authorities on the retention or demolition of existing buildings, and making the best use of land. The circular economy strategy was discussed with Camden officers and the GLA prior to submission and there were no concerns raised, the scheme was praised for reuse of the exiting basement and the minimal demolition required.

The image below shows the existing site and the basement constructed as part of the Implemented Permission.



Existing building approach	Response	Explanation
Is there an existing building on site?	Existing buildings not present Existing basement	There is a basement in-situ which was constructed as part of the Implemented Permission, this is of great benefit for the circular economy as this can be reused and does not need to be demolished
Is it technically feasible to retain the building(s) in whole or part?	Yes the basement will be retained	The structural engineers, Robert Bird, have provided an estimation of the small amount of demolition required in the basement which is mainly to accommodate the new plant layout. Due to this very minor demolition, a pre-demolition audit was not required.,
Is it technically feasible to recover the 'residual value' of the building's elements or materials?	Yes	In general, the components arising from the demolition do not fit the purpose of the new scheme. However, the concrete from the demolition can be recycled. This could be achieved through using crushed concrete aggregate as a sub base in landscaping for example.

There is no existing structure to demolish, there will be a new build building on top of the basement provided by the Implemented Permission.

Circular economy design approach	Phase/Building/Area/Layer	Strategic Response
Retain and Retrofit	Existing buildings not present Existing basement	No existing building to consider, existing basement to remain
Partial Retention and Refurbishment	Existing buildings not present Existing basement	No existing building to consider, existing basement to remain
Disassemble/Deconstruct and Reuse	Parts of basement required to accommodate new plant layout	Opportunities to reuse the components on-site may involve: • Using crushed concrete aggregate (recycled aggregate) as a sub-base;
Demolish/Deconstruct and Recycle	Parts of basement required to accommodate new plant layout	Where crushed concrete cannot be reused on site, this will be recycled, although it is anticipated 100% of concrete waste will be reused on site

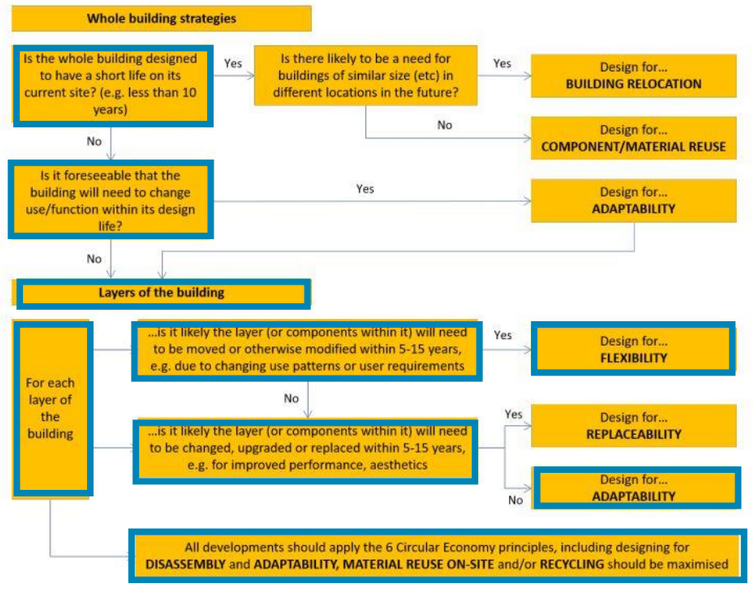
Table 2.1 Circular economy design approaches for existing structures

3. Strategic approach

3.1. Strategic approach

In order to implement circular economy principles in the most effective way, the high-level strategic opportunities should be investigated as early in the design development process as possible.

The GLA have provided a Circular Economy decision tree in their Circular Economy Statement Guidance (March 2022), which is used to determine the most appropriate circular economy strategy. This is dependent on the existing site condition and proposed end use for the development. It will also be affected by any existing buildings to remain on site and the predicted lifespan of the buildings.



The strategic approach is shown in Table 3.1. This was fully discussed in the circular economy workshop along with the reports required to accompany the statement including sustainable procurement plan, bill of materials, waste strategy. These have been provided in full in the Appendix. At each RIBA stage the circular economy strategy will be reviewed, with opportunities to increase material efficiency identified throughout construction. Lessons learnt will be reviewed at handover and deconstruction plans handed to the facilities management team.

Aspect	Phase/building area	Steering approach	Explanation	Target	Supporting analysis/ studies/ surveys/audits
Designing out waste Module A: Product Sourcing and Construction Stage	All areas	Ahead of construction, Regal Avenue Road Ltd have developed a Resource Management Plan in consultation with the design team, this quantifies the amount of waste being generated and methods for reducing waste	Policy SI7 (B3 and B5): 'Opportunities for managing as much waste as possible on site' & 'How much waste the proposal is expected to generate, and how and where the waste will be handled'	7.5 tonnes/100m^2 GIFA Maximise material recovery inline with waste hierarchy Return of any unused materials such as plasterboard to be returned to the manufacturer	Resource management plan has been provided in Appendix
	All areas	Reviewing opportunities to divert 95% of waste from landfill with the contractor	Policy SI7 (B3): 'Opportunities for managing as much waste as possible on site'	95% diversion of waste from landfill	Resource management plan
Designing out waste Module B: In-Use Stage	All areas	Waste management strategy to include separation of waste streams for recycling	Policy SI7 (B4): 'Adequate and easily accessible storage to support recycling and reuse'	65% municipal waste to be recycled by 2030	Waste management figures have been provided by waste consultant
Designing for longevity, adaptability/flexibility and disassembly	All areas	Engage with design team regarding material efficiency and designing for disassembly in the circular economy workshop	Policy SI7 (B2): 'How the proposals design and construction will enable building materials, components and products to be disassembled and re-used at the end of their useful life'	Incorporate material efficiency and disassembly into the design	Circular economy workshop and minutes End of life plan BREEAM reports Wst06, Mat06

Table 3.1: Strategic approach

4. Circular economy commitments

4.1. Circular economy commitments

The strategic approach is shown in Table 3.1, this is a high-level assessment of the circular economy strategy. As this is detailed application to amend the Implemented Permission, these guiding principles have been developed from strategy to action, investigating the feasibility of each of the requirements and how to maximise the opportunities on site.

There are nine circular economy principles which were set out in the executive summary, and these are applied to each building layer as follows:

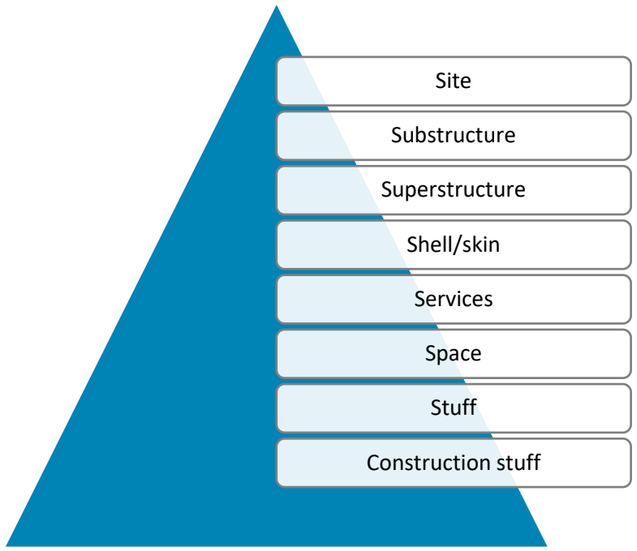


Table 4.1 which shows the key commitments has been completed inline with the circular economy guidance document. The commitments focus on those which hold the greatest opportunities that go above and beyond standard practice wherever possible. This table is a working document which will be continually reviewed and updated throughout the design development, construction phase and fully implemented through to occupation and use.

	Site	Substructure	Super-structure	Shell/skin	Services	Space	Stuff	Construction stuff	Summary	Challenges	Counter-actions	Plan to prove and quantify
CIRCULAR ECONOMY DESIGN PRINCIPLES BY BUILDING LAYER												
Designing for longevity	The design of the building has been focused around building in layers to ensure elements with longer life spans can be use to their full life span potential.	Concrete structure designed for longevity with high recycled content	Maximise ceiling to floor to provide good daylighting and longevity	Building to be designed for longevity with robust shell/skin	Plant rooms to key incoming utilities located on facade with simple routes to wider connections. Long life LED lighting has been installed			To be investigated at detailed design stage			Review of the CE at each stage of the design stage, this will be supported by BREEAM assessment for commercial but should be extended to the residential elements	BREEAM reports Climate change strategy (Wst05) Design for disassembly and adaptation (Wst06)
Designing for adaptability or flexibility	Residential part of the scheme, realistic adaptability would be residential led (hotel or similar)	Basement lends resilience to future scenarios, as allows area for plant if required for adaptation e.g. DHN connection Commercial spaces designed as flexible	Ceiling heights to enable adaptability of uses, core layouts to allow flexibility	External façade can be removed and replaced if required	Access hatches to all shower room risers provided where possible in communal corridors for ease of access, maintenance and repair Rooftop plant designed to be modular for access within building lifts.	Core layouts considered to allow flexibility	Non-adhesive floor coverings could be used to allow easy adaptability Non-structural partitions allow for future adaptability of layouts		At each layer the reusability, adaptability and flexibility has been considered	Adaptable parts of design may be lost through design development	Review at each stage by architect, structural engineers	Linked with BREEAM assessment, to be completed at concept and technical design stage Review of future adaptability report
Designing for disassembly			Various layers of the building can be stripped from the rainscreen façade. Upgrades/ Replacement strategy can be tailored to anticipated life span of building elements.	Considered unitised façade for easy disassembly "	Modular plant design, so individual parts can be removed and replaced without affecting the entire system. Allowing accessible connections Detailed documentation	Non structural partitions allow for easy disassembly	Utilise non-fixed furniture where possible to minimise impact on finishes during updated fitout.	Considered fixing methods throughout the build to ensure ease of maintenance and replacement.	Explored the use of modular and pre-fabricated where possible	Cost implications and subject to feasibility	To be explored with the contractor	"BREEAM reports Climate change strategy (Wst05) Design for disassembly and adaptation (Wst06)"
Using systems, elements or materials that can be re-used and recycled	Make use of recycled aggregates from existing hardstanding onsite in planting sub-bases	All substructure could be reused/recycled when crushed Concrete crushed and used as aggregate Reinforcement within frame recycled."	Ceiling heights to enable adaptability of uses, core layouts to allow flexibility Reinforcement within frame recycled.	Potential to demount and reuse façade elements Windows, doors, shutters, and metal panels to be fixed to aid disassembly and re-use.	Metal services could be recycled to form new products. Services in good condition could be dismantled and reused."	Fit out and finishes to specification	Loose furniture to be selected for reuse.	Raised floors, carpet and ceiling tiles to be recycle-able.	Consider use of materials which support high recycling rates in use or at end-of-life	Cost implications and subject to feasibility	Design team to review material selection at each stage	Schedule of materials which can be reused/recycled

	Site	Substructure	Super-structure	Shell/skin	Services	Space	Stuff	Construction stuff	Summary	Challenges	Counter-actions	Plan to prove and quantify
DESIGNING OUT WASTE (BY BUILDING LAYER)												
Module A Product Sourcing and Construction Stage	Excavation waste used on site or reused offsite Recycled aggregate in planting sub base	Substructure is pre-existing	Recycled steel content in superstructure Precast columns with GGBS. to be explored through detailed design development	Modular systems to be investigated Recycled aluminium to be used in windows and doors where possible.	Intention to make use of modular elements – Service risers, shower room pods, to reduce on-site waste and carbon emissions. Ductwork and pipework material volumes will be minimised through space efficient design Rooftops ultilised for plant to minimise basement structure quantities.	Pre-fab bathrooms pods and utility cupboards to be explored. Recycled products and content to be prioritised for use in the detailed design such as carpets and raised floors. Furniture and fittings to be sourced locally where possible.	Utilise non-fixed furniture where possible to minimise impact on finishes during updated fitout. Robust fitout materials to minimise frequency of repair/ replacement.	Shower room pods to be used in all studios to reduce on-site waste. Minimising material usage during construction works will be imposed on the sub-contractor during the Tender stages. Accurately forecasting the number of materials needed, using larger pack sizes to reduce the amount of packaging.	Reducing waste through selection of materials containing recycled content, reduced volumes of materials and pre-fabricated elements	Cost implications and subject to feasibility Ensuring optimal structural design through detailed design stages. Maximising cement replacement without impacting programme (e.g. affecting curing times) Prioritising sustainable materials may present cost/ viability challenges.	Regular review of construction waste with the contractor during construction and detailed design, run CE workshops to ensure waste minimisation where possible Optimisation of structure at detailed design Client to consider GGBS content within structure	Lean design options EPD certificates to be sought for comparison tests between material choice options. Review of BREEAM credits to be achieved. Reporting of actual waste against forecast waste within the Site Waste Management Plan.
Module B In-Use Stage	Operational waste and recycling management plan Water consumption and energy use on site to be monitored, recorded, and measured against expected use. Above expected usage to be investigated with the aim of reducing potential waste. emissions			The building forms have been designed to maximise floor area against facade area to maximise thermal performance, keeping form factor as low as possible within the site	Long life LED light fittings. Access hatches to all shower room risers provided where possible in communal corridors for ease of access, maintenance and repair. Ductwork and pipework material volumes will be minimised through space efficient design	Energy and water meters will be monitored by the building owners as a managed facility.	Implementation of the Operational Waste Management Plan Using fewer finishes with high-churn rate, modular carpet, vinyl and ceramic tiles used where possible		Reducing waste through careful implementation of operational waste management plan	Limited opportunity for incorporation in prefabricated units Regular data review for energy and water consumption will need to be considered. Local authority constraints to waste collection	OWMP to be followed, once PBSA provider and RP are on board, Operators/ landlords to develop strategies for analysing post-occupancy data. Smart systems to be considered.	Operational waste management plan Continuous reduction in energy and water use, recorded year on year. Compliance with Wst03 BREEAM
Module C End-Of-Life Stage	Design for disassembly to be provided for the whole site	Substructure will be crushed to aggregate and recycled	Steelwork connections will be designed as bolted to enable disassembly. Reinforcement within frame recycled.	used on the residential buildings has the potential to be reclaimed and reused.	Standardisation will be utilised where possible to minimize waste and increase recyclability potential Modular standardised construction of bathroom pods.	Raised floors, carpet, and ceiling tiles to be recycled	Bathroom pods, fittings, and furniture to be designed or specified where practical to allow for re-use	Using systems, elements or materials that can be re-used and recycled.	Maximising potential for recycling at end of life by using easily disassembled parts where possible	Consideration of appropriate re-use/ recycling to be undertaken at the appropriate time.	Architect, MEP consultant and structural engineer to specify and design for re-use at the next stage.	Material passports will be used where possible at the next stage of detailed design to aid re-use. Review at As Built stage and review of circular economy
Module D Benefits and Loads beyond the system boundary stage	Aggregates and external works can reused on site for future projects	As per Using systems, elements or materials that can be re-used and recycled.	Reuse of steel frame in future projects		Standardised components have a potential to be reused elsewhere, some refrigerant can be reused						Provide space for future improvement to the waste service	Operational waste plan – provided in Appendix Compliance with Wst03 BREEAM

4.2. Bill of materials

A bill of materials has been provided below to demonstrate the design team has considered opportunities to conserve natural resources by applying lean design principles and sourcing materials responsibly. It estimates the quantity of materials used in each 'layer' of the building, the material intensity and targets the minimum amount of recycled content. The information has been collected from the design team and covers the structure, floors, façade, roof and internal partitions.

Element	TOTAL kg CO_2e	Materials Intensity kg/m2 GIA	Recycled content by value %	End of Life Strategy
Substructure	16,058,680	1,198	39.16	BAU
Superstructure: frame	5,176,500	386	48.92	Concrete crushed to aggregate Steel recycling
Superstructure: upper floors	12,820,594	956	25.5	Concrete crushed to aggregate Steel recycling
Superstructure: roof	5,120,479	382	27.57	Concrete crushed to aggregate Steel recycling
Superstructure: stairs and ramps	350,252	26	23.72	Concrete crushed to aggregate Steel recycling
Superstructure: external walls	3,689,518	275	13.95	Concrete crushed to aggregate Steel recycling Insulation BAU incineration
Superstructure: internal walls	301,498	22	11.55	Concrete crushed to aggregate Steel recycling
Superstructure: windows and external doors	122,758	9	0	Aluminium and Glass recycling
Superstructure: internal doors	67,978	5	0	BAU incineration
Finishes	1,122,258	84	0	BAU landfill
Services	307,739	23	0	100% recycled
External works	123,674	13	0	100% recycled
Total	**45,061,018**	**3,361**	**41.13**	

This has been taken from One Click LCA, which has also been used to complete the whole life cycle carbon assessment.

The calculations completed show a total recycled content by value of 41.13%. This can be seen in the One Click LCA excerpt in Appendix H.

4.1. Recycling and waste reporting

Layer	Waste estimate	% reused or recycled onsite	% reused or recycled offsite	% not reused or recycled % to landfill (or other)	Source of information
Excavation Waste	No excavation required	0%	95%	0% 0%	N/A
Demolition Waste	**181.92 tonnes**	Maximise opportunity	95%	≤5% 0%	Email from structural engineer confirms demolition
Construction Waste	7.5 tonnes/100m^2 giving a total of **2,001 tonnes**	95% of waste will be reused or recycled offsite as a minimum. To be included in the resource management plan, this will maximise the reuse and recycling of construction waste		≤5% ≤5%	BREEAM Wst01 targets Applicant to use Smartwaste benchmarks
Municipal Waste	Waste management strategy provided in Appendix **Annual waste** General waste: 247 tonnes Mixed recycling: 1,079 tonnes Food waste: 253 tonnes **TOTAL = 1,579 tonnes**	0%	66%	N/A ≤35%	BS 5906:2005 Waste management in buildings GLA requirements

Table 4.1: Recycling and waste reporting

Table 4.1 (above) provides details on the total amount of waste/material generated during excavation, construction and operation.

There will be minimal demolition of parts of the existing basement to allow for layout changes. There is no excavation waste.

Regal Avenue Road Ltd. has provided a resource waste management plan, in which they commit to 7.5 tonnes/100m2 of floor area. The municipal waste will meet the GLA requirement of 65% recycling by 2030, with an

operational waste plan to be provided which highlights the key waste produced on site. All waste will be managed in accordance with the waste hierarchy.

The following documents have been provided in the appendix:

-Resource waste management plan

-Design for longevity and adaptability – scenario modelling

-Lean design options appraisal

-Operational Waste Management Plan

5. Circular economy narrative

This section summarises the previously presented tables and the approach which will be taken during construction and operation to ensure the circular economy principles are met.

Each of the areas will be addressed and the following sections included, this was discussed with the design team at the Circular Economy workshop:

5.1. Designing for disassembly/ reusability/ recoverability/ longevity/ adaptability/ flexibility

Approach

During the Circular Economy and Whole Life-cycle Carbon workshop the design team discussed the potential for the site at 100 Avenue Road to be demountable at the end of its useful life. As well as the reusability, recoverability, longevity, adaptability and flexibility of the proposals.

Longevity, adaptability, flexibility

This is a long-life new development with an expected life of over 60 years, therefore must be designed for longevity to ensure the built asset allows for challenging climatic conditions. The materials will be protected from degradation from environmental conditions in line with the requirements under BREEAM Mat05, as well as robust design such as kick plates, stair nosing and wall protection in communal areas. The concrete frame of the buildings are designed for longevity rather than disassembly, with that in mind, the building will have generous proportions and a readiness for alternative technologies.

The BREEAM assessment will also address adaptation for climate change under Wst05, which requires the development to incorporate measures to mitigate impacts of extreme weather conditions arising from climate change over the lifetime of the assets.

Non-structural internal walls within the residential apartments allow for future flexibility of layouts. It would be possible to adapt the residential units into student accommodation or hotel if required. The commercial units have been designed to have flexible end uses to adapt to the commercial climate at the time, incorporating high floor to ceiling heights.

The retail spaces are easily adaptable for different uses.

The site has been designed to enable future connection to a potential district heat network, this allows flexibility in the heating system. Central plant is mechanically fixed to allow easy disassembly.

Disassembly, reusability, recoverability

A deconstruction plan will be developed during detailed design stage to demonstrate how the materials used in the buildings could be reused.

Where mortar is required, the design team have discussed the use of lime-based mortar to ease disassembly at the end of the building's life. This will also carry through to the landscaping plan so that as many surfaces as possible are recoverable.

Central plant will be mechanically fixed, so it is easy to disassemble. Non-structural partitions are also able to be disassembled. Any fixtures and fittings will not be glued down. Materials with planned short shelf life will be prioritised to be selected with manufacturers with take back schemes or procured through a service agreement. Key elements of plant will be capable of being disassembled for replacement. This can be achieved through modular plant design, so individual parts can be removed and replaced without affecting the entire system. Allowing accessible connections which can be disassembled without specialist tools, with clear labelling so they are easily identifiable. Detailed documentation will be provided to give instructions for disassembly.

Targets

Disassembly and adaptability for each building element, linked with the BREEAM Wst05 requirement. Deconstruction plan to be developed.

Potential challenges

Site and construction constraints may limit the potential for disassembly. It may not be considered effectively at each stage and be lost from the specification.

Counteractions

Ensure that the recommendations and decisions are incorporated into the design and through the procurement process. To be checked throughout design development.

Plans for implementation

In line with BREEAM requirements a disassembly and adaptability plan for the entire site will be developed and reviewed throughout the RIBA stages.

5.2. Designing out waste by building layer

Approach

During the initial Circular Economy and Whole Life-cycle Carbon workshop the potential waste streams were discussed from all sources and then opportunity to design out waste throughout.

Module A: Product Sourcing and Construction stage

The demolition waste on site will be minimal and fully reused on site. The aim will be to reduce the waste to landfill, and reuse as much possible on site.

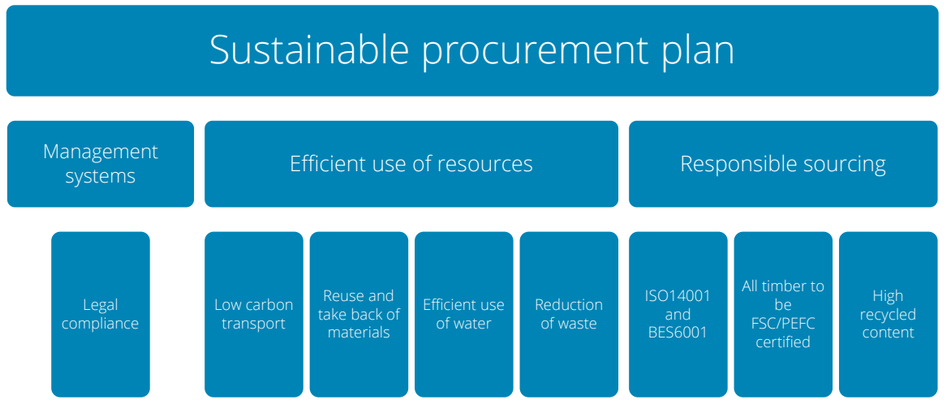
There are no existing buildings on site to be considered.

The applicant Regal Avenue Road Ltd will be sourcing their materials inline with their Sustainable Procurement Plan, this must be used by the design team to guide specification towards sustainable construction products. It is also a requirement of BREEAM to provide this plan at concept stage.

The plan itself meets the following requirements:

- Include sustainability aims, objectives and strategic targets to guide procurement activities
- Have a requirement for assessing the potential to procure construction products locally

- Include details of procedures in place to check and verify the effective implementation of the sustainable procurement plan



Targets

Sustainable procurement plan to be implemented at concept stage and carried through to completion.

Potential challenges

Sustainable procurement plan is not followed, and non-compliant materials are procured and installed.

Counteractions

The design team will need to ensure the sustainable procurement plan is embedded throughout the specification at each stage. When products are selected, they should be checked against the plan, the BREEAM Accredited Professional (AP) will also be assisting to ensure the sustainable procurement plan is adhered to.

Plans for implementation

The sustainable procurement plan has been introduced to the design team at concept stage, regular meetings will take place for the BREEAM assessment, and this is a great way to reinforce the use of the sustainable procurement plan for all design and purchasing decisions.

Designing out construction waste

Through the resource waste management plan and onsite targets for construction waste, as well as the minimal use of materials. Pre-fabricated elements have been considered to minimise waste.

Targets

	Whole site construction waste target 7.5 tonnes/100m^{2}GIFA
	Less than 5% non-hazardous construction waste to landfill

Potential challenges

Site and unforeseen construction issues may cause an increase in site waste during the construction period.

Counteractions

Checks throughout construction on waste will be completed to align with the targets and address any issues which arise.

Plans for implementation

Above requirements to be included in the drawings and specification. The close link with BREEAM targets will ensure the design team are engaged through BREEAM workshops and Accredited Professional site visits. All data will be presented at As Built stage.

Designing out industrial waste

No industrial waste is anticipated.

Module B: In use stage

There is space within the bin stores which is dedicated and clearly labelled for recycling. Waste segregation will be carried out by the residents through provision of kitchen bins. All commercial units will also have segregated recycling, as required by BREEAM Wst03. Segregation of food waste and appropriate management will also be investigated with the local authority. There will be separate collection of dry recyclables (at least paper, card, mixed plastics, metal and glass) in communal recycling bins as provided by Camden. Camden provide recycling collection in communal recycling bins, they also provide communal waste containers to most apartment schemes. The co-mingled recycling collection includes glass, plastic, cardboard and paper which is then sorted post collection and recycled.

Local landfill sites have been contacted through Camden, currently no responses have been received, written confirmation that they can receive the waste will be obtained. All operational waste will be managed inline with the waste hierarchy.

Regal Avenue Road will provide an estimation of the operational waste that the proposal is expected to generate, this will be provided prior to commencement. They will also will investigate consolidated, smart logistics and community-led waste minimisation schemes to ensure that operational waste is effectively managed and reduced.

The applicant commits to meet or exceed London Plan Policy SI7 municipal waste recycling target of 65% (by weight/tonnage) by 2030 or business waste recycling target of 75% (by weight/tonnage) by 2030.

The operational waste will be monitored to ensure the targets below can be met. Operational performance will be managed by the waste reporting figures from the designated waste and recycling provider in Camden, and reported annually.

Targets

Zero biodegradable or recyclable waste to landfill by 2026

65% recycling rate by 2030

Potential challenges

Engagement with the occupants to meet the above targets.

Counteractions

Promotion of recycling in home user guides is recommended. Recycling competitions by block could be set up to encourage residents to recycle more of their waste.

Plans for implementation

Follow the operational waste management plan and ensure this is accessible for all end users to access in an appropriate form, including commercial unit tenants who may have a lot of a specific type of waste. This will ensure a high rate of recycling. Operational performance will be managed by the waste reporting figures from the designated waste and recycling provider in Camden, and reported annually.

6. Plan for implementation

Each item addressed in section 5 has its own plans for implementation but to ensure the successful implementation of the circular economy statement, there are some short- and long-term goals which are important to highlight to the design team. This should form part of contractual commitments.

Plan for implementation	
Short term	Longer term
Tracker of commitments made in the Circular Economy report to be reviewed on a monthly basis through the design period	During construction to report against all waste targets
All contractor tender packages to have Circular Economy requirements included	Evidence to be provided which show commitments have been included in the buildings
Additional studies to be undertaken and submitted	Engagement with the local landfill sites
Start looking at potential material sources which comply with the Circular Economy report	As Built report compiled for the GLA

At RIBA Stages 4-7 the circular economy statement will be revisited to assess compliance with targets and reporting outcomes and lessons learned using the following:

- As Built design drawings and information
- As Built WLC results
- Waste reporting e.g. Smart Waste

7. Building Circularity

As part of the WLC assessment the building circularity was also assessed using the One Click LCA software. The Building Circularity tool allows tracking, quantifying and optimizing the circularity of materials sourced and used during the building life-cycle, as well as the circularity at the end of life. It allows getting a holistic picture, as well as a detailed breakdown per material type. It also supports applying Design for Disassembly and Design for Adaptability principles.

	Total material (kg)	Recycled materials (kg)
TOTAL (kg)	20,149,365	1,030,013
Material intensity (kg/m^{2}GIA)	1,503	74

This tool includes the assessment of recycled, renewable or reused contents for each of the elements. These elements can also be categorised under design for disassembly or design for adaptability. Each material type also has an end of life process attached to it. This is a useful tool that can be used by the design team to carefully track the materials and their circularity. This can be viewed in Appendix H.

8. End of life strategy

This section describes the strategy for how the proposal's design and construction will reduce material demands and enable building material, components and products to be disassembled and reused at the end of their usual life.

The WLC assessment has categorised end of life scenarios for each element of the building, GLA's table 2 also notes how each building layer will be designed for circularity.

The residual value of materials will be maximised at end of life by prioritising materials with ease of disassembly.

End of life scenarios have been considered for the following materials and discussed with the design team in the circular economy workshop:

Concrete – concrete can be crushed and used as aggregate for new concrete, road base, or backfill material, large concrete elements can be reused in new construction. The team is also targeting maximising reuse through design by considering precast elements that can be disassembled and reused in new projects and reversible connections

Aluminium – aluminium is highly recyclable and can be melted down and reused with minimal loss of quality, implement design joints which can be quickly and efficiently disassembled without damaging the aluminium. Apply surface treatments that preserve the material's integrity during its lifecycle, ensuring it can be reused in the same or similar capacity

Windows – glass from windows can be recycled into new glass products, while metal frames (aluminium, steel) can be melted down and reused. Implement modular window designs that allow for easy removal and reinstallation.

The disassembly instructions for the building will be provided as part of the handover pack. All material information will be stored in the BIM model to facilitate disassembly and identify any key challenges.

An end of life/deconstruction plan will be developed during the design stage, taking into account optimum reuse and recyclability of materials, and be reassessed at As Built stage.

9. Post completion report and lessons learnt

As described throughout the circular economy statement, the success of building circularity is dependent on continually checking the design and construction of the development is inline with the targets set out in the key principles and also the plans for implementation.

At post construction stage the report will be revisited and state the actual outcomes achieved, with updated versions of Tables 1 and 2, the recycling and waste reporting form and the bill of materials.

This will also include lessons learnt from the circular economy report in a way which will help future development understand how best to achieve the London Plan policy objectives.

10. Conclusion

This document, along with the GLA Circular Economy template has shown how the scheme at 100 Avenue Road meets the requirements of Policy SI7 of the London Plan 'Reducing waste and supporting the Circular Economy' and the following circular principles

- promote a more circular economy that improves resource efficiency and innovation to keep products and materials at their highest use for as long as possible
- encourage waste minimisation and waste prevention through the reuse of materials and using fewer resources in the production and distribution of products
- ensure that there is zero biodegradable or recyclable wate to landfill by 2026
- meet or exceed the municipal waste recycling target of 65% by 2030
- meet of exceed the targets for each of the following waste and material streams
  - construction and demolition – 95% reuse/recycling/recovery
  - excavation – 95% beneficial use
- design developments with adequate, flexible, easily accessible storage space and collection systems that support, as a minimum, the separate collection of dry recyclables (card, paper, mixed plastics, metals, glass) and food.

Appendix A: WLC and CE workshop meeting minutes

100 Avenue Rd

Circular economy & Whole Life-cycle carbon (WLC) workshop

Meeting date: September 2024

Attendees:	David Roberts	Cartwright Pickard
	Graeme Whyte	Regal Avenue Road
	Jason Coventry	Robert Bird
	Katy Venables	Whitecode
	Ellen Huelin	Whitecode

- KV introduced the WLC and CE principles and the team, the focus on embodied carbon throughout the life cycle of the building
- Carbon emissions from the construction and use of the building over entire life, including demolition and disposal
- Policy requirements
- London Plan 2021 Policy SI2
- *'Development proposals referable to the Mayor should calculate whole life-cycle carbon emissions through a nationally recognised Whole Life-cycle Carbon Assessment and demonstrate actions taken to reduce life-cycle carbon emissions'*
- Also require LCA assessment for BREEAM to be submitted pre-planning

Outline planning

Use of LCA tools to make assumptions on material quantities and product specifications

Comparison with GLA benchmarks

Detailed planning

Quantities extracted from models and cost plan

Comparison with GLA benchmarks

As-built assessment

As-built assessment and quantities

Material specification and manufacturer EPDs

Site energy use/deliveries

Submission of WLC (3 months post-construction)

- Data collection – use of One Click LCA, can use Carbon designer but better to have RFI completed by design team, combination of approaches to ensure accurate building weight

Minimise the quantities of materials used incorporating WLC discussions

- Basement area already in place – reduces embodied carbon
- The Proposed Developments will utilise concrete frames and concrete piles within its structure.
- 40% GGBS pile caps discussed
- uPVC windows are an option to reduce carbon against the aluminium baseline
- Discussed the selection of materials with EPD e.g. plasterboard

Minimise the quantities of other resources used

- The Proposed Development will utilise a brownfield site in order to meet the needs of the brief, optimising use of London's limited available land.
- Further measures can be cited from the Energy Strategy and Sustainability Statement when available.
- Onsite monitoring of energy and water use

Specify and source materials and other resources responsibly and sustainably

- The use of GGBS content in concrete is being explored through the structural options, 50% GGBS in the structure
- There is opportunity to explore the use of materials with recycled content and those which are certified with a recognised scheme. The feasibility of adopting materials with Cradle-to-Cradle (C2C) certification can be explored.
- There is opportunity to explore alternatives to traditional construction methods and materials, including masonry for example:

A minimum of 20% recycled content by value of materials will be met by the Proposed Development in line with the new London Plan, Policy SI 7 'Reducing waste and supporting the circular economy' and the GLA's Circular Economy Statement Guidance Draft for Consultation.

Design for longevity, adaptability or flexibility and reusability or recoverability

- Adaptability for residential – hotel/student accommodation
- Adaptability of commercial spaces
- Scenario modelling could also be considered to support communication of feasible changes in use.
- There is potential for the MEP systems and servicing strategy to further support future adaptability and flexibility.

Design out construction, demolition, excavation and municipal waste arising

- The use of prefabricated utility cupboards and risers is being considered, which would benefit on-site waste generation, delivery requirements and snagging.
- The use of pre-cast columns for the mid-rise and low-rise elements of the scheme may be explored.

Manage demolition waste

Demolition of the current buildings – pre-demolition audit to be completed

A minimum of 95% of demolition waste generated from the Proposed Development will be diverted from landfill for beneficial use in line with the new London Plan, Policy SI 7 'Reducing waste and supporting the circular economy.'

Manage excavation waste

No excavation due to basement insitu

A minimum of 95% of excavation waste generated from the Proposed Development will be diverted from landfill for beneficial use in line with the new London Plan, Policy SI 7 'Reducing waste and supporting the circular economy.'

Principle 8: Manage construction waste

A Sustainable Waste Management Plan/Resource Management Plan is being produced by Almira for the Proposed Development.

A requirement within the tender documents to consult with specialist contractors to assist with reducing construction waste in the supply chain could be explored.

A minimum of 95% of construction waste generated by the Proposed Development will be diverted from landfill for reuse, recycling or recovery in line with new London Plan, Policy SI 7 'Reducing waste and supporting the circular economy.'

Principle 9: Manage municipal waste

A Municipal/Operational Waste Management Plan is being produced by Caneparo for the Proposed Development.

Reworking or demonstration of suitable flexibility and intent will be required to comply with London Plan Policy SI 7.

A minimum of 65% of municipal waste generated by the Proposed Development will be diverted from landfill for reuse, recycling or recovery by 2030 in line with the new London Plan, Policy SI 7 'Reducing waste and supporting the circular economy.'

Short- and medium-term targets

- Ensure the policy points as detailed under Principle 3, Principle 7, Principle 8 and Principle 9 are met through contractual arrangement with the appropriate party.
- Establish that the final destination landfills and ensure that they have sufficient capacity. Implement the Sustainable Waste Management Plan by the Lead Contractor.
- Set up a tracker for all the commitments and targets made in the Detailed Circular Economy Statement and review the progress on a regular basis.

Programme/method for longer-term targets

- Lead Contractor to provide evidence that all commitments are addressed in as-built building.
- Lead Contractor to provide written confirmation that the final destination landfills had sufficient capacity.
- Provide evidence that a minimum of 20% of the total value of the selected products and materials will include recycled and/or reused content.
- Ensure that the operators are aware of the overall waste management strategy and the targets for of at least 65% diversion of the municipal waste from landfill for reuse, recycling or recovery.
- Provide a Post Completion Report to the GLA which includes lessons learned that can be fed into future projects.

Appendix B: Resource waste management plan

REGAL

LONDON

RESOURCE MANAGEMENT PLAN

100 Avenue Road

Contents

Introduction

The 'Resource Management Plan' (RMP) main aim is to promote resource efficiency and prevent waste activities. Resource efficiency included minimising waste at source and ensuring clients, designers and principal contractors assess the use, reuse and recycling of materials and products on and products on and off the site.

The Resource Management Plan (RMP) shall be maintained and formally reviewed and updated monthly by the site-specific Project Manager. This review shall ensure,

- The arrangements remain unchanged:
- The resource and waste procedures remain applicable:
- Additionally, the Plan shall be reviewed as necessary to reflect any changes in legislation, appointments or working methods and materials used.

After completion of the project the Site Waste Management Plan (SWMP) will be reviewed. Areas for improvement will be identified as well as any targets that were met or exceeded.

Key Project Details

Project Name: 100 Avenue Road

Site Location: 100 Avenue Road, London NW3 3HF

Project Overview: Demolition of the existing building and redevelopment comprising residential units (Class C3) and flexible commercial, business and service use (Class E) and community use (Class F2(b)) with associated works including enlargement of the existing basement level to contain disabled car parking spaces and cycle parking, landscaping and access improvements.

The Proposed Development will deliver 237 residential units and commercial floor space 1187m2 and community floor space 1368m2

The Client: Regal Avenue Road Ltd

Developer: Regal Avenue Road Ltd

Project Manager: TBC

RMP Author: Gerry Brines

KEY TARGETS FOR THE SCHEME:

Excavation waste: None
Demolition waste: 181.92 tonnes
Construction waste: 7.5 tonnes/100m^2 equalling 2,001 tonnes

Procedures and Commitments for Minimising Non-Hazardous Waste

PROCEDURES AT DESIGN STAGE

- Consider opportunities for offsite fabrication, where components are installed in a factory environment: the wastage rate should be lower compared with onsite installation, e.g. bathroom pods, unitised cladding
- Apply tighter specifications to work procedures this will assist with avoiding waste and allow the use of offcuts
- Consider how work sequences affect the generation of construction waste by early engagement with the contractor and specialist subcontractors and suppliers
- Simplify and optimise materials and components in terms of designing to suit
- Discuss ordering procedures that avoid waste, e.g. No over-ordering

PROCEDURES DURING ON SITE ACTIVITIES

- Storage and handling of materials, order the right quantity and ensure they are stored and handled carefully to avoid damage
- Take-back schemes, ask suppliers about take-back for off-cuts, surplus materials and packaging
- Local reuse schemes, as part of the community engagement, ask about reuse opportunities
- Waste containers , ensure that appropriate waste containers are used in order to maximise efficiencies for numbers and costs:
- Material logistics plan, consider the use of a material logistics plan and/or nearby consolidation centre.

PROCEDURES FOR OFF-SITE ACTIVITIES

- Compliance with legal requirements — Duty of Care requirements to be monitored:
- Ability to meet any resource efficiency targets — Targets must be communicated to the waste management contractor and form part of their contract:
- Knowledge of end markets for waste materials — The cost of waste management in terms of segregated versus mixed:

- Distance from construction site — Less distance equals less impact to the overall environment:
- Availability of types of containers — Requirements may differ, depending on the construction stage and type of waste being produced:
- Quality and frequency of waste management reporting — Data to be reported back at agreed periods e.g. monthly for the waste types and routes for the specific project only.

COMMITMENTS

Regal Avenue Road for every project a committed to doing a SMARTwaste management plan for materials and packaging starting from demolition stage through to the commissioning stage of the project. Our Waste Management Plan shall be implemented prior to commencement of the works and will always be site specific. At Regal, we take waste and recycling seriously, and strive to move forward in the industry with innovative construction methods that will help reduce waste.

LEGISLATION

There is a whole raft of legislation related to the protection of the environment. The following are particularly significant for improving material resource efficiency in construction at UK level for legislation and regulations:

- Waste Framework Directive for England and Wales — The requirements of the Waste Framework Directives are applied by the Waste Regulations 2011 and subsequent amendments:
- Hazardous Waste for England and Wales — The Hazardous Waste Regulations 2005 and subsequent amendments, make provision for the controlled management of hazardous waste from the point of production to the final point of disposal or recovery:
- Waste Activities Legislation for England and Wales — The Environmental permitting Regulations 2010 and subsequent amendments apply the ongoing requirements of the Landfill Directive (1999/31/EC). They standardise environmental permitting and compliance for waste management operations in England and Wales to protect human health and the environment.

Waste Minimisation Target and Actions to be Undertaken

Implementing good practice waste minimisation and management for construction projects will help reduce the significant of construction waste sent to landfill and make a substantial contribution to sustainable development.

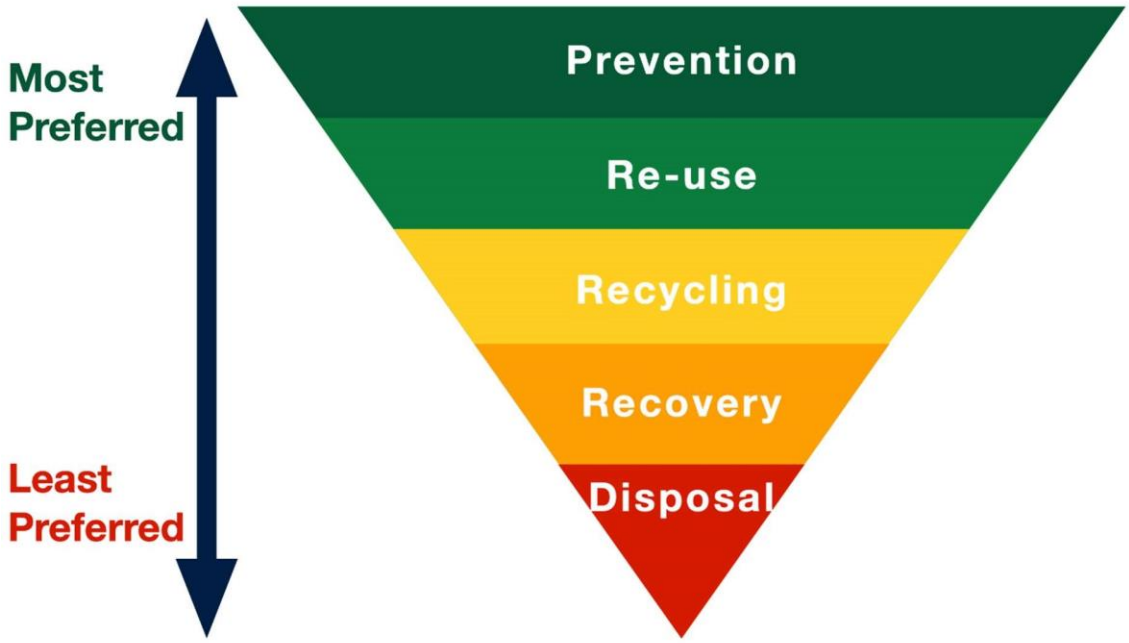
Waste minimisation includes a range of straightforward methods to ’design out’ waste from a project and limit waste arising during the construction phase.

KEY BENEFITS

- Reduced material and disposal costs
- Increased competitive differentiation
- Increased performance against CSR objectives
- Lower C02 emissions
- Meeting planning requirements

WASTE HANDLING

All waste will be assessed under the Waste Hierarchy.



TARGETS

Regal have set out targets for demolition, excavation, and construction waste, and to distinguish between non- hazardous and hazardous waste.

Targets will be set to project level and company level. Targets at a project level are usually based on any environmental assessment scheme and/or requirements at the company level are usually derived from undertaking internal and/or external benchmarking.

BENCHMARKING

Performance can be benchmark against other projects company averages and industry figures. The Building Research Establishment (BRE) produce quarterly benchmarks for volume and tonnes of waste arising relative to floor area and/or project value entered into the SMARTWaste tool.

Procedures for Estimating, Monitoring, Measuring and Reporting Hazardous and Non-Hazardous site Waste

ESTIMATING

Estimating the waste produced can have many benefits such as:

- Meet the client's requirements and aid by producing waste forecasts:
- Reduce the costs by estimating waste, where money savings can be made on materials purchased and waste,

How to estimate waste. At Regal we follow a simple but effective process.

- Work out how much of each item/material is required through appropriate software
- Calculate how much to order
- Work out the wastage rate and compare through good practice
- Investigate ways to reduce/reuse or recycle the potential waste
- Review processes and work with the supply chain

Estimated construction waste for 100 Avenue Road, 7.5 tonnes/100m^2 floor area. This results in a total tonnage of 2,001 tonnes.

MONITORING

At Regal Avenue Road, we use the BRE SMARTwaste software that enables us to carry out monitoring progress against the actions in the Site Waste Management Plan (SWMP) more often than every six months can inform ongoing site achievement of the planned waste reduction and recovery actions.

Once data is collected, it will form a baseline against which clients can evaluate and improve on resource efficiency performance.

MEASURE

Waste should be reported in tonnes wherever possible. However, if this not possible the volume of different types of waste produced can be converted into a mass using standardised volume to mass conversion factors. These conversion factors take into account the density of the material and, to allow for void space, the bulking factor. The conversion factors used originate from the Environment Agency.

REPORTING

Reporting is an integral part of the Site Waste Management Plan (SWMP) process. Both good and best practice relate to recording and reporting waste arisings in increasing levels of details.

Procedures for Sorting, Reusing and Recycling Construction Waste into Defined Waste Groups

SITE DESIGN, STORAGE AND LOGISITCS

Space permitting, key waste streams should be segregated. This should include training, monitoring and enforcement with clear signage and using the National Colour Coding Scheme.

SCHEDULE OF WASTE CONSTRACTORS

A full schedule of Waste Carriers and Waste Sites used on this project will be recorded on SMARTwaste.

TRUE COST OF WASTE

The true cost will include several things, such as time taken for sorting, handling and managing waste, over fill of skips etc.

LANDFILL TAX

Thid tax was introduced in 1996 to encourage the construction industry to reduce the amount of waste disposed to landfills

ENVIRONMENTAL BENEFITS

Key environmental benefits can be achieved by improving material resource efficiency which include:

- Reduce the amount sent to landfill and emissions of methane and leachate:
- Conserving the earth's resources by reusing and recycling more materials:
- Reducing carbon emissions and other environmental impacts by reducing material consumption and wastage:
- Maximise resource use,
- Reduce localised emissions from the associated reduction of transportation of materials and waste

9 SITE WASTE MANAGEMENT PLAN (SWMP)

Although there is no longer a legal requirement to undertake site waste management plans (SWMPs), it is good practice to do so. They provide a framework for waste management, whereby all activities can be documented, managed and communicated effectively.

Refer to the 100 Avenue Road project SWMP which expands on the below criteria.

The SWMP should include and comply with.

- Outline of key responsibilities:
- A description of the waste types to be produced throughout the project:
- Estimated quantities of each different waste type expected:
- Waste management actions for each waste type, including re-using, recycling, recovery, and disposal:
- The identity of the person removing the waste:
- The waste carrier registration number of the carrier:
- Details for the site that the waste is being taken to and whether the operator of that site holds a permit under the Environmental Permitting (England and Wales) Regulations 2007 or is registered under those Regulations as a waste operation exempt from the need for such a permit.

Appendix C: Operational waste management plan

CANEPARO ASSOCIATES
Transport Planning & Highway Design

Regal Avenue Road Limited

100 Avenue Road, Camden

Delivery, Servicing and Waste Management Plan

January 2025

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Contents

Appendices

1 INTRODUCTION

1.1 This Draft Delivery, Servicing and Waste Management Plan ('DSWMP') has been prepared by Caneparo Associates on behalf of Regal Avenue Road Limited ('the Applicant') in relation to the s.73 Amendment Application for the redevelopment of a Site known as 100 Avenue Road (the 'Site'), located within the London Borough of Camden ('LBC').

1.2 The Site is located in the South Hampstead area and is highly accessible by public transport, being located at the eastern entrances to Swiss Cottage Underground Station. The existing Site comprises a construction site at present, associated with the 'Implemented Permission' (ref: 2014/1617/P (as amended under 2016/2048/P, 2018/4239/P, 2019/1405/P and 2022/1609/P)). This s.73 Amendment Application seeks amendments to this Implemented Permission.

Planning History

1.3 The Site benefits from Implemented Planning Permission for the construction of a 184-unit residential scheme comprising a private rent tower block (130-units) and an affordable housing lower block (54-units), with associated flexible commercial space and community use space.

1.4 The original planning application for the Site was submitted in March 2014 (LPA Ref: 2014/1617/P) and refused in October 2014, however this was subsequently allowed on Appeal in February 2016 with the application comprising the following:

"Demolition of existing building and redevelopment for a 24 storey building and a part 7 part 5 storey building comprising a total of 184 residential units (Class C3) and up to 1,041sqm of flexible retail/financial or professional or café/restaurant floorspace (Classes A1/A2/A3) inclusive of part sui generis floorspace for potential new London Underground station access fronting Avenue Road and up to 1,350sqm for community use (class D1) with associated works including enlargement of existing basement level to contain disabled car parking spaces and cycle parking, landscaping and access improvements."

1.5 Following approval on Appeal, the planning permission was implemented, with the historic existing building now having been demolished and the basement level of the Implemented Permission having been constructed. The Implemented Permission and the Amendment Application have been assessed against both the existing position (i.e. the stalled construction site) and the Implemented Permission being completed and fully built out.

1.6 Secured under the Implemented Permission s.106, at Clause 3.6, was a Servicing Management Plan. This Servicing Management Plan requirements was approved and discharged on the 13th October 2020, setting in place the servicing strategy for the Implemented Permission, for which the Proposed Development will remain consistent with.

Proposed Development

1.7 The Proposed Development seeks the:

"Demolition of the existing building and redevelopment comprising residential units (Class C3) and flexible commercial, business and service use (Class E) and community use (Class F2(b)) with associated works including enlargement of the existing basement level to contain disabled car parking spaces and cycle parking, landscaping and access improvements."

1.8 The proposals comprise of the delivery of 237 residential units across two blocks, comprising 167 private rental units in the 'Tower' block, and 70 affordable residential units provided in the 'Lower Block'. The proposals also include the provision of circa 1,188sqm GIA of retail space, to be delivered as a modest retail unit in the Tower block and a larger retail unit in the Lower block, anticipated to be for use as a small food retail offering. The Development will also provide circa 1,372sqm GIA of community space. The proposals provide a focus on active and sustainable travel to residents and visitors, with cycle parking facilities provided and car parking limited to blue badge holder parking only.

1.9 A copy of the Architect's ground floor and basement layout plans is included at **Appendix A**.

DSWMP Scope

1.10 This DSWMP sets out how deliveries, servicing and waste collection associated with the Development will be managed and controlled, and it details the waste storage and collection strategies and measures and initiatives to support both delivery and servicing management. This document provides a basis for information on the residential, community and commercial uses, with a final document anticipated to be secured by way of planning condition.

1.11 This DSWMP has been prepared in accordance with the 'Delivery and Servicing Plan Guide' 2020 TfL guidance, with regard to compliance with British Standard BS5906:2005 Waste management in buildings – Code of practice and Building Regulations 2000, Part H6, Camden Planning Guidance: Design 2021 and Camden Environment Service Technical Guidance for Recycling and Waste.

Aims & Objectives

1.12 The principle aim of the DSWMP is to manage deliveries and servicing (including refuse collection) to and from the Development, in order to ensure that servicing activity is undertaken successfully, efficiently, sustainably and without conflict between vehicles and / or pedestrians.

1.13 In addition, the DSWMP includes measures to ensure servicing and deliveries are recorded and monitored. This highlights any issues which may arise from the servicing of the Development. In accordance with the City's guidance, this enables future deliveries, where possible, to be reduced, re-moded, re-timed and re-routed. Deliveries by smaller vehicles will always be a priority, as will delivering outside of weekday peak hours.

1.14 The DSWMP will manage deliveries and servicing at the Development with the following objectives:

- Ensure that, where possible, deliveries are planned so as to avoid multiple arrivals at any one time, reducing the impact on the public highway.
- Ensure that, where possible, deliveries do not take place from the ground floor on-site public realm during Swiss Cottage Market activity.
- Ensure that deliveries are undertaken by small to medium sized vehicles (e.g. bicycles, motorbikes and transit vans) and electric or hybrid vehicles, so as to enable maximum utilisation of the basement level servicing facility, avoiding requirement for use of the ground floor public realm on-site.
- Ensure that where possible/appropriate, deliveries are consolidated and the use of cargo bike deliveries for consolidated last mile logistics are investigated and utilised where appropriate.
- Ensure that vehicles load / unload for the minimum time necessary, in order to ensure that the servicing yard is available for incoming vehicles whenever possible.

Benefits

1.15 The DSWMP aims to bring about a continual improvement in the way deliveries and servicing is undertaken by reducing its effect on the environment and local highway. It also brings about a number of benefits to the organisations and users of the Development, including the following:

- Opportunities to consolidate deliveries, saving time and money.
- Improvements to safety by reducing the number of deliveries and overseeing activity on-site.
- Reducing harmful emissions through the use of greener and smaller vehicles.
- Improving the scheduling of deliveries to reduce non-attendances, unsuccessful deliveries or idling vehicles waiting to access the loading facilities.
- Reducing the potential for having to wait/load/unload on-street and/or illegally.
- Reducing congestion and environmental impacts, conversely resulting in improved air quality.
- Improving amenity for users of the Development and the local area through reduced noise, emissions and intrusion from vehicles.

1.16 The remainder of the DSWMP is set out as follows:

- Section 2 - sets out the Site and servicing arrangements;
- Section 3 - sets out the waste storage and collection strategy;
- Section 4 - sets out the servicing initiatives of the DSWMP;
- Section 5 - sets out the waste initiatives of the DSWMP; and,
- Section 6 - details the monitoring and review of the DSWMP.

2 SITE AND SERVICING ARRANGEMENTS

The Site

2.1 The application Site is bounded on its western side by Avenue Road and the Swiss Cottage/Finchley Road junction and gyratory. Ye Olde Swiss Cottage pub is located directly opposite on the western side of Avenue Road, facing on to the junction. On the northern side the Site is bounded by the western end of Eton Avenue which is pedestrianised. To the east of the Site is Swiss Cottage Open Space and to the south of the Site is Swiss Cottage Library.

2.2 The location of the Site in its local context along with surrounding public transport nodes is shown in **Figure 2.1** below.

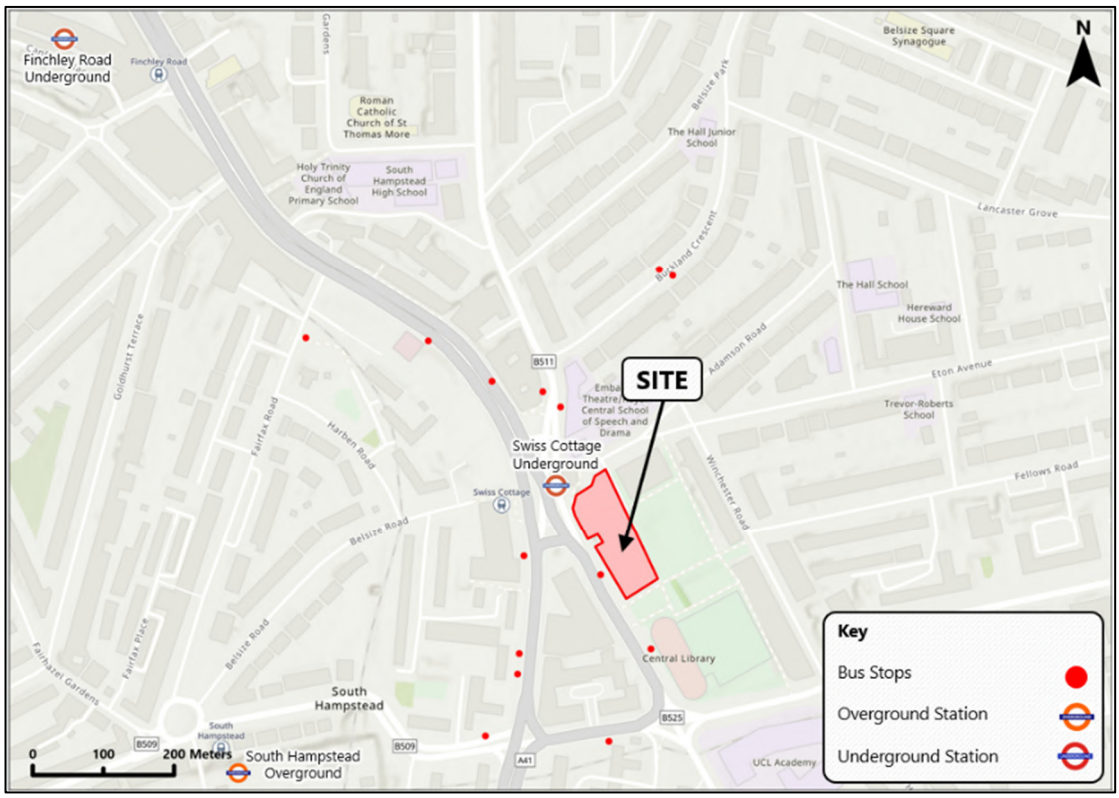


Figure 2.1 Site Location Plan **ArcGIS 2024 ©**

2.3 The existing Site currently comprises a construction site with a built-out basement level from the implemented scheme. The Site currently has hoarding surrounding its boundary on each side and is only accessible to construction staff. Pedestrian access to the existing Site is not available to the general public however Site staff access can be taken from ground floor level at several gates.

Local Highway Network

Eton Avenue

2.4 Eton Avenue operates to the north of the Site and forms two sections of highway, with the section to the northeast of the Site forming a two-way residential road and the section immediately abounding the Site to the north being a pedestrian zone.

2.5 The northeast of the Site, Eton Avenue operates in a broadly east to west orientation between the pedestrian zone of Eton Avenue to the west and Belsize Park Gardens to the east. The road offers parking bays on both sides of the highway, whilst retaining two-way flows. Parking bays are controlled as resident permit holder only bays, within LBC controlled parking zone (CPZ) CA-B, with restrictions operational between Monday to Friday 09:00-18:30 and Saturday 09:30-13:30. At the western section of Eton Avenue, pay by phone parking bays are provided, as well as the double yellow lines permitting loading.

2.6 The pedestrian zone section of Eton Avenue adjacent to the Site, is in regular operation as a market, as detailed above. This section of highway permits access only to off-street premises (i.e. the Site) and for loading access for market traders. The highway is controlled by double yellow lines, which permit market trader associated van parking with no time restriction.

2.7 The Site's vehicle accesses are both taken from Eton Avenue, with the vehicle ramp access taken immediately to the east of the pedestrian zone adjacent to Hampstead Theatre, and the primary vehicle access at-grade into the Site taken directly from the pedestrian zone of Eton Avenue, where unrestricted access is permitted for Site vehicles.

Avenue Road

2.8 Avenue Road operates to the west of the Site in a predominantly north-south orientation connecting to the B525 in the south and connecting to Finchley Road / College Cresent adjacent to the Site and to the north. Avenue Road forms part of the A41 which connects South Hampstead to the M1. Adjacent to the Site, Avenue Road operates one-way traffic southbound with varying lane provisions and separations through its local extent, forming opportunities for northbound circulation via Finchley Road in a circulatory pattern. In the vicinity of the Site, Avenue Road is part of a TfL Red Route (known as the Transport for London Road Network (TLRN)) restricting stopping on-street. Avenue Road is subject to 20mph speed restrictions.

Controlled Parking Zones

2.9 Roads surrounding the Site are situated within three Controlled Parking Zones (CPZ) which restrict on-street parking. Much of the surrounding roads are within CPZ-CA-J Primrose Hill which is in operation on Mondays to Fridays from 08:30 to 18:00. To the east of the Site CPZ-CA-B Belsize is in operation on Mondays to Fridays from 09:00 to 18:30 and on Saturdays from 09:30 – 13:30. Just to the west of the Site lies a pocket of the CA-K Kilburn Priory controlled parking zone, this is in operation between 08:30 – 18:30 on Mondays to Fridays.

2.10 **Figure 2.2** below shows the location of the surrounding CPZs in relation to the Site.

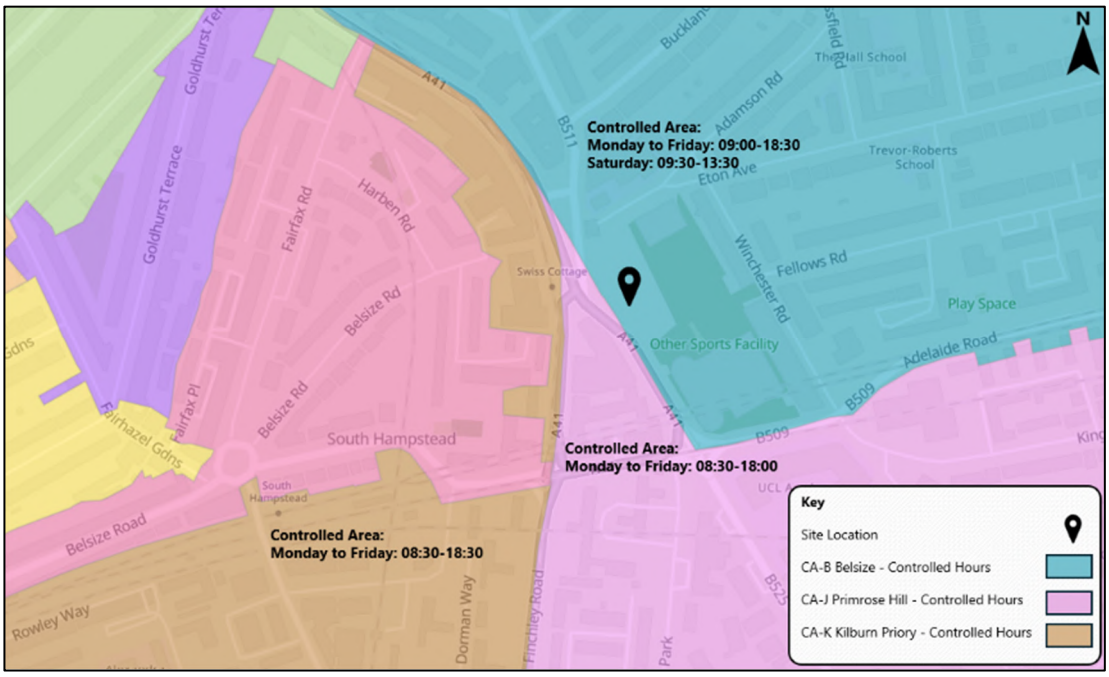


Figure 2.2: Local Controlled Parking Zones

Swiss Cottage Markets

2.11 Eton Avenue directly to the north of the Site is a pedestrian zone, utilised by the Swiss Cottage Market. The market operates from Tuesday to Saturday, between the hours of 10:00-17:00, with Wednesday market trading providing a farmers' market, operating between 10:00-15:00.

2.12 At the time of the Implemented Permission, the market operated 3 days per week. The markets now operate 5 days per week, which is a material increase in activity when considering the clear access requirement for the Site and which were secured under the Implemented Permission, and is relevant to both the previously agreed and secured emergency vehicle access and servicing access arrangements.

2.13 Shown in **Image 2.1** below is a photograph taken of the farmers' market on Wednesday 17th July 2024. **Image 2.2** shows the markets in the context of the Site and its retained access to Eton Avenue.

Image 2.1: Looking West to Swiss Cottage Market Activity on Eton Avenue

Image 2.2: Swiss Cottage Market at the Site Access Hoarding on Eton Avenue

2.14 As part of this s.73 Amendment Application, the Proposed Development will retain the same access strategy as the Implemented Permission, which has been secured through the approved and discharged Servicing Management Plan, required under Clause 3.6.1 of the s.106 as of the 13th October 2020. As such, there will be a continued clear access right and requirement from Eton Avenue for servicing vehicles and emergency access.

2.15 It is recognised however, that there is an associated need for co-operation with the markets and LBC to minimise any potential impacts to the market and vice versa once the Development is occupied. With regards to the operation of and any future development of the markets, these would need to consider and be cognisant of the access arrangements for the Site and Implemented Permission given this is the existing and active situation.

Servicing Arrangements

2.16 The implemented scheme's servicing strategy proposed to receive deliveries from the on-site at-grade shared surfacing, accessible from Eton Avenue, with smaller delivery vehicles (small vans, cars and motorcycles) to make use of the basement car park, accessed from Eton Avenue.

2.17 Cognisant of the market activity on Eton Avenue (albeit the market only operated 3 days per week at the time of previous planning consent), the implemented scheme sought to manage delivery activity to avoid the markets, with Delivery and Servicing Plan stating that:

"Deliveries to the site will be organised into time windows. This means that staff associated with the retail units know when to expect the delivery and so are in place and ready to act in an efficient manner. It also means that service vehicles will not arrive at the same time. It can also be used to ensure that deliveries arrive at a convenient time. Conforming to specific time slots will allow servicing activities to avoid conflict with market trading days."

2.18 All delivery vehicles which are small vans, cars, motorcycles and cargo cycles, will service the Development from the basement servicing area, accessible via the vehicle ramp to Eton Avenue. Larger delivery vehicles will make use of the shared surfacing area provided on-site, accessed from the pedestrian zone of Eton Avenue, as per the implemented scheme and historic access rights of Eton Avenue.

2.19 There will be a requirement to retain unfettered access to the Development from the Eton Avenue pedestrian zone at all times, to ensure emergency access can be made to all areas of the building. As such, any market stalls layouts will need to be positioned conscious of the swept path analysis requirements of fire tender vehicles and any other fire safety regulations.

2.20 Included at **Appendix B** is swept path analysis which demonstrates the movements of all servicing vehicles required for the Development at ground floor level, with **Appendix C** including the basement level servicing bay swept path analysis. The ground floor level swept path analysis includes waste collection vehicles, fire tenders and access for low-loader articulated lorries. This vehicle has been tracked on the basis that very infrequent access by a low-loader articulated vehicle (16m) will be required to the Site for UKPN access.

2.21 Excluding the low-loader for UKPN access, it will be a requirement that deliveries to the Site are undertaken by vehicles no larger than 10m rigid vehicles, particularly of relevance regarding the servicing activity associated with the small supermarket space. This activity will be pre-programmed to avoid all market activities.

Vehicle Routing

2.22 Delivery, servicing and waste collection drivers will be advised to arrive from the north along Eton Avenue before entering into the Site and heading out eastbound and departing to the north. Access is taken from Eton Avenue to both the vehicle ramp to basement level and to the on-site ground floor servicing area within the public realm.

2.1 Suppliers will be made aware of the routes in which can be taken to and from the local highway network, with the recommended vehicle route shown in **Figure 2.3** below, and summarised as follows:

- **Access**: Finchley Road – Adelaide Road – Winchester Road – Eton Avenue – Site.
- **Egress**: Site – Eton Avenue – Winchester Road – Adelaide Road – Finchley Road.

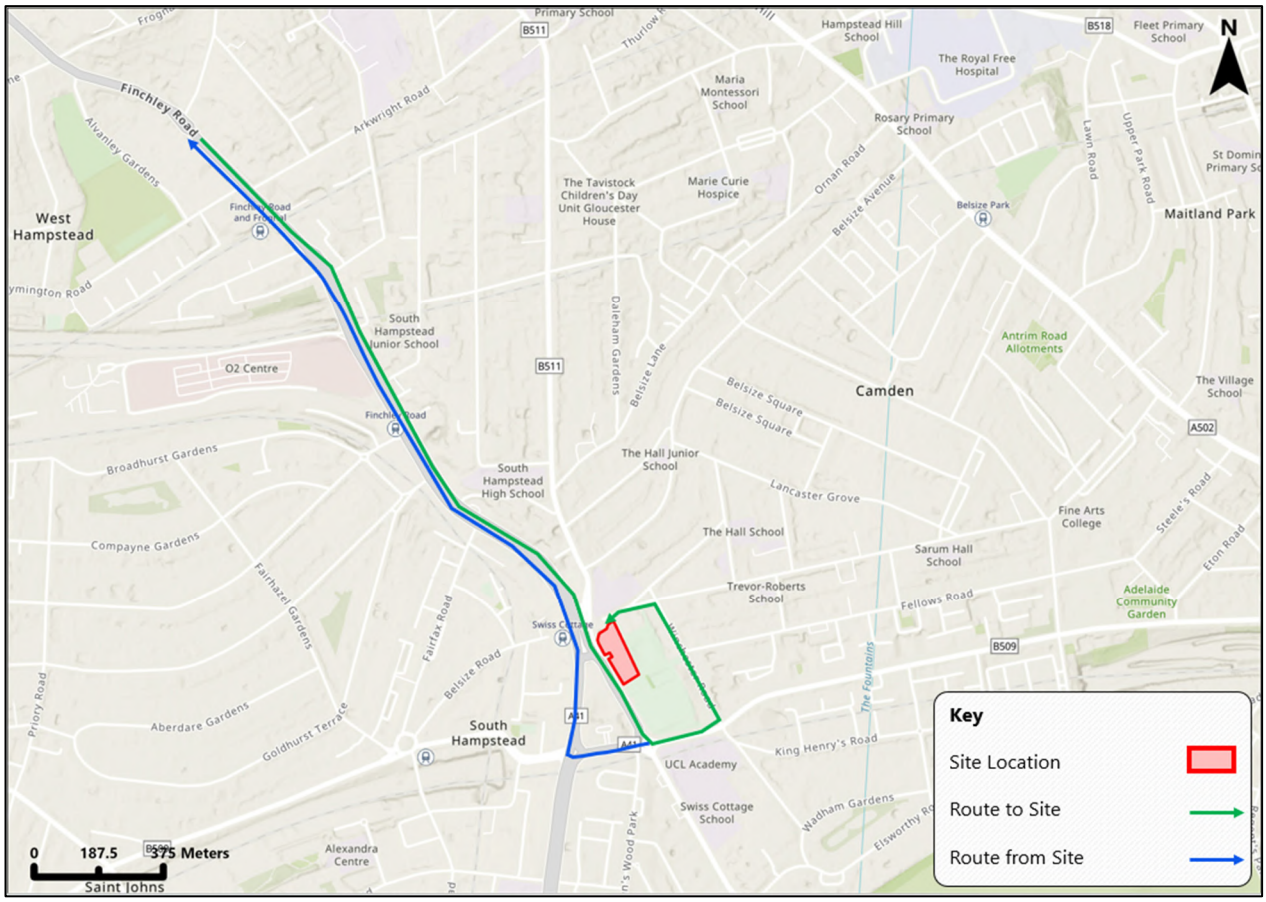


Figure 2.3: Recommended Routes

Servicing Movements

Servicing Demand

2.2 The TRICS database has been analysed for similar residential sites and convenience store sites as part of the Transport Assessment which accompanies this draft DSWMP.

2.3 The TRICS trip rate for servicing activity for residential use was recognised as 0.141 deliveries per residential unit and the convenience store trip rate was recognised as 0.222 deliveries per 100sqm.

2.4 Based on the above trip rates for servicing, the Proposed Development, based on 237 residential units and 1,188sqm GIA of commercial/retail space, will generate an estimated 33-34 residential deliveries per day, 2-3 commercial deliveries per day and 1 community use delivery per day, equalling a daily delivery demand of circa 36-38 deliveries per day.

Servicing Demand Distribution

2.5 As detailed above, the Site has two servicing opportunities available on-site, being the at-grade internal courtyard, accessed via the pedestrian zone of Eton Avenue to the north, and the basement servicing area accessed via the vehicle ramp from Eton Avenue to the east of the pedestrian zone.

2.6 The basement ramp has height restrictions (circa 2m) which would limit basement servicing use to cargo cycles, motorcycles, cars and panel vans (up to 4.6t panel vans due to manoeuvrability). It is also recognised that any servicing strategy for the Site will have to operate appropriately mindful of the frequent market activity at the Site access from Eton Avenue.

2.7 To determine what this means for servicing demand, analysis of the delivery activity for the TRICS sites used to generate servicing demand estimates has been undertaken. The review of the convenience store sites indicates all servicing activity is undertaken utilising OGV's, estimated to be 10m rigid lorries or articulated vehicles. The residential servicing activity recognised a more significant variation in delivery vehicle types, owing largely to the variation in delivered goods. **Table 2.1** below provides a summary of the delivery activity recognised across each assessed TRICS residential site, as well as presenting the combined modal split of delivery vehicles.

Table 2.1: TRICS Residential Servicing Demand by Vehicle

TRICS Site	Delivery Activity by Vehicle Type					
	Car	LGV	M/Cycle	OGV 1	OGV 2	Total
BM-03-C-01	0	9	0	1	0	10
HG-03-C-01	0	11	0	0	0	11
HM-03-C-02	6	22	0	3	0	31
IS-03-C-08	5	26	22	0	0	53
SK-03-C-03	5	6	8	2	1	22
Total (%)	**16 (12%)**	**74 (58%)**	**30 (24%)**	**6 (5%)**	**1 (1%)**	**127**

2.8 As demonstrated in Table 2.1, the residential element of the scheme generates a mix of delivery vehicles. The majority of delivery vehicles are by small to medium sized vehicles (motorcycles, cars and light goods vehicles), with 6% of deliveries being by HGV's (OGV 1 and OGV 2). Of the servicing activity, 36% was undertaken by cars and motorcycles, with a likely contributor to this figure being food takeaway orders.

2.9 Applying the delivery splits for residential deliveries as outlined in Table 2.1, and findings of delivery types for convenience stores, to the Proposed Development, **Table 2.2** below provides the anticipated delivery profile for the Development.

Table 2.2: Proposed Development Delivery Demand Profile*		
Delivery Vehicle Type		**Total Proposed Development Deliveries**
Vehicle	**Percentage**	
Car	12%	5
LGV	58%	21
Motorcycle	24%	8
OGV 1 (HGV)	5%	2
OGV 2 (HGV)**	1%	2
Total	**100%**	**38**

**Minor numerical discrepancies due to rounding.*

***Data includes residential use delivery percentages, with convenience store deliveries added as OGV 2 deliveries in addition.*

2.10 As shown in Table 2.2, the vehicles which will make use of the ground floor public realm are anticipated to be low, with circa 5 HGV deliveries anticipated per day. Of these HGV movements, two will be attributed to the commercial space which can therefore be managed to take place outside of market operational hours.

2.11 It will be made clear to all residents that should they receive a specialist delivery and/or are moving out and make use of an HGV, these deliveries must be programmed to arrive before 10:00 or after 17:00, to ensure there is no conflict between servicing vehicles and the market operation. The Site management team will ensure all residents and operators on-site are aware of the limitations to servicing and deliveries at the Site, the appropriate protocol to servicing from basement level, and the operational hours of the markets.

Types of Vehicles

2.12 It is anticipated that the vast majority of servicing and delivery activities will be undertaken by Light Goods Vehicles (LGVs) such as transit, panel and box vans with typical activity comprising online retail and online food deliveries. **Figure 2.4** illustrates the type of vehicles that are likely to serve the Development.

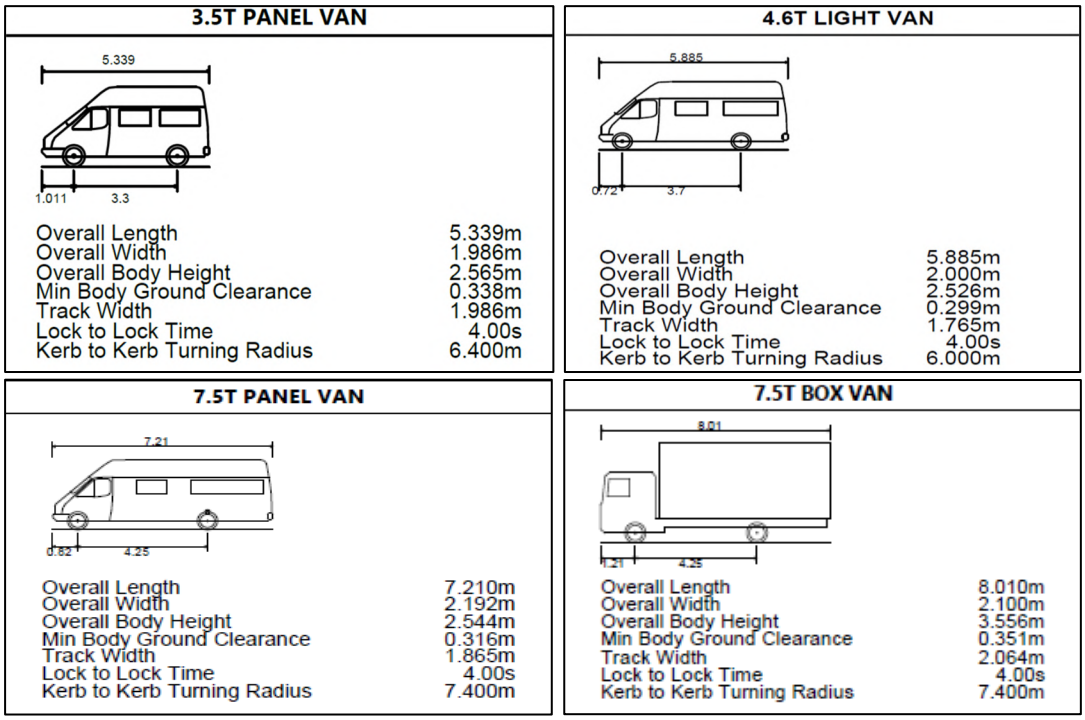


Figure 2.4: Estimated Typical Delivery Vehicles

3 WASTE AND RECYCLING ARRANGEMENTS

Waste Guidance

3.1 This section sets out the waste storage and collection strategies for the Proposed Development. Waste will be managed in accordance with the waste hierarchy as set out in **Figure 3.1**.

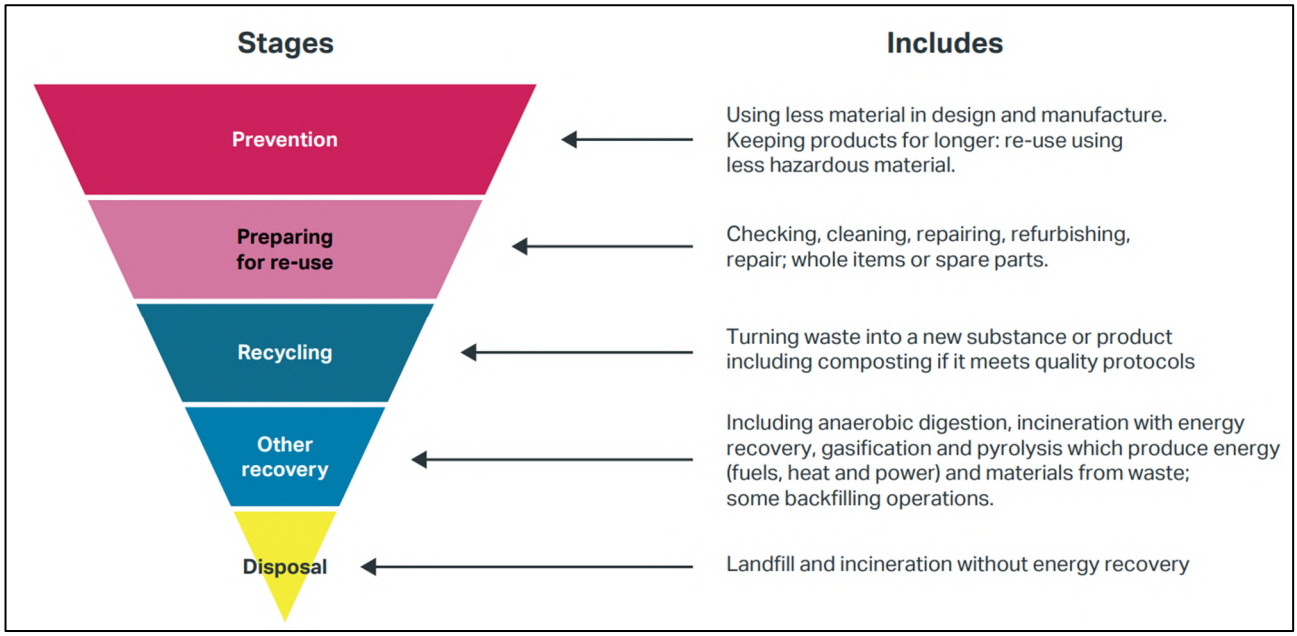


Figure 3.1: Waste Hierarchy (London Environment Strategy)

3.2 Suppliers will be encouraged to take away their packaging to minimise the accumulation of waste on-site. It may be possible to remove packaging prior to its arrival to the Site to improve waste management.

3.3 In accordance with the London Environment Strategy, the Applicant commits to a residential waste recycling target of 50% (by weight / tonnage) and a business waste recycling target of 75% (by weight / tonnage) by 2030. The Site Management Team (SMT) will keep a record of how much waste and recycling is produced where applicable, and will reallocate bins for recycling as/when necessary.

3.4 The waste management strategy has been prepared developed in accordance with BS5906:2005 alongside LBC waste management guidance, with reference also taken from Policy SI 7 of the London Plan (2021) which focuses on reducing waste and supporting the circular economy, alongside the environment strategy for London (2018).

Waste Storage

3.5 Waste storage will be provided across the Development individually for each use. The residential element of the Tower will be provided with a dedicated waste store located at basement level, with residents making use of a waste chute system, removing the need for residents to travel to the waste store. Waste from basement level will then be taken by Site Management to a level holding area at the vehicle ramp, before waste is then taken up to street level prior to collection using a bin tug. This will see collection take place from Eton Avenue.

3.6 The residential element of the Lower block will be provided as a ground floor waste store, which will be located adjacent to the courtyard to allow direct collection access during waste collections.

3.7 The commercial uses will be provided with ground floor waste storage capacity within their unit, all of which will be located directly accessible to the courtyard area for direct collection. The community use is provided with a waste store at basement level, accessible via a dedicated lift for the community use.

3.8 The following waste storage provisions have been made for each use on-site:

- Tower Residential Use – 9 x 1,100L dry mixed recycling Eurobins, 7 x 1,100L general waste Eurobins and 16 x 240L food waste bins.
- Lower block Residential Use – 4 x 1,100L dry mixed recycling Eurobins, 3 x 1,100L general waste Eurobins and 8 x 240L food waste bins.
- Flexible Commercial Use – 2 x 1,100L dry mixed recycling Eurobins, 1 x 1,100L general waste Eurobin and 1 x 240L food waste bin.
- Community Use – 1 x 360L dry mixed recycling bin, 1 x 360L general waste bin and 1 x 240L food waste bin.

3.9 The following waste estimates, as outlined within the Draft 16 UK Waste Classification Scheme (previously DETR, now DEFRA), have been used to calculate the tonnage generated by the Proposed Development per annum:

- General waste = 0.27 tonnes per 1 cubic metre.
- Recyclables = 0.6 tonnes per 1 cubic metre.

- Glass & Food = 0.75 tonnes per cubic metre.

3.10 **Table 3.1** demonstrates the estimated tonnes per annum in line with the "*Recycling and Waste Reporting*" table from Appendix D of the Greater London Authority (GLA) Circular Economy Statement guidance. This is based on meeting recycling targets of 50% residential and 75% commercial recycling.

Table 3.1: Recycling and Waste Tonnes per Annum

Use Class	T/Annum	% Reused on or off-site	% Recycled or composted on or off-site	% Not Reused or Recycled
Residential Waste	1,304T Total (201T General Waste, 879T Mixed Recycling and 225T Food)	0%	50%	50%
Flexible Commercial Waste	209T Total (31T General Waste, 160T Mixed Recycling and 19T Food)	0%	75%	25%
Community Use Waste*	65T Total (15T General Waste, 40T Mixed Recycling and 9T Food)	0%	75%	25%

** Estimates for Community based on waste provisions made only.*

Unique Waste

3.11 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), gas canisters, Hazardous Waste (HAZ), printer and toner cartridges. Building maintenance will also give rise to materials such as paints and waste lubricating oils that will require separate storage in dedicated sealed containers.

3.12 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.

3.13 All waste management will have to comply with Environmental Protection Act 1990 and The Waste (England and Wales) (Amendment) Regulations 2014 Space for additional unique waste containers provided (e.g. battery bins).

Bulky Waste

3.14 The waste storage areas are designed to ensure there is space for the storage of bulky waste within the storage areas within each store.

Waste Collection

3.15 Waste collections for the residential within the Lower block, the commercial space and the community use space will take place within the Site at the ground floor courtyard area, as shown within the swept path analysis at **Appendix B**. Waste collections will be programmed to be undertaken prior to and outside market operations.

3.16 Where Council waste collections are required for the Lower block affordable residential use, waste collection history has been reviewed and collections occur before 10am, which will avoid market activity.

3.17 It is anticipated that residential refuse collections will occur once per week as per the local Council operation for each waste stream. Collections for the commercial and community use spaces will occur through private collections and will be programmed to be once per week initially, with additional collection frequency developed should there be a considered additional demand.

4 DELIVERY MEASURES AND INITIATIVES

Measures and Initiatives

4.1 A member of the SMT, anticipated to be an on-site member of concierge for the tower block, will be responsible for overseeing servicing and delivery activity. The following initiatives will be adopted:

- The SMT will issue written/email instructions to all regular suppliers who book deliveries setting out the delivery procedures to be adopted by them.
- Suppliers will be encouraged to pre-book a 30-minute delivery slot including details of the type of vehicle that will be used to undertake the delivery and the scale/nature of goods to be supplied (although the majority of deliveries would only take 5-10 minutes to undertake, the 30-minute slots would allow for the vagaries of London traffic etc.).
- Deliveries will be programmed so as to avoid waste/recycling collections.
- Where delivery booking is not possible, i.e. residential ad hoc deliveries, the SMT will ensure that all residents know of the appropriate delivery strategy for the Site, utilising the basement for smaller deliveries and programming larger deliveries to take place outside of the 10:00-17:00 period during market days. Information will be provided on noticeboards within each residential lobby and residents will be informed at the start of their tenancy on-site.
- The SMT will inform all community and commercial tenants of the above agreed servicing strategy which must be adopted at the Site.
- Delivery drivers will be encouraged to advise the SMT of their impending arrival by telephoning them approximately 10-15 minutes before their arrival where appropriate.
- Drivers will be informed that vehicle engines must be switched off whilst goods are being loaded / unloaded (i.e. when their vehicle is stationary).
- The SMT will be responsible for maintaining a log book, including a record of any accidents or near misses and, if necessary / appropriate, will act accordingly so as to avoid the potential for future problems.
- The SMT will be responsible for the smooth and efficient operation of the “Plan”.

Concierge

4.2 The Tower Block residential units will be provided with a concierge facility, which will feature a staffed position at the ground floor lobby. As part of the concierge service, the staff will operate as the SMT for the Development, which will include receiving goods to the residential units within the Tower, managing waste storage and collection for the Tower and overseeing servicing activity across the Site at both ground floor and basement levels.

4.3 Where possible, the concierge will record deliveries and ensure that activity being undertaken at basement level follows the proposed deliveries strategy, allowing access to the building for delivered goods and collecting goods delivered to basement level where appropriate.

Consolidation and Reduction of Deliveries

4.4 In order to reduce the number of daily deliveries to the site, the SMT will:

- investigate the potential use of last mile delivery solutions by eco-friendly or active travel modes, such as cycle couriers;
- review the number of deliveries and suggest further measures that could be adopted by commercial and community tenants with high frequencies of deliveries to reduce overall numbers; and,
- explore the possibility of smart / joint procurement with adjacent properties in conjunction with seeking suppliers who use consolidation centres.

Information Provision & Awareness

4.5 All Site users will be made aware of the existence of the DSWMP, its objectives, and the role of individuals in achieving its objectives, upon residency and tenancy.

4.6 Noticeboards, newsletters or websites could be used by the SMT as a means of further disseminating information and promoting initiatives.

5 WASTE STORAGE AND COLLECTION INITIATIVES

Consolidation and Low-Carbon Waste Collection

5.1 Waste collections are envisaged to be undertaken by the LBC collection team for residential uses, with a private collection team to collect waste associated with commercial and community uses. Should it be considered necessary, the Applicant will investigate the implementation of a private waste collection team for the residential element, to enable the ability to manage arrival times and also to utilise low and no-emission electric vehicles to collect waste for the Development, reducing the carbon impact of waste removal. The ability to consolidate collections with other local developments to reduce vehicle movements locally will also be investigated as part of any potential private collection contract.

Information Provision & Awareness

5.2 All Site occupiers will be made aware of the existence of the DSWMP, its objectives, and the role of individuals in achieving its objectives, upon occupation of the building.

5.3 Signage will be placed in waste deposit areas, encouraging the correct deposit of waste and recycling separated bins provided. Residents of the tower block will also be provided with signage on each floor to shown which waste chute is for each waste stream.

5.4 Noticeboards, newsletters, or social media could be used by the SMT as a means of further disseminating information and promoting initiatives.

Fly Waste and Fly-Tipping

5.5 The SMT will monitor the Site for any fly-waste or litter and will collect and process any materials within the boundary of the property; this will include recycling this material where possible/appropriate.

5.6 In the unlikely event of fly-tipping, upon identifying this the SMT will liaise with LBC for removal, and flexibility will be available within the delivery booking system for the collection vehicle to access the ground floor public realm. Any hazardous waste will be correctly labelled, contained and segregated within a store in any interim period arising prior to booked removal.

Waste Storage and Collection Initiatives

5.7 The following initiatives and measures will be in place for waste and recycling.

- The waste stores will include recyclable waste Eurobins, general waste Eurobins and food waste bins. The SMT will be responsible for ensuring that waste is stored appropriately and, subsequently, made available in good time prior to collection.

- All Site users will be made aware of the waste and recycling regime for the Development, including where refuse is stored, how it is segregated between general and recyclable waste and when the collections occur.

- Refuse bins will not be left outside of the refuse stores and will be kept in the appropriate storage location at all times, the exception being when refuse is made available for collection via the basement ramp for the tower block, with waste taken via tug to the entrance of the vehicle ramp, being held on-site and not on the public highway.

- Suppliers will be encouraged to take away their packaging to minimise the accumulation of waste.

- The refuse stores will be kept clear from obstruction and in good order as far as is reasonably practicable. The storage areas will be inspected on a regular basis and cleaned when necessary.

- The SMT will be responsible for ensuring that waste is stored appropriately and available in good time prior to collection.

6 MONITORING & REVIEW OF THE PLAN

6.1 The SMT will maintain a record of servicing where possible, which will include the following information:

- Day
- Date
- Delivery slot(s) booked
- Type of vehicle
- Goods carried
- Time of arrival
- Time of departure
- Any other comments

6.2 The SMT will regularly monitor/review the success of the DSWMP and, if considered necessary/appropriate, will propose changes to the DSWMP to be approved by LBC.

6.3 The DSWMP will be the subject of an annual review with LBC, unless LBC confirms (in writing) that a formal review is not necessary.

6.4 The SMT will review comments received from occupants of the Site and/or third parties (as appropriate) regarding servicing activity and notify LBC if necessary/appropriate during the next annual review of the DSWMP (or before in the case of any time-sensitive issues).

6.5 In the unlikely event that the delivery and servicing of the Site has any issues with managing the number of deliveries each day, or deliveries are occurring within the public realm on-site while the Swiss Cottage Market on Eton Avenue are operating, further measures will be adopted to ease delivery numbers. This could include measures such as:

- Re-moding deliveries – deliveries would be undertaken by smaller vehicles where appropriate such as by bicycle and motorcycle.
- Re-timing deliveries – deliveries would be undertaken before 7am and after 7pm to ease the number of deliveries during the peak daytime hours.
- Re-routing deliveries – delivery vehicles which could serve the site and also nearby commercial developments, reducing the number of vehicles on the local highway network during the day.

7 CONCLUSION

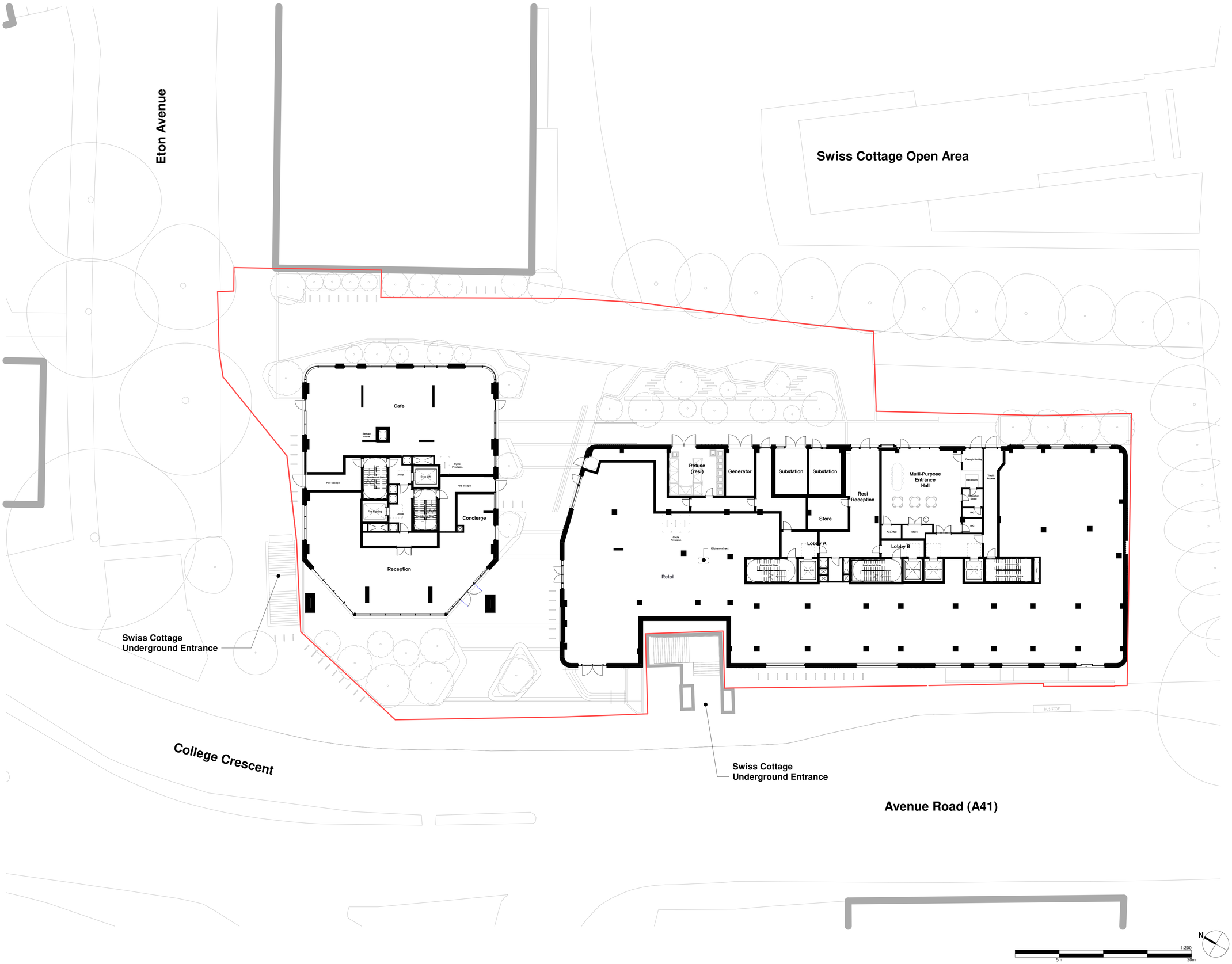
7.1 Overall, the DSWMP will ensure the successful operation of servicing activity on a day-to-day basis. This DSWMP follows the approved and discharged Servicing Management Plan for the Implemented Permission, with strategy for servicing management remaining as per the Implemented Permission and therefore considered appropriate as per prior SMP approval.

7.2 The DSWMP will ensure that the likelihood of conflicts with other vehicles and pedestrians will be minimised and that the servicing for the site will not affect the free flow or environmental condition of the public highway.

7.3 A final version of the DSWMP will be secured by condition, to include details of the management company and their commitments to monitoring and regulating servicing for the Site.

APPENDIX A

This drawing must be printed in colour, if this text is not RED the drawing must be reprinted.



Drawing Original Size
A1

Notes
Unless indicated, this drawing is for information only and should not be used for construction. Do not scale, use figured dimensions only. All dimensions to be checked on site. This drawing should be printed and read at the original size, as stated. Cartwright Pickard Architects accepts no responsibility for errors that occur as a result of reviewing this drawing at any other size.

Cartwright Pickard Architects prepared this drawing using 2024.2 and does not accept liability for any loss or degradation of that information held in the drawing resulting from the translation from the original file format to any other file format or from the recipients reading of it in any other programme or an earlier version of the programme referred to above. Cartwright Pickard Architects accepts no liability for use of this drawing by parties other than the party for whom it was prepared or for purposes other than those for which it was prepared.

DWG Issues
When this drawing is issued in DWG format it is an uncontrolled version and is provided to enable the recipient to prepare its own documents/drawings for which it is solely responsible. It is based on background information current at the time of issue.

Cartwright Pickard Architects accepts no liability for any alterations to, additions to or discrepancies arising out of changes to such background information which occur after it has been issued by Cartwright Pickard Architects.

Drawing Revisions

Date:	Rev:	Note:	Check:
31.01.25	P01	Section 73 Application Submission	DR

CARTWRIGHT PICKARD

Client
Regal Avenue Road Ltd.

Project
1016 | 100 Avenue Road

Building Name
Tower & Lower Building

Drawing Title
Ground Floor Plan

Scale
1: 200 @ A1

Drawing Created
August 2024

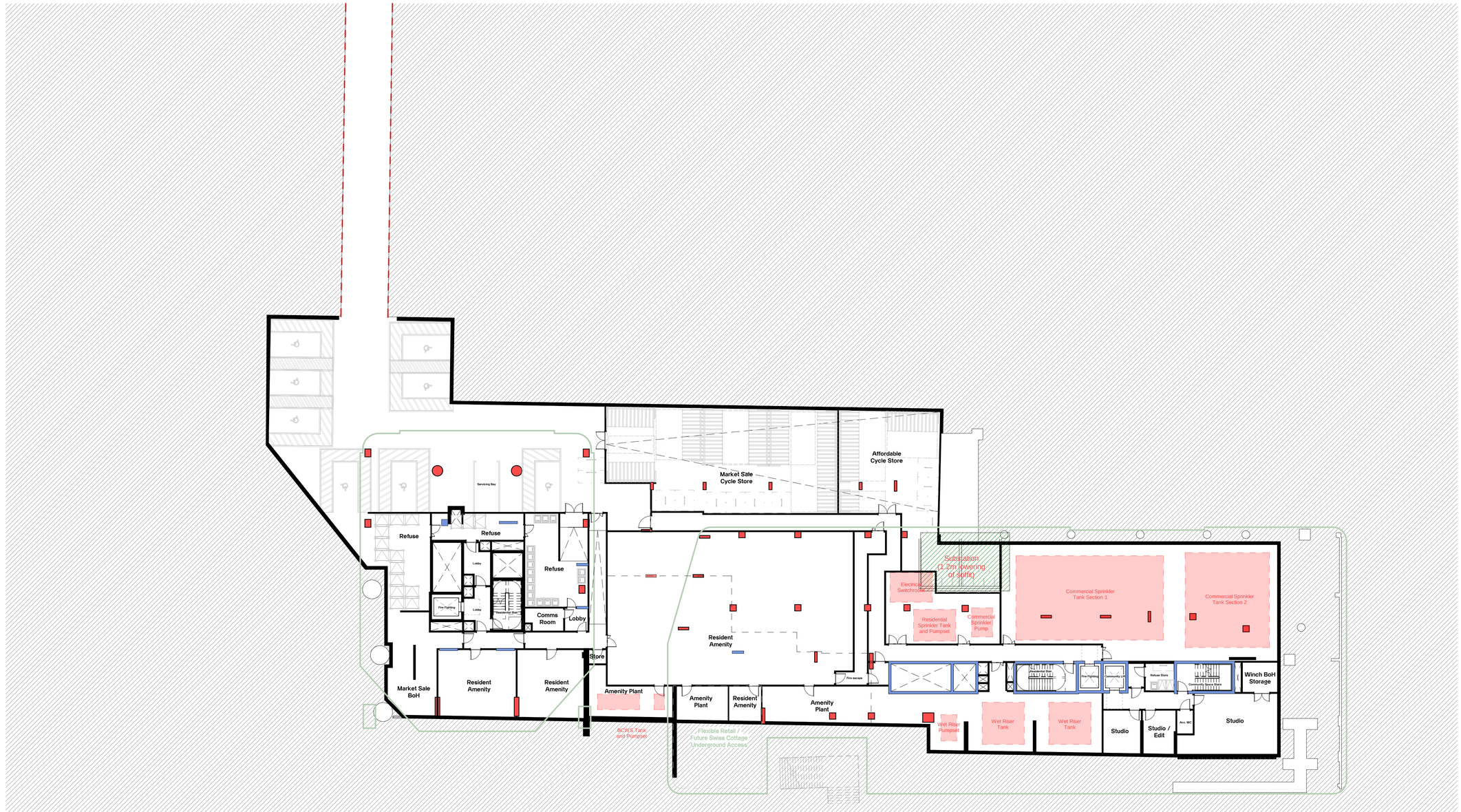
Revision
P01

Drawing No.
1016-CPA-ZZ-ZZ-DR-A-0200

London Office
1 Canal Side Studios
8-14 St Pancras Way
London NW1 0QG
Tel 020 7554 3330

cartwrightpickard.com

This drawing must be printed in colour, if this text is not RED the drawing must be reprinted.



Drawing Original Size
A1

Notes
Unless indicated, this drawing is for information only and should not be used for construction. Do not scale, use figured dimensions only. All dimensions to be checked on site. This drawing should be printed and read at the original size, as stated. Cartwright Pickard Architects accepts no responsibility for errors that occur as a result of reviewing this drawing at any other size.

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DWG Issues
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Cartwright Pickard Architects accepts no liability for any alterations to, additions to or discrepancies arising out of changes to such background information which occur after it has been issued by Cartwright Pickard Architects.

Structure referencing Robert Bird model (SC-RBP-00-XX-M3-S-0001)

Robert Bird to confirm revised column locations

Drawing Revisions

Date:	Rev:	Note:	Check:
06.09.24	P02	Issue for Structures Review	AS
25.09.24	P03	Issue to Whitecode for Information	AS
25.09.24	P04	Issue to Caneparo for Information	AS
07.10.24	P05	Issue to Regal for Information	AF
21.10.24	P06	Issue Winch Drawings to Regal	AS
23.10.24	P07	Issue Winch Drawings to Regal	AF
30.10.24	P08	Winch Areas Updated	DR
01.11.24	P09	Tower Plans Issued for Design Freeze	DR
04.11.24	P10	Winch Basement Issued to Regal	AF
05.11.24	P11	Tower Plans Issued for Design Freeze	AF
05.11.24	P12	Tower Plans Amended for Design Freeze	DR
08.11.24	P13	Drawings Issued for Design Freeze	DR
18.11.24	P14	Winch Issue to Regal	DR
22.11.24	P15	GA Issue to Regal	DR
11.12.24	P16	Winch Drawings Amendments	DR
22.01.25	P17	Drawings Issued for Design Freeze	DR

CARTWRIGHT PICKARD

Client
Regal Avenue Road Ltd.

Project
1016 | 100 Avenue Road

Building Name
Tower & Lower Block

Drawing Title
Basement Floor Plan

Scale
1: 200 @ A1

Drawing Created
July 2024

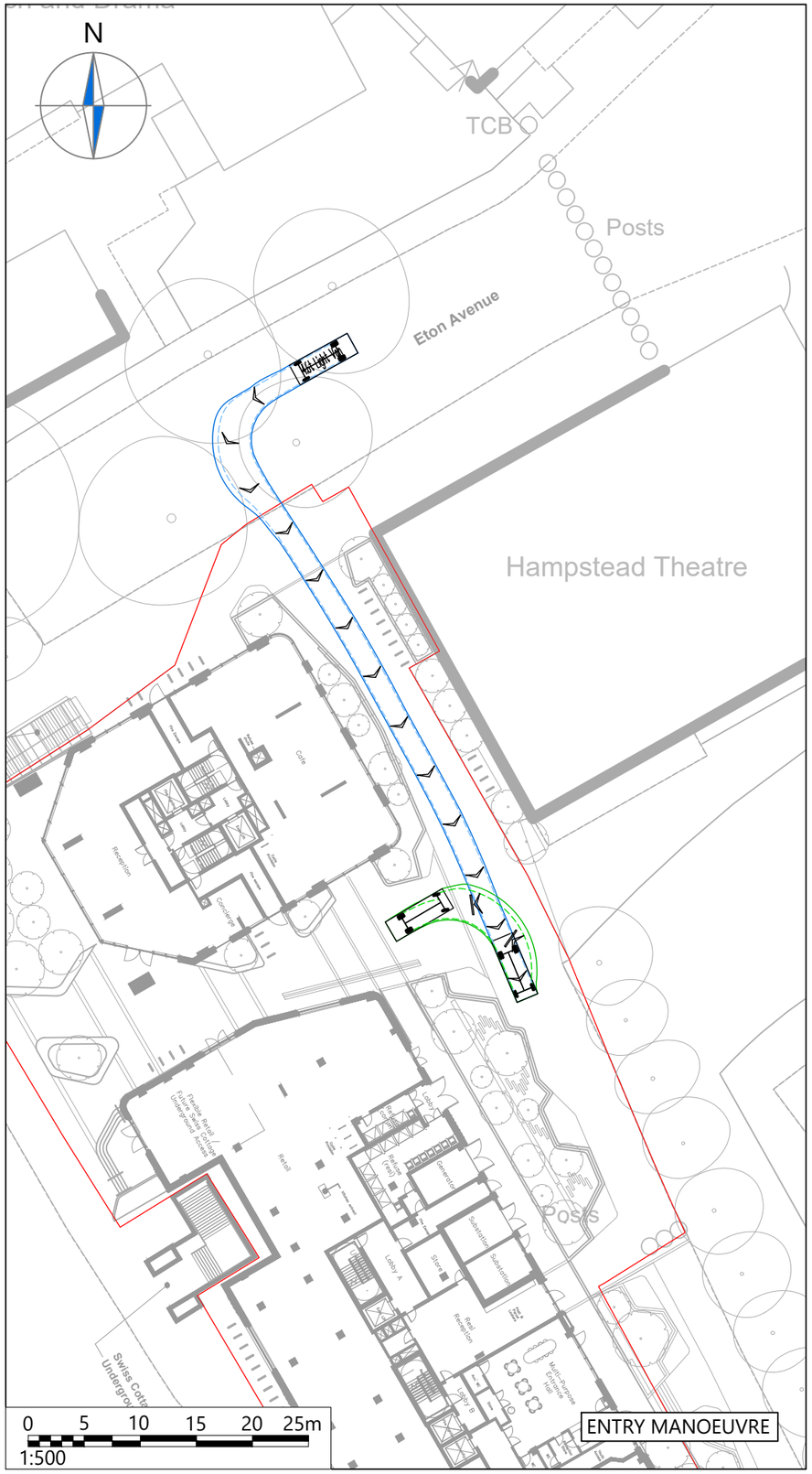
Revision
P17

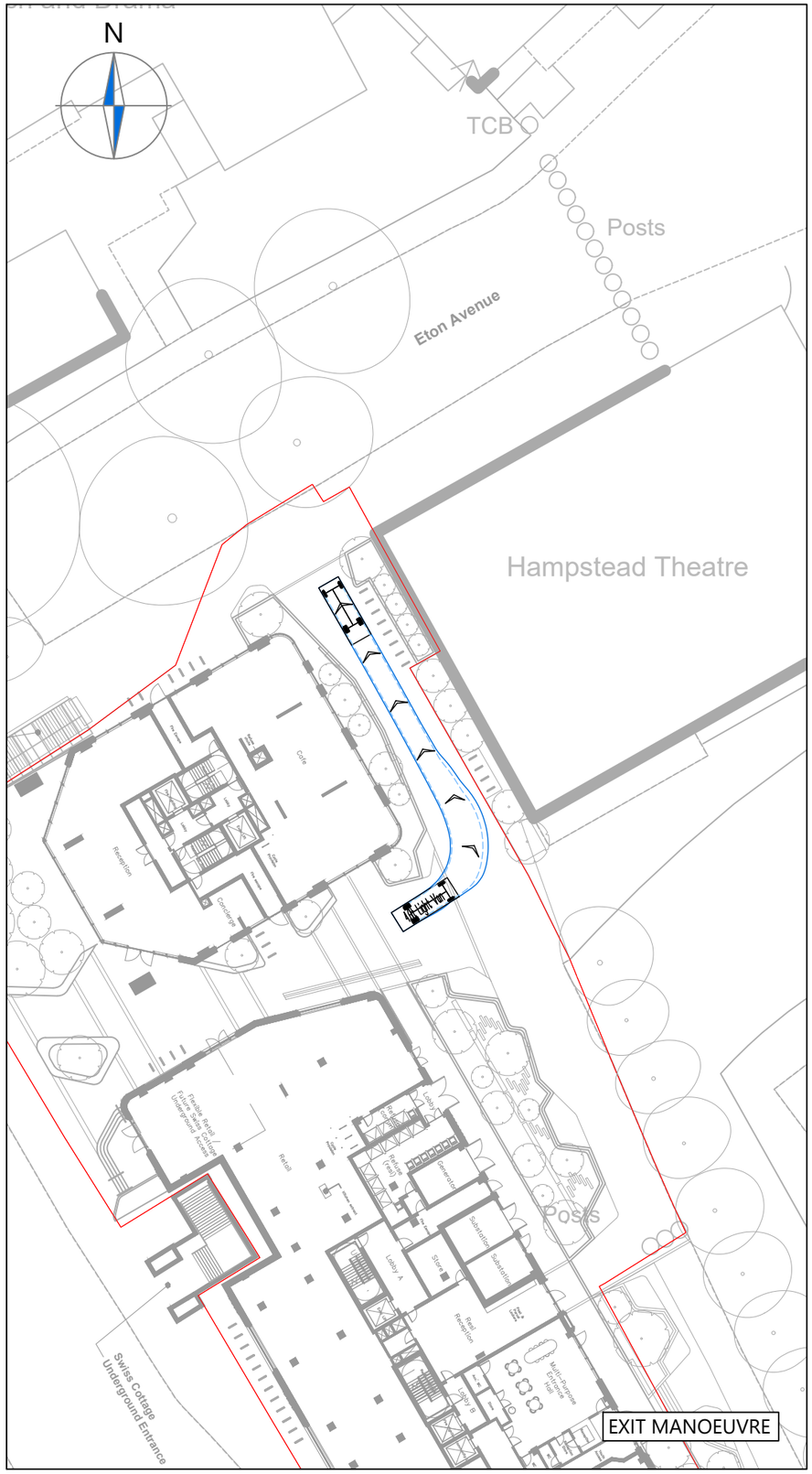
Drawing No.
1016-CPA-ZZ-B1-DR-A-0299

London Office
1 Canal Side Studios
8-14 St Pancras Way
London NW1 0QG
Tel 020 7554 3830

cartwrightpickard.com

APPENDIX B

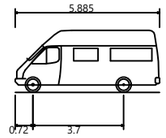




NOTES

1. This drawing to be read & printed in colour.
2. This drawing is for illustrative purposes only.
3. Design speed for all vehicle swept paths is 5kph.
4. Stationary steering has not been used on this drawing.

4.6t Light Van



4.6t Light Van	
Overall Length	5.885m
Overall Width	2.000m
Overall Body Height	2.526m
Min Body Ground Clearance	0.299m
Track Width	1.765m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	6.000m

Forward Gear | Reverse Gear

Rev	Details	Drawn	Checked	Date
D	Updated Layout	RLM	DB	29.01.2024
C	Updated Layout	RLM	DB	07.11.2024
B	Updated Layout	RLM	GS	09.07.2024
A	Updated Layout	RLM	DB	21.06.2024

REVISION HISTORY

Status: ☑ Preliminary ☐ Detailed ☐ As Built

Client:

Regal Avenue Road Limited

Project:

100 Avenue Road
Camden

Drawing Title:

Swept Path Analysis
4.6t Light Van

Scale:	Size:		
1:500	A3		
Drawn by:	Checked by:	Approved by:	Date:
RLM	DB	DB	07.06.2024

CANEPARO ASSOCIATES
Transport Planning & Highway Design
21 Little Portland Street • London • W1W 8BT • Tel. 020 3617 8200

Scheme Ref:	Drawing No:	Sheet :	Rev:
5352	TR002	1 of 5	D

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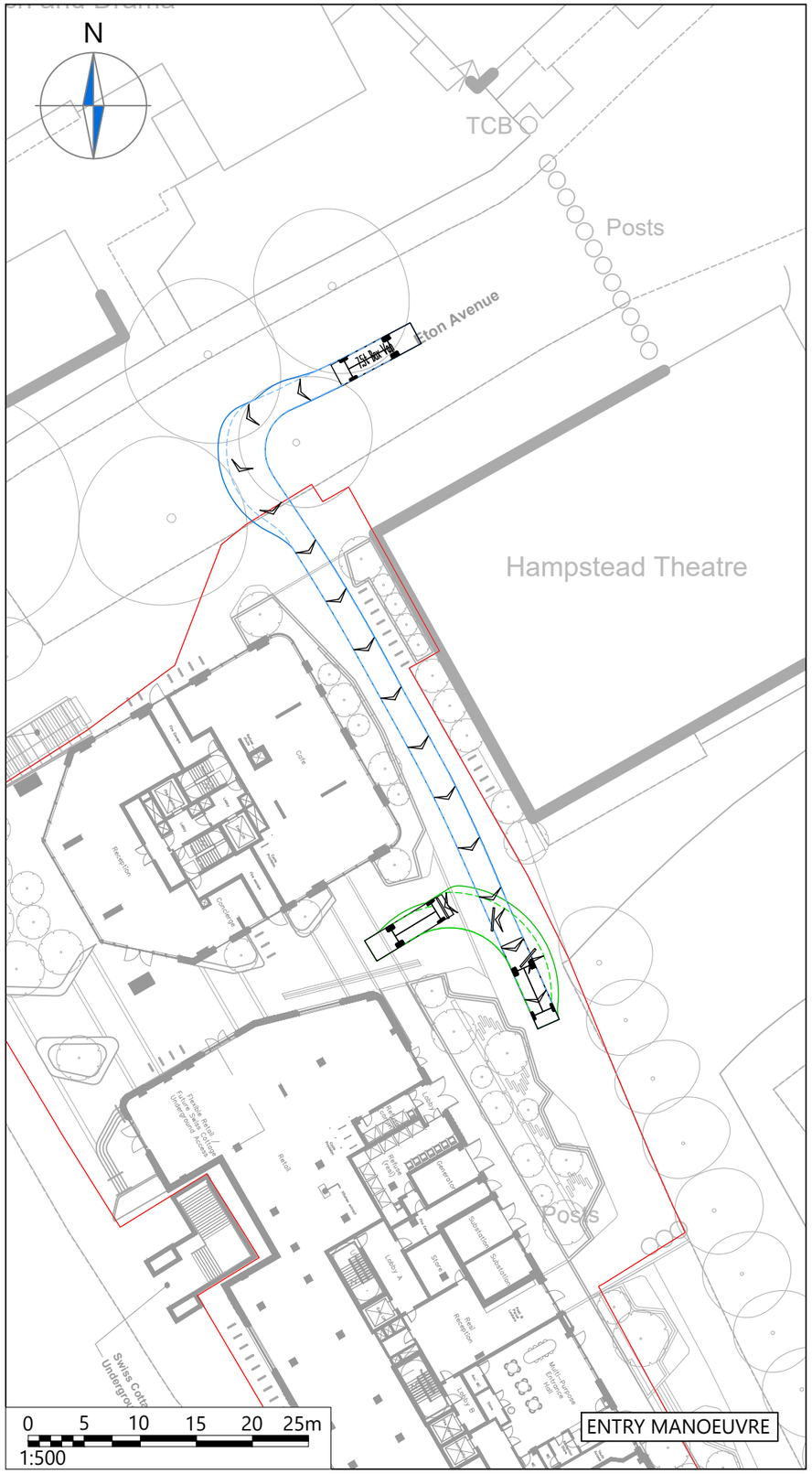

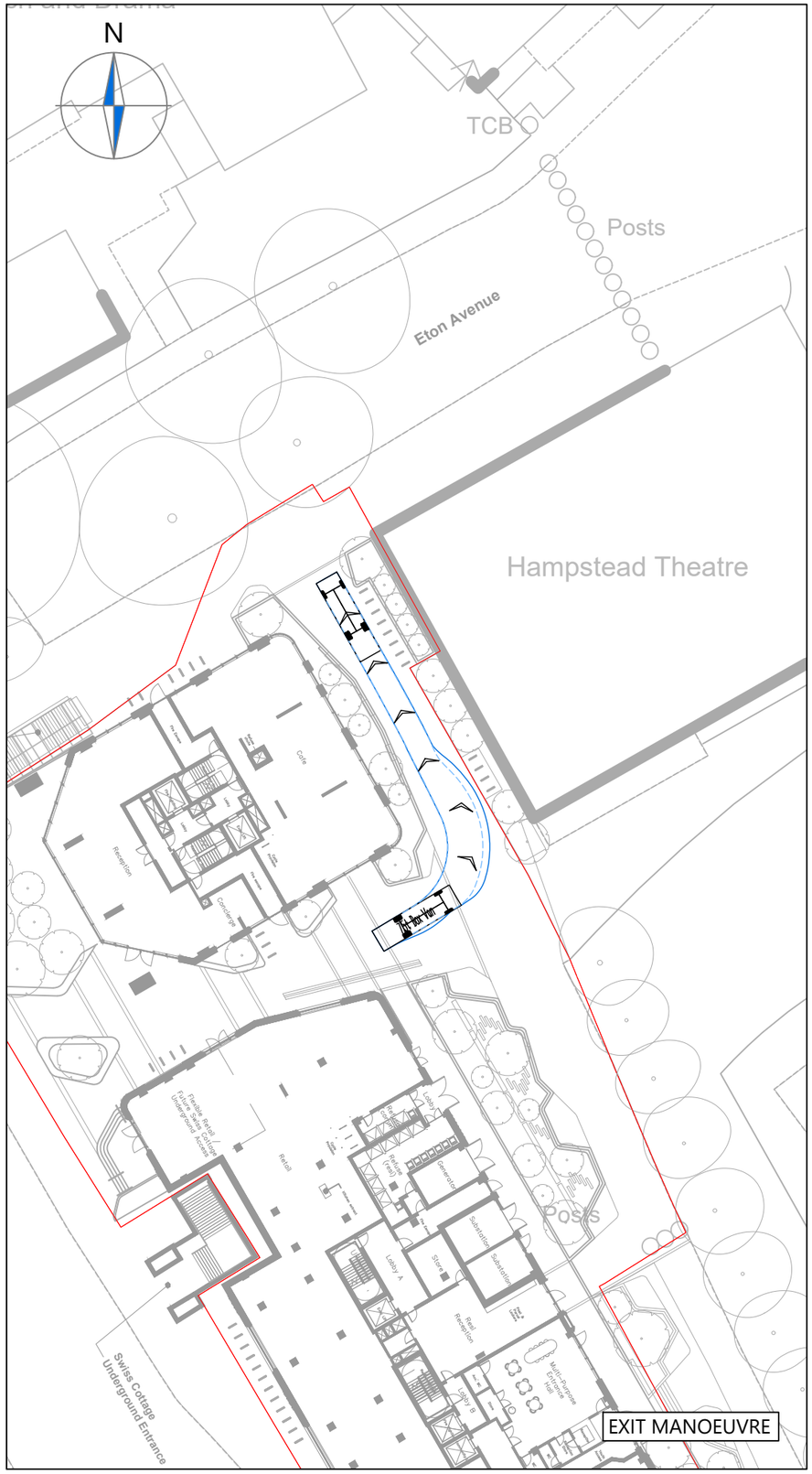

NOTES

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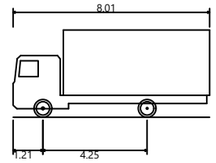
7.5t Box Van



7.5t Box Van	
Overall Length	8.010m
Overall Width	2.100m
Overall Body Height	3.556m
Min Body Ground Clearance	0.351m
Track Width	2.064m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	7.400m

Forward Gear | Reverse Gear

Rev	Details	Drawn	Checked	Date
D	Updated Layout	RLM	DB	29.01.2024
C	Updated Layout	RLM	DB	07.11.2024
B	Updated Layout	RLM	GS	09.07.2024
A	Updated Layout	RLM	DB	21.06.2024

REVISION HISTORY

Status: ☑ Preliminary ☐ Detailed ☐ As Built

Client:

Regal Avenue Road Limited

Project:

100 Avenue Road
Camden

Drawing Title:

Swept Path Analysis
7.5t Box Van

Scale:	Size:		
1:500	A3		
Drawn by:	Checked by:	Approved by:	Date:
RLM	DB	DB	07.06.2024

CANEPARO ASSOCIATES
Transport Planning & Highway Design
21 Little Portland Street • London • W1W 8BT • Tel. 020 3617 8200

Scheme Ref:	Drawing No:	Sheet :	Rev:
5352	TR002	2 of 5	D

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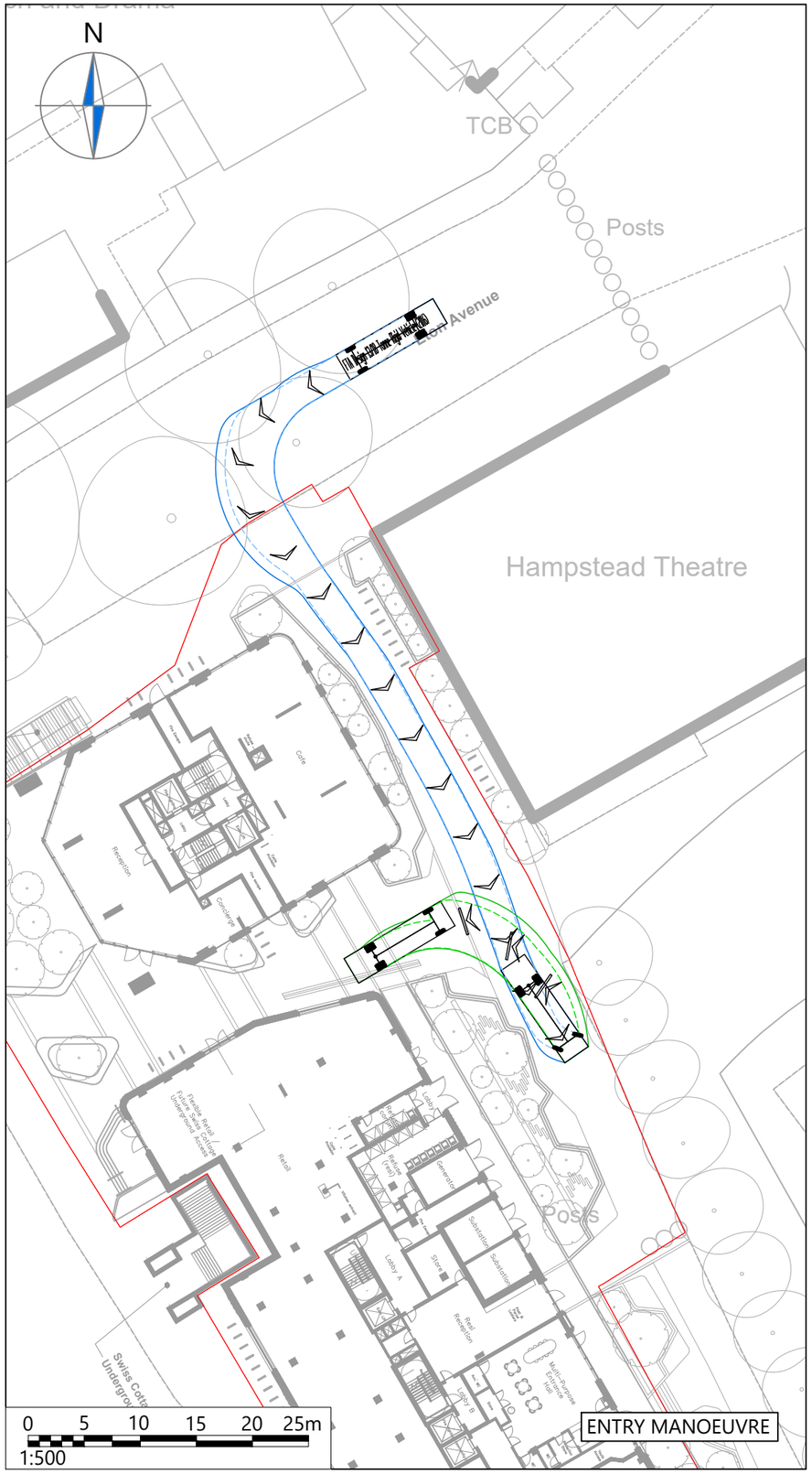

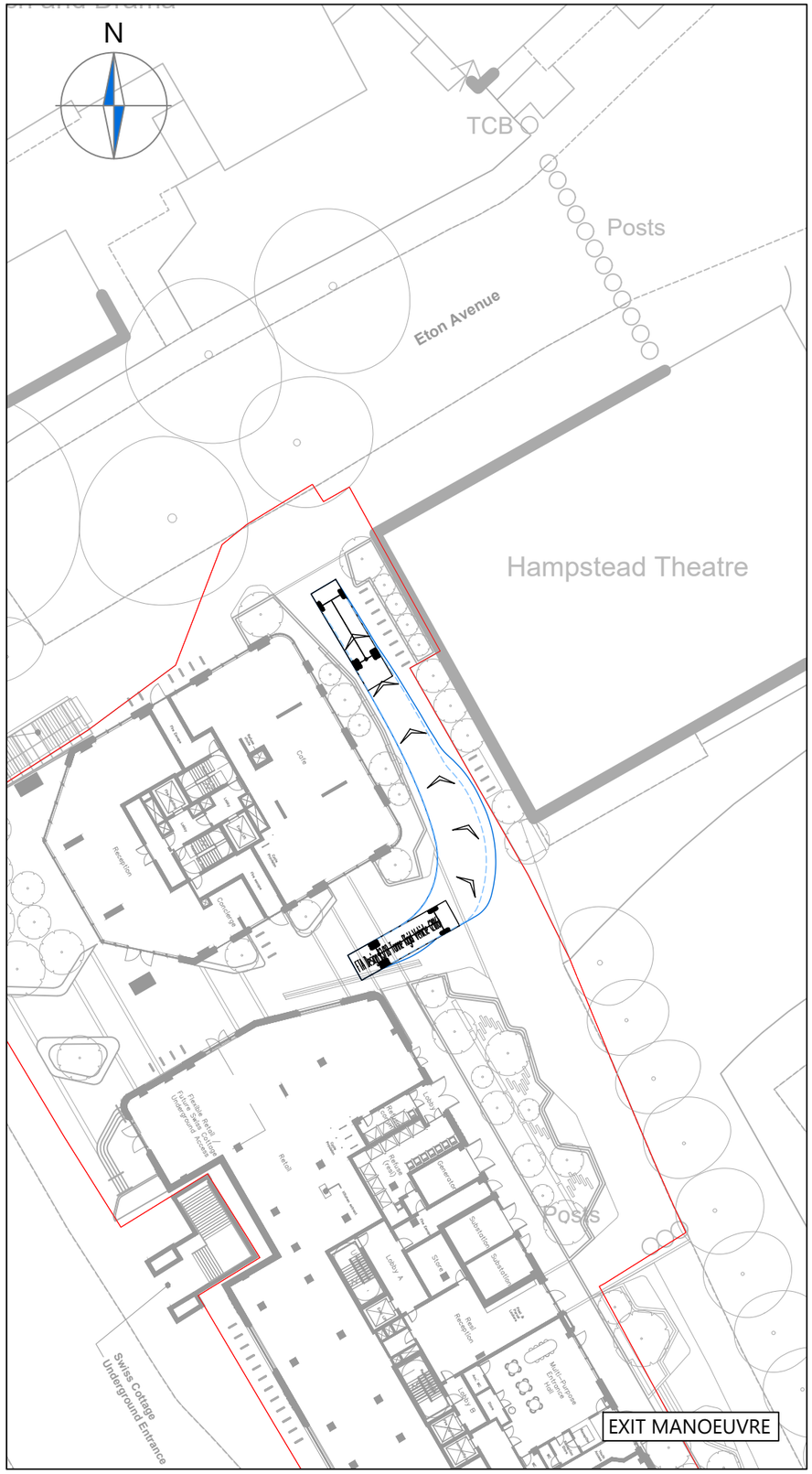

NOTES

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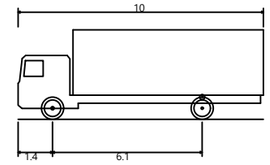
10m Rigid



FTA Design 13/18 Tonne Rigid Vehicle (2016)	
Overall Length	10.000m
Overall Width	2.550m
Overall Body Height	3.645m
Min Body Ground Clearance	0.440m
Track Width	2.470m
Lock to lock time	3.00s
Kerb to Kerb Turning Radius	11.000m

Forward Gear | Reverse Gear

Rev	Details	Drawn	Checked	Date
D	Updated Layout	RLM	DB	29.01.2024
C	Updated Layout	RLM	DB	07.11.2024
B	Updated Layout	RLM	GS	09.07.2024
A	Updated Layout	RLM	DB	21.06.2024

REVISION HISTORY

Status: ☑ Preliminary ☐ Detailed ☐ As Built

Client:

Regal Avenue Road Limited

Project:

100 Avenue Road
Camden

Drawing Title:

Swept Path Analysis
10m Rigid

Scale:	Size:		
1:500	A3		
Drawn by:	Checked by:	Approved by:	Date:
RLM	DB	DB	07.06.2024

CANEPARO ASSOCIATES
Transport Planning & Highway Design
21 Little Portland Street • London • W1W 8BT • Tel. 020 3617 8200

Scheme Ref:	Drawing No:	Sheet :	Rev:
5352	TR002	3 of 5	D

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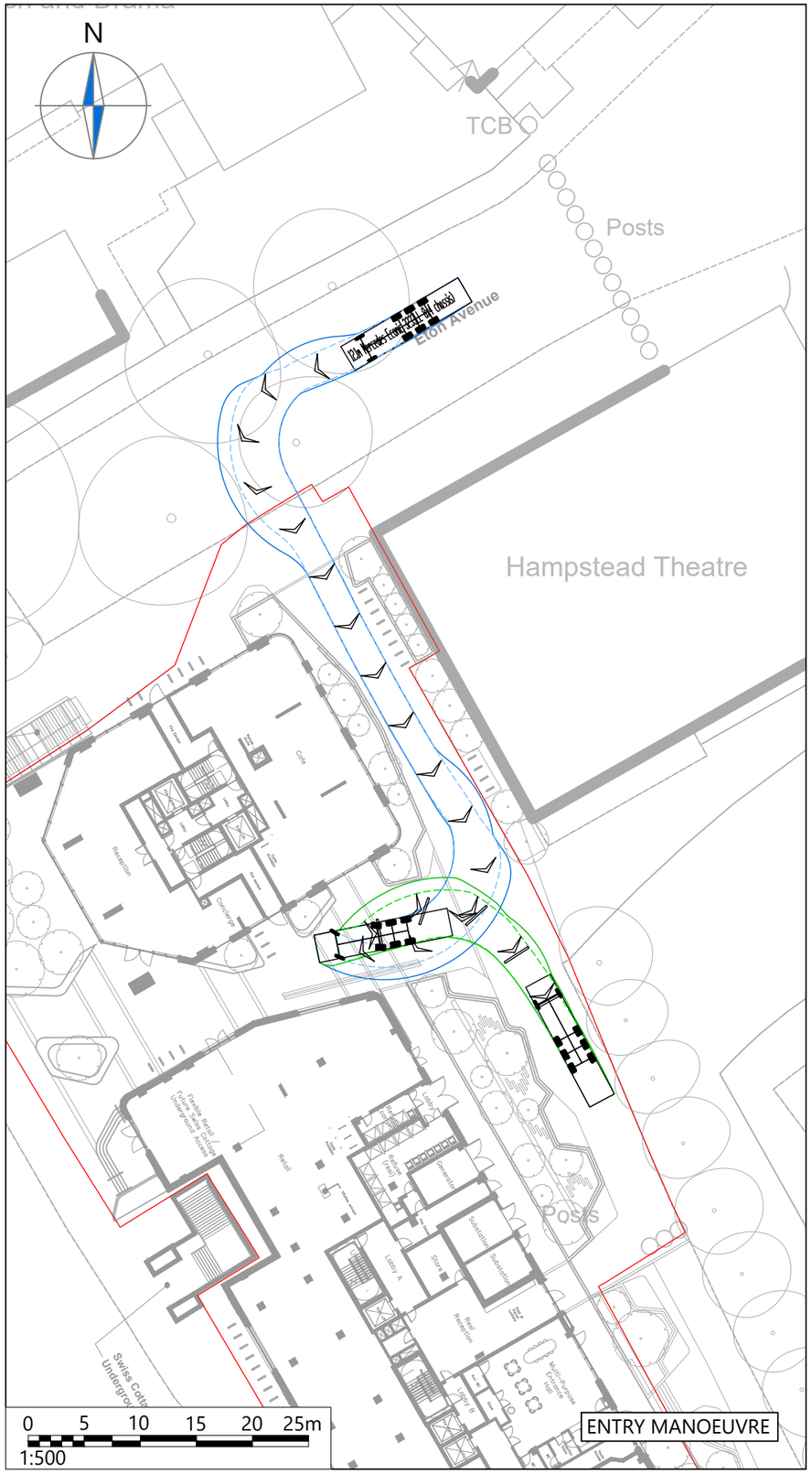

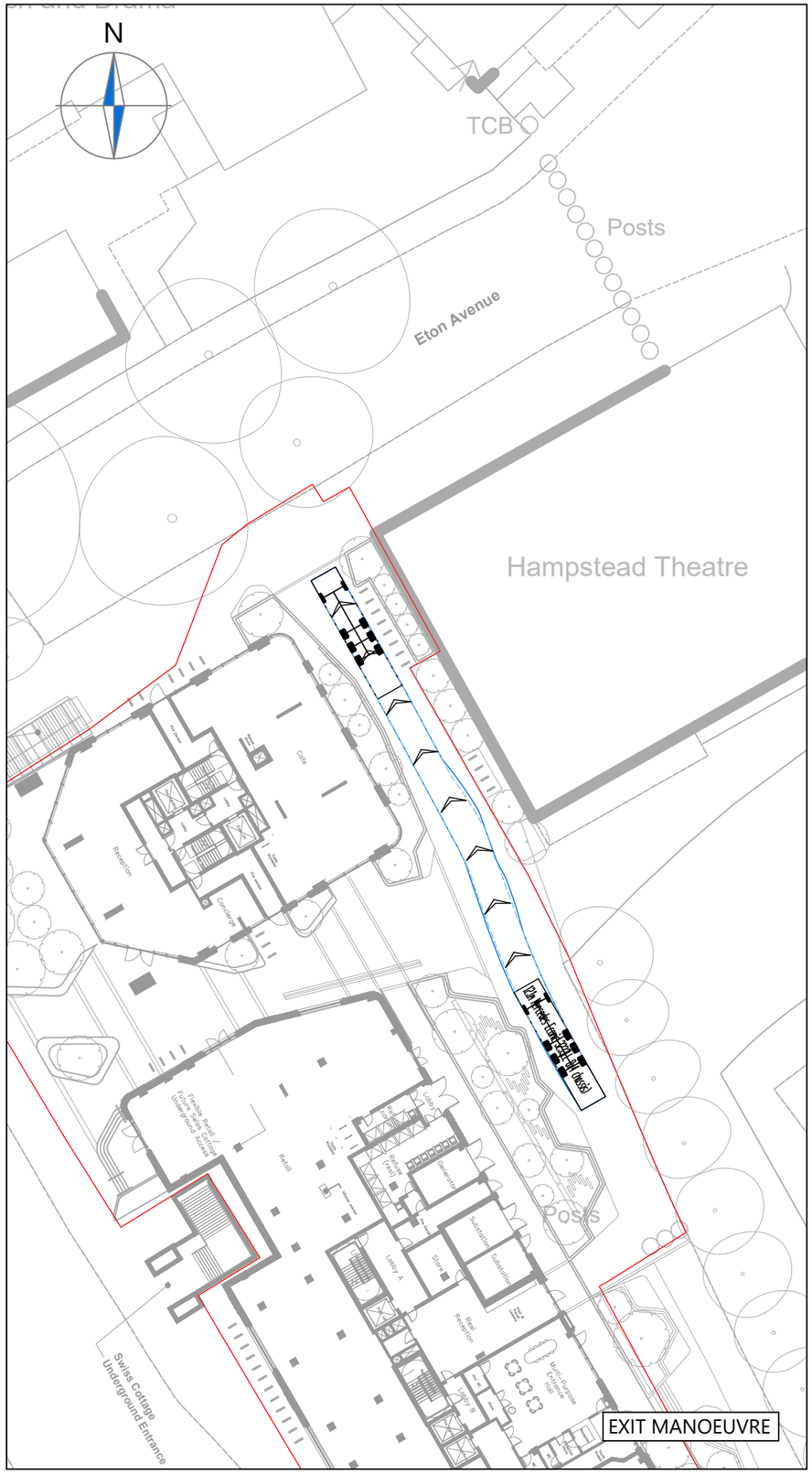

NOTES

1. This drawing to be read & printed in colour.
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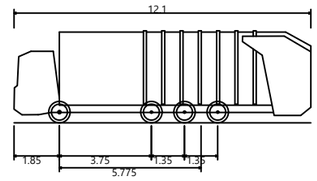
3. Design speed for all vehicle swept paths is 5kph.
4. Stationary steering has not been used on this drawing.

Refuse Vehicle



12.1m Mercedes Econic 3233LL 8x4 chassis)	
Overall Length	12.100m
Overall Width	2.490m
Overall Body Height	3.749m
Min Body Ground Clearance	0.302m
Track Width	2.490m
Lock to lock time	4.00s
Wall to Wall Turning Radius	11.250m

Forward Gear | Reverse Gear

Rev	Details	Drawn	Checked	Date
D	Updated Layout	RLM	DB	29.01.2024
C	Updated Layout	RLM	DB	07.11.2024
B	Updated Layout	RLM	GS	09.07.2024
A	Updated Layout	RLM	DB	21.06.2024

REVISION HISTORY

Status: ☑ Preliminary ☐ Detailed ☐ As Built

Client:

Regal Avenue Road Limited

Project:

100 Avenue Road
Camden

Drawing Title:

Swept Path Analysis
Refuse Vehicle

Scale:	Size:		
1:500	A3		
Drawn by:	Checked by:	Approved by:	Date:
RLM	DB	DB	07.06.2024

CANEPARO ASSOCIATES
Transport Planning & Highway Design
21 Little Portland Street • London • W1W 8BT • Tel. 020 3617 8200

Scheme Ref:	Drawing No:	Sheet :	Rev:
5352	TR002	4 of 5	D

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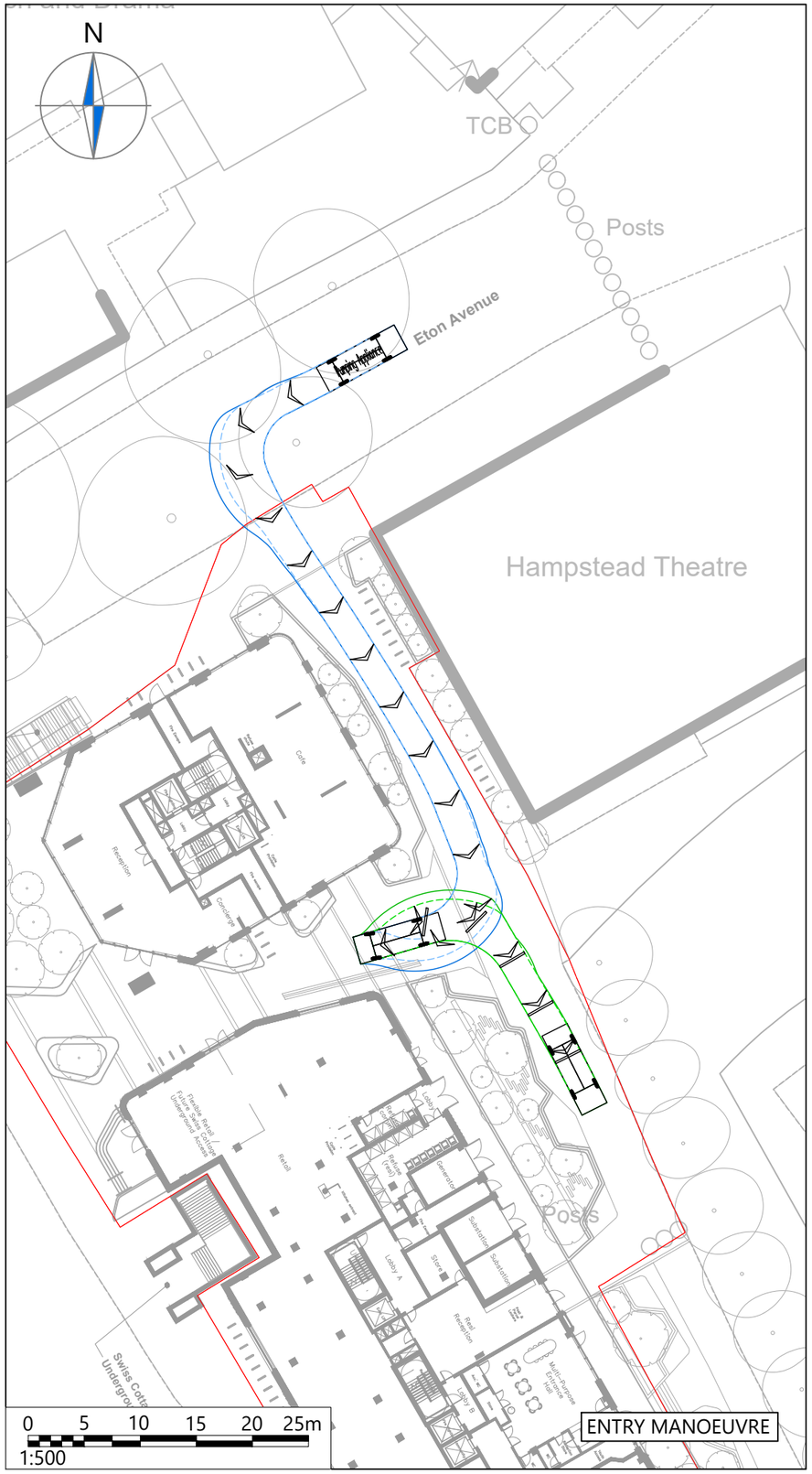

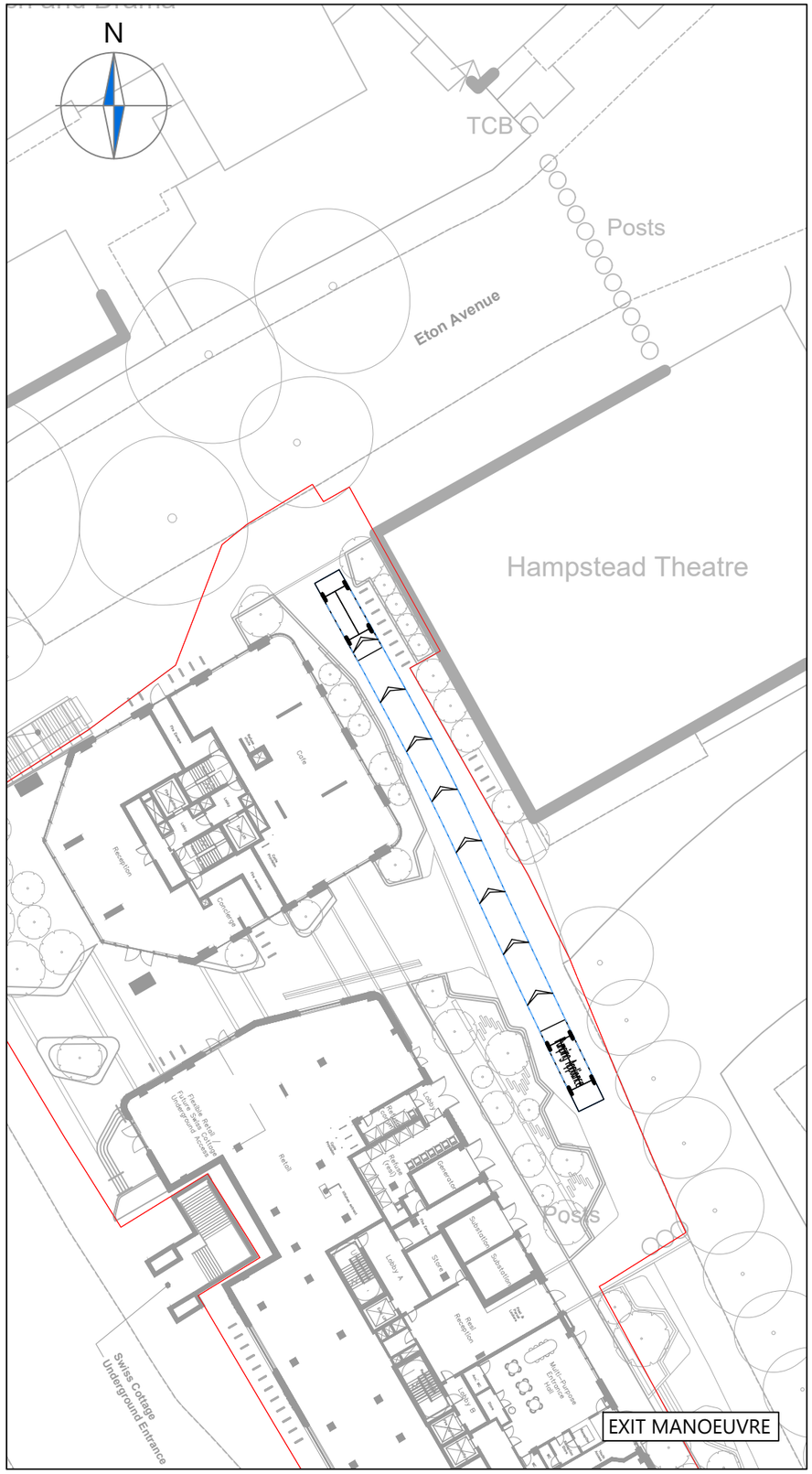

NOTES

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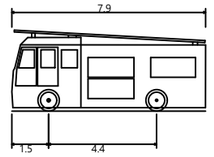
3. Design speed for all vehicle swept paths is 5kph.
4. Stationary steering has not been used on this drawing.

Fire Tender



Pumping Appliance	
Overall Length	7.900m
Overall Width	2.500m
Overall Body Height	3.300m
Min Body Ground Clearance	0.140m
Track Width	2.500m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	7.750m

Forward Gear | Reverse Gear

Rev	Details	Drawn	Checked	Date
D	Updated Layout	RLM	DB	29.01.2024
C	Updated Layout	RLM	DB	07.11.2024
B	Updated Layout	RLM	GS	09.07.2024
A	Updated Layout	RLM	DB	21.06.2024

REVISION HISTORY

Status: ☑ Preliminary ☐ Detailed ☐ As Built

Client:

Regal Avenue Road Limited

Project:

100 Avenue Road
Camden

Drawing Title:

Swept Path Analysis
Fire Tender

Scale:	Size:		
1:500	A3		
Drawn by:	Checked by:	Approved by:	Date:
RLM	DB	DB	07.06.2024

CANEPARO ASSOCIATES
Transport Planning & Highway Design
21 Little Portland Street • London • W1W 8BT • Tel. 020 3617 8200

Scheme Ref:	Drawing No:	Sheet :	Rev:
5352	TR002	5 of 5	D

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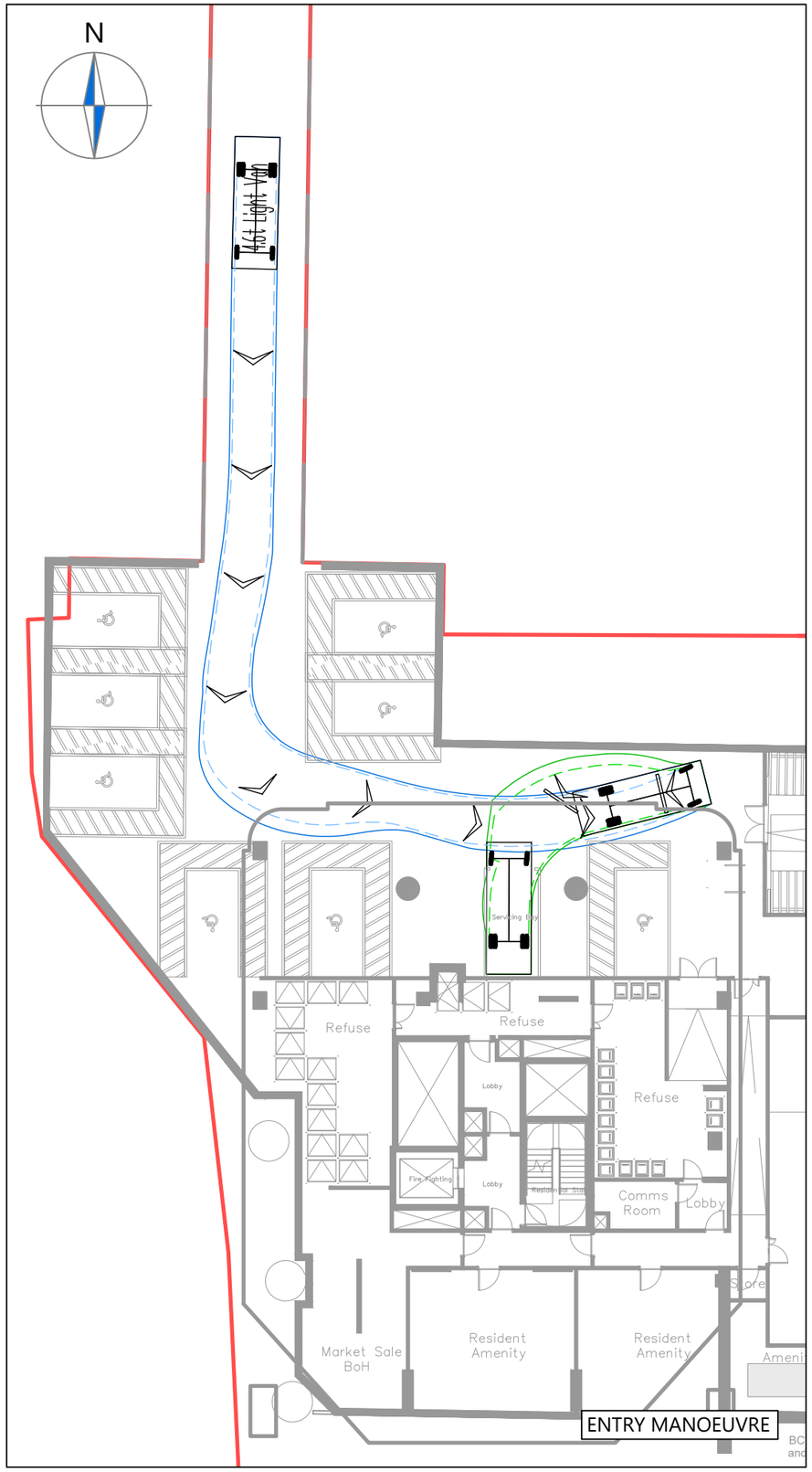
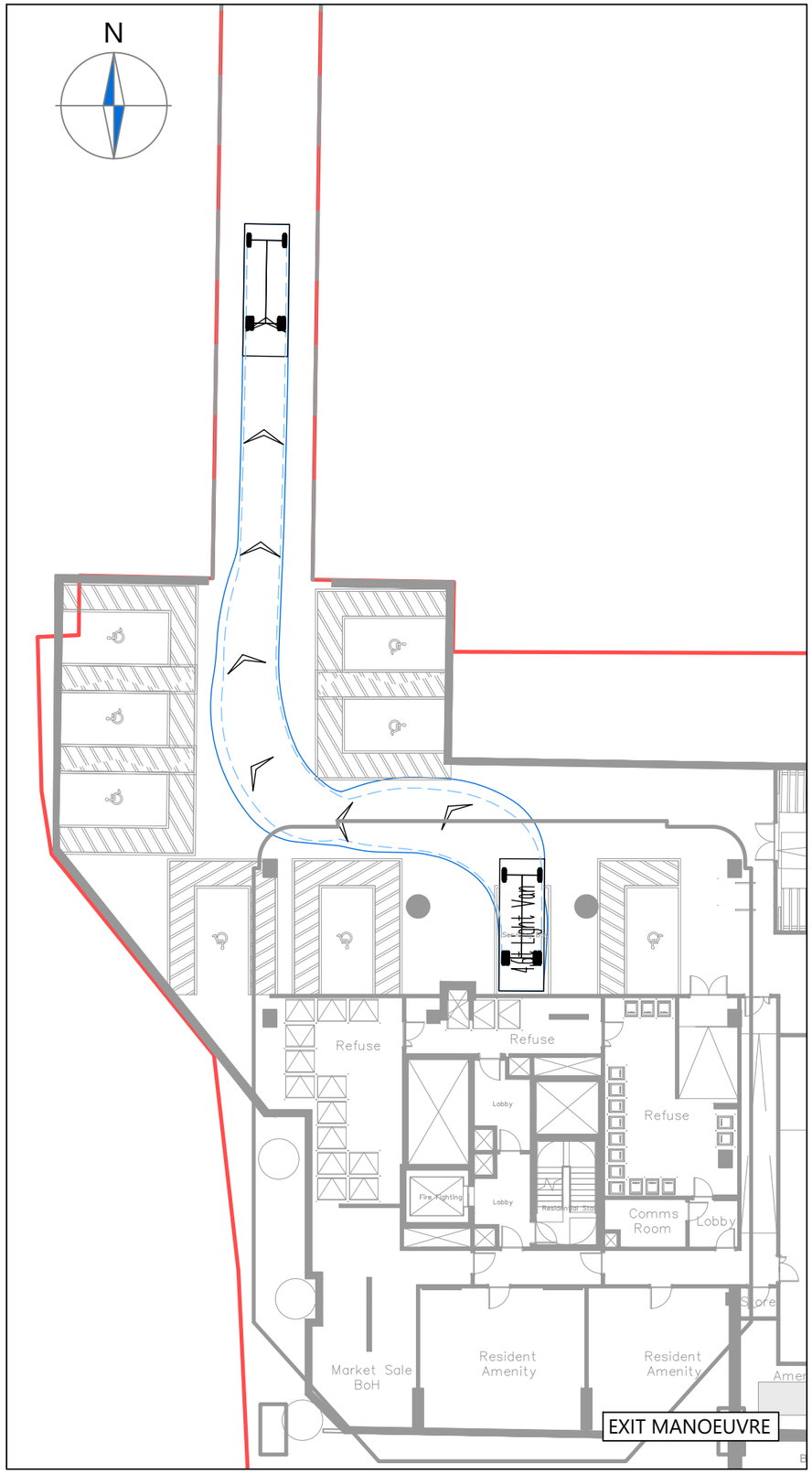
APPENDIX C



ENTRY MANOEUVRE

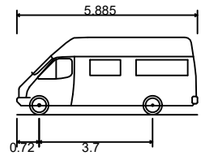


EXIT MANOEUVRE

NOTES

1. This drawing to be read & printed in colour.
2. This drawing is for illustrative purposes only.
3. Design speed for all vehicle swept paths is 5kph.
4. Stationary steering has not been used on this drawing.

4.6T LIGHT VAN



Overall Length	5.885m
Overall Width	2.000m
Overall Body Height	2.526m
Min Body Ground Clearance	0.299m
Track Width	1.765m
Lock to Lock Time	4.00s
Kerb to Kerb Turning Radius	6.000m

Forward Gear | Reverse Gear

Rev	Details	Drawn	Checked	Date
A	Updated layout	RLM	DB	29.01.2025

REVISION HISTORY

Status: ☑ Preliminary ☐ Detailed ☐ As Built

Client:

Regal Avenue Road Limited

Project:

100 Avenue Road
Camden

Drawing Title:

Vehicle Swept Path Analysis for a 4.6t Light Van

Scale:	Size:
1:250	A3

Drawn by:	Checked by:	Approved by:	Date:
COS	DB	DB	02.12.2024

CANEPARO ASSOCIATES
Transport Planning & Highway Design
21 Little Portland Street • London • W1W 8BT • Tel. 020 3617 8200

Scheme Ref:	Drawing No:	Sheet :	Rev:
5352	TR005	5 of 6	A

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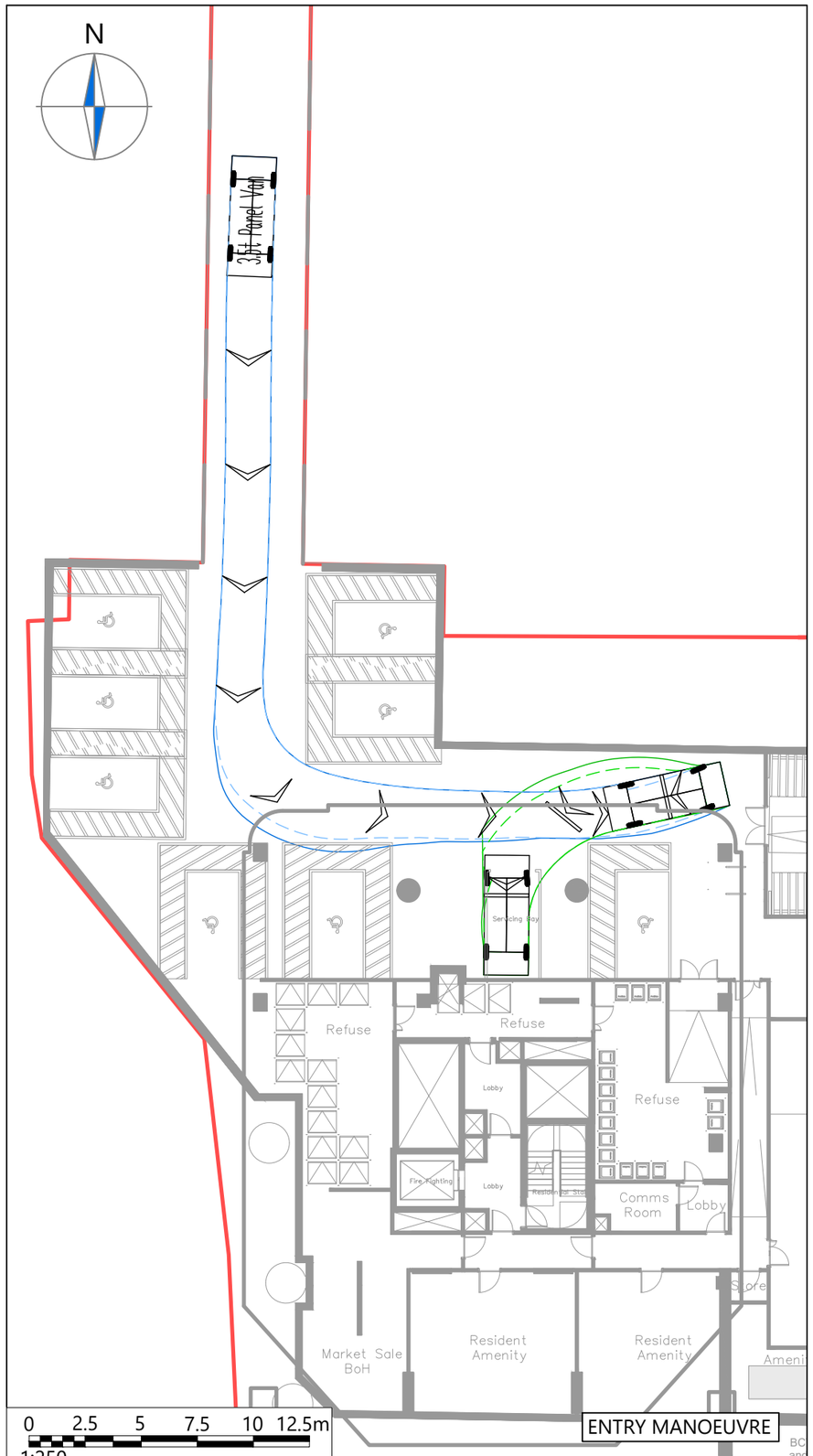

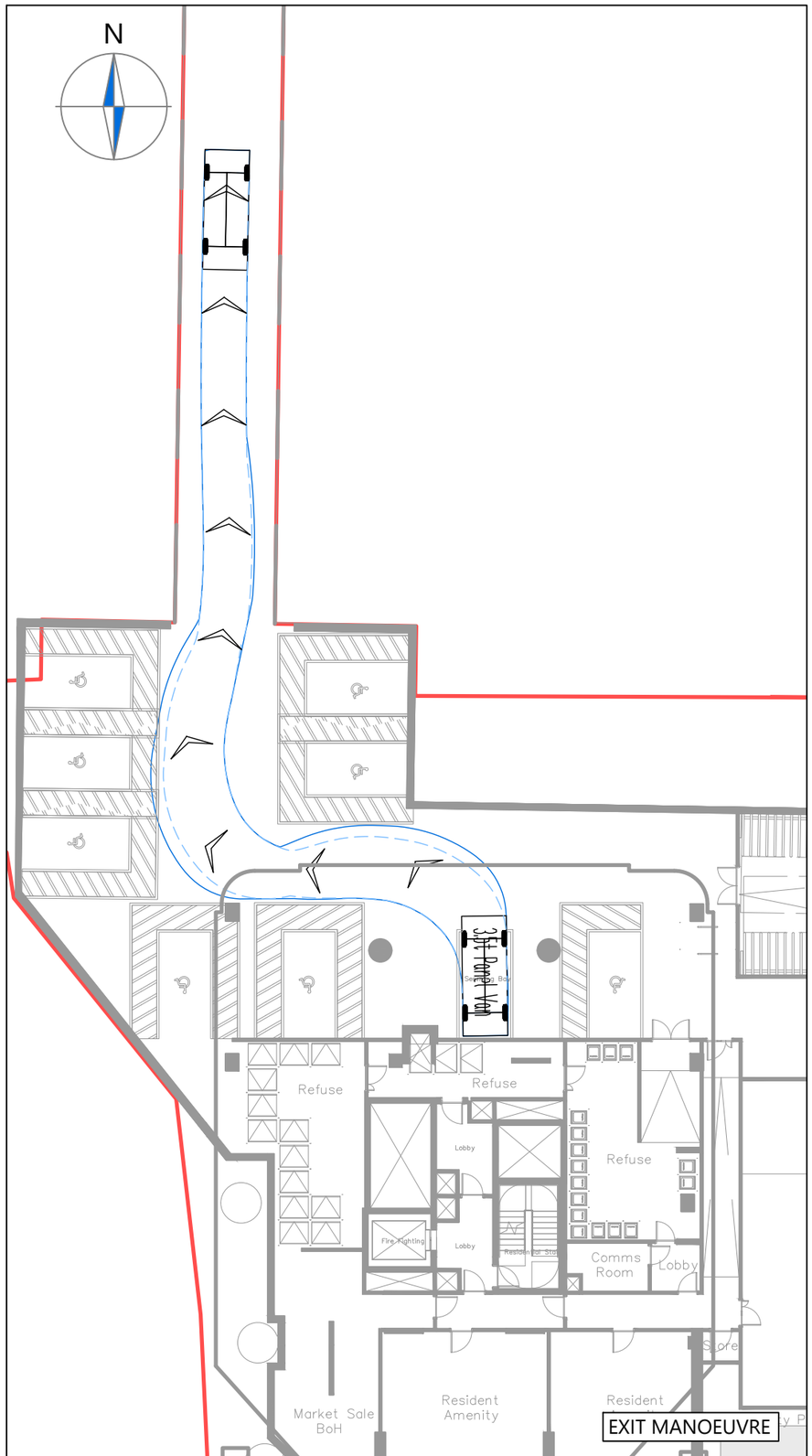

NOTES

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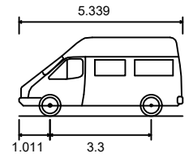
2. This drawing is for illustrative purposes only.
3. Design speed for all vehicle swept paths is 5kph.
4. Stationary steering has not been used on this drawing.

3.5T PANEL VAN



Overall Length	5.339m
Overall Width	1.986m
Overall Body Height	2.565m
Min Body Ground Clearance	0.338m
Track Width	1.986m
Lock to Lock Time	4.00s
Kerb to Kerb Turning Radius	6.400m

Forward Gear | Reverse Gear

Rev	Details	Drawn	Checked	Date
A	Updated layout	RLM	DB	29.01.2025

REVISION HISTORY

Status: ☑ Preliminary ☐ Detailed ☐ As Built

Client:

Regal Avenue Road Limited

Project:

100 Avenue Road
Camden

Drawing Title:

Vehicle Swept Path Analysis for a 3.5t Panel Van

Scale:	Size:		
1:250	A3		
Drawn by:	Checked by:	Approved by:	Date:
COS	DB	DB	02.12.2024

CANEPARO ASSOCIATES
Transport Planning & Highway Design
21 Little Portland Street • London • W1W 8BT • Tel. 020 3617 8200

Scheme Ref:	Drawing No:	Sheet :	Rev:
5352	TR005	6 of 6	A

P:\2024\5352 - 100 Avenue Road, Camden\Drawings\CA5352_TR005_A - Vehicle Swept Path Analysis For Basement Tracking - Alternate Option.dwg

Ellen Huelin

From: Daniel Burkin <db@caneparoassociates.com>
Sent: 18 December 2024 14:13
To: Ellen Huelin
Cc: George Steele
Subject: RE: 100 Avenue Road - Design Freeze & Planning Submission Programme

Hi Ellen,

Please find below the operational waste figures for 100AR. Within the % Recycled and Non, I have included targets aligning with the London Environmental Strategy, but the residential figure is in practice higher than this as food waste is considered recycled/composted and this is discounted from the general waste figure.

Recycling and Waste Tonnes per Annum				
Use Class	**T/Annum**	**% Reused on or off-site**	**% Recycled or composted on or off-site**	**% Not Reused or Recycled**
Residential Waste	1,304T Total (201T General Waste, 879T Mixed Recycling and 225T Food)	0%	50%	50%
Commercial Waste	209T Total (31T General Waste, 160T Mixed Recycling and 19T Food)	0%	75%	25%
Community Use Waste*	65T Total (15T General Waste, 40T Mixed Recycling and 9T Food)	0%	75%	25%

Any queries do let me know.

Kind regards,

Daniel Burkin
Principal Transport Planner

Caneparo Associates
21 Little Portland Street
London
W1W 8BT

Phone – 020 3617 8200
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CANEPARO ASSOCIATES
Transport Planning & Highway Design

Appendix D: Pre-demolition audit – not required

Appendix E: Waste carrier details and landfill capacity

Ellen Huelin

From: Ellen Huelin
Sent: 20 June 2023 16:41
To: paul.bush@veolia.com
Cc: Graeme Whyte
Subject: RE: New account - Devonshire Place
Attachments: Re: RE: New account

Hi Paul

Hope you are well, you kindly provided confirmation to our client Regal that you had sufficient capacity at landfill for their site at Wembley. We have another scheme going in for Planning (Devonshire Place, Old Kent Road) mixed use student accommodation and residential scheme with commercial space. Can you confirm the same for this site please?

We previously received confirmation, is this also the same?

Noted the destinations of waste streams will be to the Materials Recovery Facility (MRF) located in the London Borough of Southwark

We need to finalise the report tomorrow so apologies for the short turnaround, an email to confirm would be great.

Many thanks

Kind regards

Ellen

From: Jon Miller <Jon.Miller@regal-london.co.uk>
Sent: Monday, September 26, 2022 2:12 PM
To: Ellen Huelin <ellen.huelin@whitecode.co.uk>; paul.bush@veolia.com; Katy Venables <katy.venables@whitecode.co.uk>
Cc: Chris Deeks <Chris.Deeks@regal-london.co.uk>; Adam Hampton-Matthews <AHampton-Matthews@ryderarchitecture.com>; 10748:00 Fulton Road <FTRD@ryderarchitecture.com>
Subject: RE: New account

Ellen, Katy,

Please see attached and confirm acceptance.

Thanks,

REGA

Jon Miller
Design Manager
t: +44 (0)20 7328 7171 dd: +44 (0)20 7328 7171 m: +44 (0)7391 682 568
e: Jon.Miller@regal-london.co.uk
w: www.regal-london.co.uk
4-5 Coleridge Gardens, London, NW6 3QH

Appendix F: Lean design options

Reviewed in WLC report

Appendix G: Scenario modelling for adaptability

1016_100 Avenue Road

Design for Longevity and Adaptability

Date: 20.12.24
Rev: P1.0

Introduction

The most important factor in prolonging the life span of buildings and minimizing their environmental impact is the design. Architecture, spatial planning, and flexibility determine a building's potential for reuse.

The following statement outlines how 100 Avenue Road has been designed for longevity and adaptability.

Structure

The primary structure is designed as a concrete frame. Concrete is known for its durability and strength, which makes it an excellent material for long-lasting structures. Where possible floor slabs are designed as post tensioned elements, to reduce the quantum of material used and the depth of the slabs. Concrete structures are inherently robust and have a significant design life (need Robert Bird to confirm).

The concrete structure will be comprehensively protected in locations where it could be subject to damage. Areas where additional protection would be provided include;

- Car park
- Refuse store
- Circulation areas subject to high levels of movement

Concrete structures, though robust and long-lasting, can be modified, repurposed, or reinforced to meet future needs. The ability to adapt and modify concrete structures in the future is crucial for maintaining their relevance and functionality in a changing world.

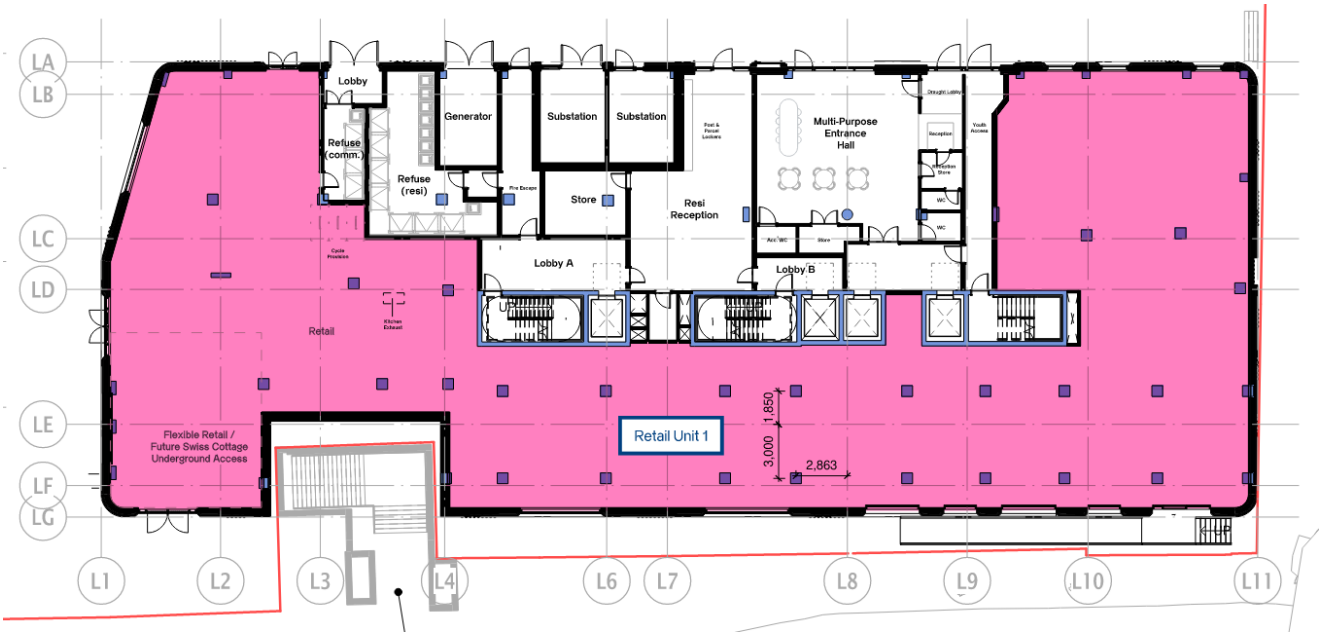
Please refer to the Structural Engineers information for further details.

Retail Space

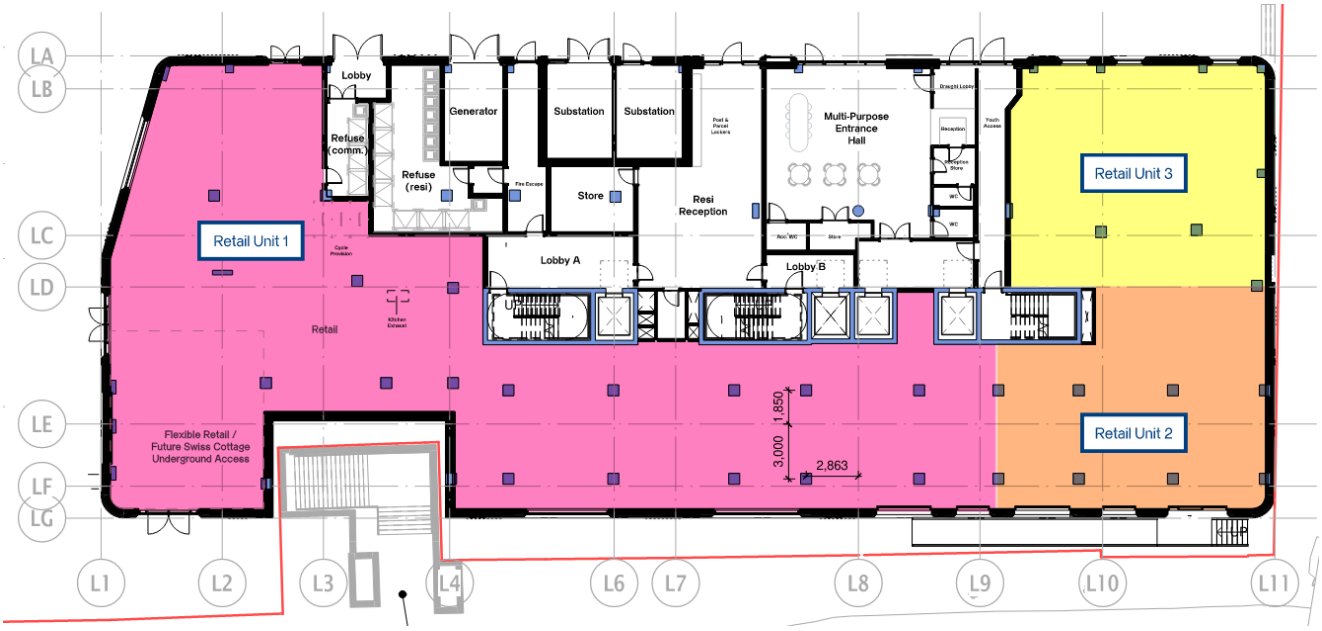
The large retail space on the ground floor of the lower building has been designed with flexibility in mind. This is currently shown as one open space, to provide accommodation for a single retail occupier. The finished floor level is consistent across the whole space.

With future flexibility in mind the structural slab has two steps in it, to follow the external ground level. The changes in level will be made up with lightweight void former and screed.

Should there be the need to change from one large retail space into either two or three smaller units this could be accommodated. To do this, the floor screed and void former would be removed and replaced at a lower level. Openings in the façade could be adapted to provide additional entrances into the newly formed retail space.



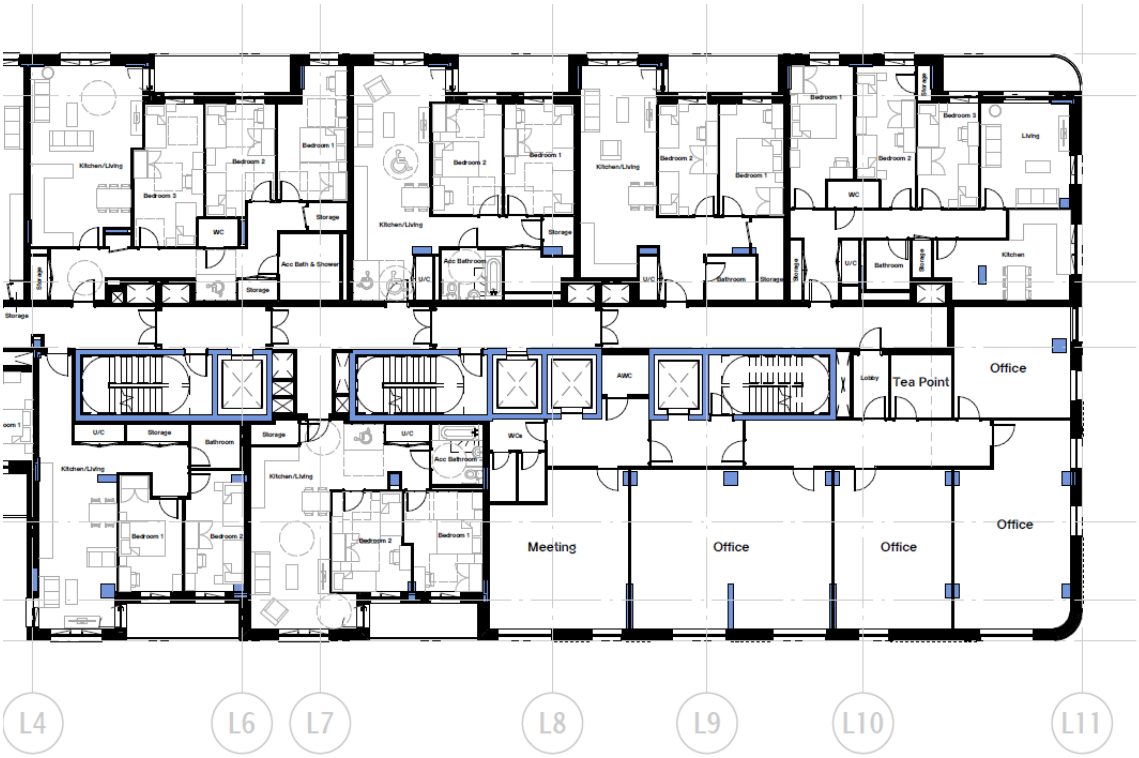
Current retail space on the ground floor



Option with three retail spaces

Community Space

Within the lower building an area of the accommodation is dedicated to Community Space. This space sits on the same levels as residential accommodation and could be converted in the future. If the need for a community space falls away, then additional residential apartments could be introduced. Several designs have been worked through showing apartment layouts where the current community centre is located. Please see an example layout below;



Current 5th Floor Plan

Alternative 5th Floor Plan

Residential Apartments

The residential apartments are formed within the post tensioned/ reinforced concrete frame. The internal partitions are formed from lightweight, yet robust, partitions, which are non-load bearing, providing flexibility for adaptation. In the future owners would be able to adapt the internal layouts of their apartments by removing and/ or adapting the locations of partitions, thereby increasing the length of time residents may stay within their home.

Home are designed to Approved Document M standards, 90% to M4(2) Category 2: Accessible and adaptable dwellings and 10% to M4(3) Category 3: Wheelchair user dwellings.

An M4(2) Category 2 dwelling, designed to meet the accessibility needs of people with varying levels of mobility, can be adapted to provide even greater accessibility and comfort for individuals with specific needs. Allowing for modifications can ensure the dwelling remains functional and comfortable as the needs of its occupants change over time.

An M4(3) Category 3 dwelling is designed to be fully accessible for wheelchair users and people with severe mobility impairments, offering the highest level of adaptability. To further enhance its functionality and accommodate evolving needs, adaptations can include adjusting the layout for easier manoeuvrability. Kitchens and bathrooms can be adapted with adjustable-height counters, sinks, and showers to suit users' preferences. These adaptations ensure the home can continue to meet the needs of its occupants, regardless of any changes in their mobility or care requirements.

Appendix H: One Click LCA output

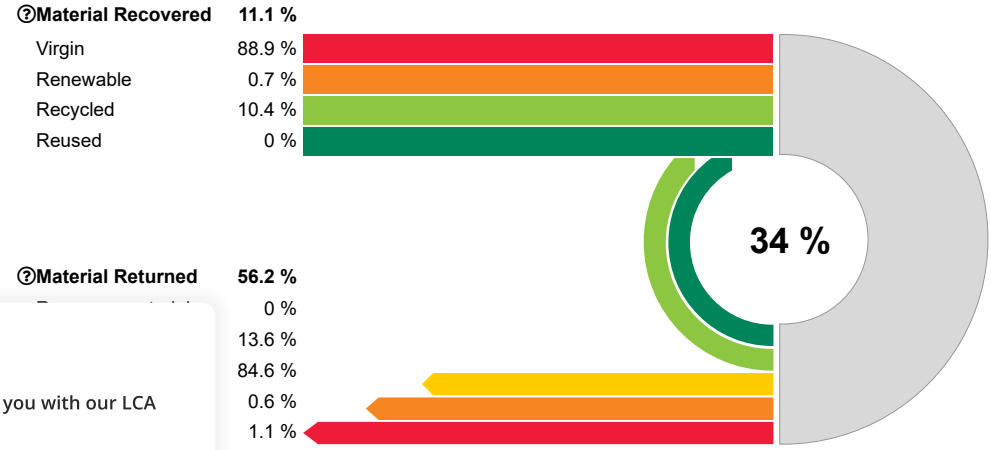
100 Avenue Road - Building Circularity, Greater London Authority

Project basic information

Result report: 100 Avenue Road

Project	100 Avenue Road - 100 Avenue Road
User	Katy Venables - 31.01.2025
Tool	Building Circularity, Greater London Authority
Details	Material efficiency and circular economy - for BREEAM MAT 06, GLA and GRI G4 reporting as well as other purposes
General information	
Type	Apartment buildings
Address	
Country	United Kingdom
Gross Floor Area (m²)	26690
Number of above ground floors	25
Frame type	notDetermined
Project number / code	
Investor / final client	
Year of construction (if refurbishment, original build year)	
Building function(s) distribution	
Technical, functional and qualitative properties	

Building Circularity, Greater London Authority



Result category	Material quantity kg	Material intensity kg/m2 Gross Internal Area	Estimated reusable materials kg/m2	Estimated recyclable materials kg/m2	
1 Substructure	16 861 614	631,76		631,76	Details
2.1 Superstructure: Frame	5 435 325	203,65		203,65	Details
2.2 Superstructure: Upper Floors	13 450 084,73	503,94		503,64	Details
2.3 Superstructure: Roof	5 361 236,39	200,87		188,3	Details
2.4 Superstructure: Stairs and Ramps	150 833,4	5,65		5,65	Details
2.5 Superstructure: External Walls	3 812 702,59	142,85		138,26	Details
2.6 Superstructure: Windows and External doors	122 758,17	4,6		4,6	Details
2.7 Superstructure: Internal Walls and Partitions	313 742,56	11,76		10,33	Details
2.8 Superstructure: Internal doors	67 977,8	2,55			Details
3 Finishes	1 184 419,06	44,38		36,76	Details
4 Fittings, furnishings & equipments					Hide empty
5 Services (MEP)	327 401,16	12,27		10,74	Details
6 Prefabricated buildings and building units					Hide empty
7 Work to existing building					Hide empty
8 External works	136 013,25	5,1		5,1	Details
0 Unclassified / Other					Hide empty
Total	47 224 108,1	1 769,36		1 738,78	Details

Building Circularity - Materials Recovered

Result category	Total kg	Virgin kg	Renewable kg	Recycled kg	Reused kg	
Construction Materials	44 639 379,18	39 636 685,21	293 339,55	4 709 354,42	0	Details
Earth masses, asphalt and stones	438 298,4	438 298,4	0	0	0	Details
Construction site - material wastage	2 146 430,52	1 952 299,13	3 930,23	190 201,17	0	Details
Material replacement and refurbishment	2 220 734,48	1 897 250,13	99 577,44	223 906,91	0	Details
Total	49 444 842,58	43 924 532,87	396 847,21	5 123 462,5	0	Details

Building Circularity - Materials Returned

Result category	Reuse as material kg	Recycling kg	Downcycling kg	Use as energy kg	Disposal kg	
Construction Materials		6 138 251,36	38 016 869,59	287 077,16	197 181,08	Details
Earth masses, asphalt and stones			122 962,4		315 336	Details
Construction site - material wastage		193 991,61	1 935 892,14	5 812,47	10 734,3	Details
Material replacement and refurbishment		1 176 316,54	910 891,5	76 693,79	56 832,65	Details
Total		7 508 559,51	40 986 615,63	369 583,42	580 084,02	Details

Building Circularity - Key Material Groups

	Virgin %	Materials Recovered %	Disposal %	Downcycling and use as energy %	Recycling and reuse as material %	Materials returned %	Circularity %	
	98,28	1,72		100		50	25,86	Details
	24,1	75,9			100	100	87,95	Details
	99,84	0,16		100		50	25,08	Details
	88,18	11,82		48,7	51,3	75,65	43,74	Details
	66,78	33,22	91,1	8,9		4,45	18,83	Details
Glass								Hide empty

Result category	Total kg	Virgin %	Materials Recovered %	Disposal %	Downcycling and use as energy %	Recycling and reuse as material %	Materials returned %	Circularity %	
Wood and biogenic	195 719,31	1	99		100		50	74,5	Details
Earth masses and asphalt	438 298,4	100	0	71,95	28,05		14,03	7,01	Details
Other materials	485 843,55	80,64	19,36	9,69	15,79	74,53	82,42	50,89	Details

Transport carbon intensity

Transport carbon intensity values are based on the transport figures from associated LCA tool. They are not rendered in the input forms of the circular economy tool to maintain the tool readable. Use these data for HQE Performance Economie Circulaire for example.

Result category	Global warming kg CO2e	Payload distance tkm	
Transport	336 739,36	3 304 565,75	Details

+ Materials using Design for Disassembly principles

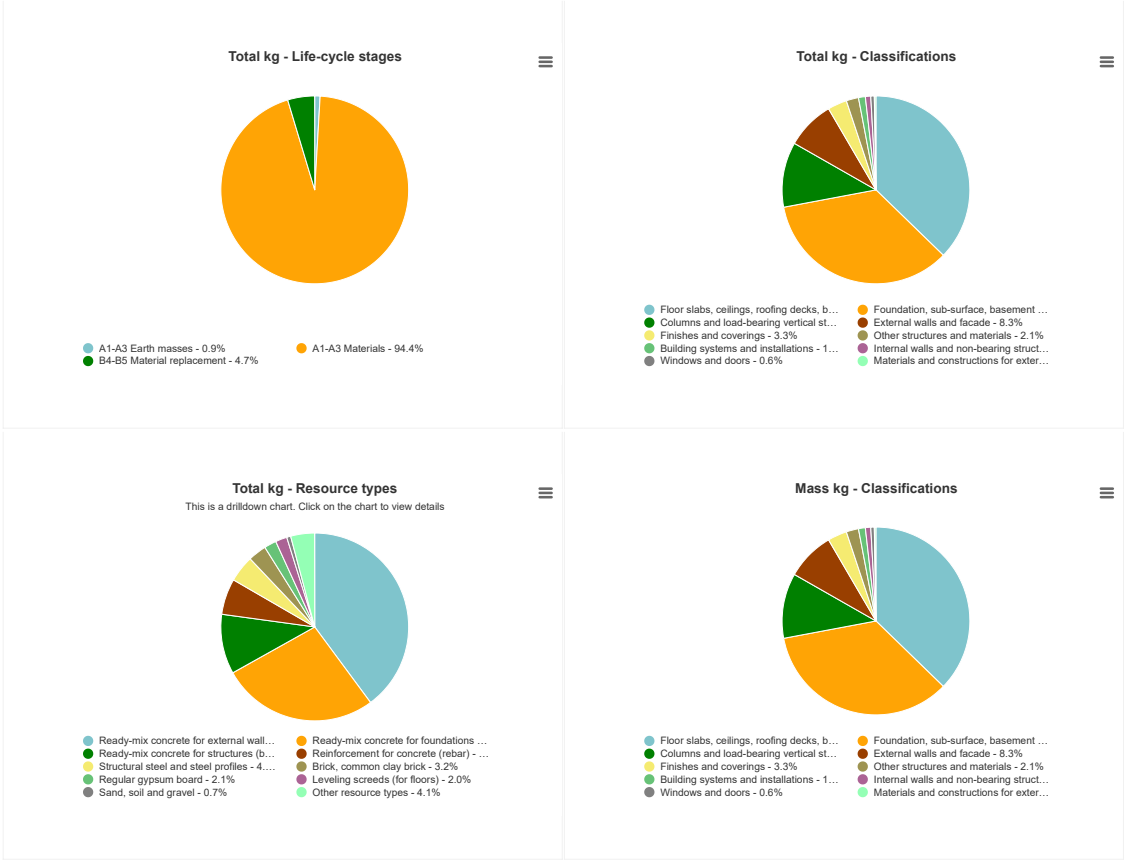
+ Materials using Design for Adaptability principles

Graphs

Overview | Bubble | Sankey | Treemap | Life-cycle stages | Classifications | All graphs

Life-cycle overview of Total

Pie Bar Column Treemap



Show data table: ☐Total kg - Life-cycle stages ☐Total kg - Classifications ☐Total kg - Resource types ☐Mass kg - Classifications

Total kg - Life-cycle stages

Item	Value	Unit	Percentage %
A1-A3 Earth masses	440 000	kg	0.92 %
A1-A3 Materials	45 000 000	kg	94.43 %
B4-B5 Material replacement	2 200 000	kg	4.65 %

Total kg - Classifications

Item	Value	Unit	Percentage %
	34 000 000	kg	37.28 %
	32 000 000	kg	34.77 %
	10 000 000	kg	11.21 %
	7 700 000	kg	8.34 %
	3 100 000	kg	3.31 %
	2 000 000	kg	2.11 %
	1 100 000	kg	1.19 %
	840 000	kg	0.91 %
Windows and doors	570 000	kg	0.62 %

Materials and constructions for external areas	250 000	kg	0.27 %

Total kg - Resource types

Item	Value	Unit	Percentage %
Ready-mix concrete for external walls and floors	37 000 000	kg	39.89 %
Ready-mix concrete for foundations and internal walls	25 000 000	kg	27.0 %
Ready-mix concrete for structures (beams, columns, piling)	9 500 000	kg	10.29 %
Reinforcement for concrete (rebar)	5 700 000	kg	6.18 %
Structural steel and steel profiles	4 200 000	kg	4.57 %
Brick, common clay brick	2 900 000	kg	3.16 %
Regular gypsum board	1 900 000	kg	2.11 %
Leveling screeds (for floors)	1 800 000	kg	1.98 %
Sand, soil and gravel	630 000	kg	0.68 %
Other resource types	3 800 000	kg	4.13 %

Mass kg - Classifications

Item	Value	Unit	Percentage %
Floor slabs, ceilings, roofing decks, beams and roof	34 000 000	kg	37.28 %
Foundation, sub-surface, basement and retaining walls	32 000 000	kg	34.77 %
Columns and load-bearing vertical structures	10 000 000	kg	11.21 %
External walls and facade	7 700 000	kg	8.34 %
Finishes and coverings	3 100 000	kg	3.31 %
Other structures and materials	2 000 000	kg	2.11 %
Building systems and installations	1 100 000	kg	1.19 %
Internal walls and non-bearing structures	840 000	kg	0.91 %
Windows and doors	570 000	kg	0.62 %
Materials and constructions for external areas	250 000	kg	0.27 %

Data sources

Contact details:

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26-27 The Hill
Northfleet Gravesend
Kent
DA11 9EU

t: 01322 289977

e: design@whitecode.co.uk