PAUL MEW ASSOCIATES

TRAFFIC CONSULTANTS 020 8780 0426

WANDSWORTH BOROUGH COUNCIL

LENNOX ESTATE,

ARABELLA DRIVE, LONDON, SW15

PRE-APPLICATION TRANSPORT ASSESSMENT

August 2023

PAUL MEW ASSOCIATES - TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London SW18 1FZ
T:0208 780 0426 E:paul.mew@pma-traffic.co.uk W: www.pma-traffic.co.uk

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1.0 INTRODUCTION

1.1 Paul Mew Associates is instructed by Wandsworth Borough Council in relation to the proposed development at the Lennox estate, Arabella Drive, Roehampton, London, SW15 5LN. The local planning and highway authority is the London Borough of Wandsworth.

1.2 The application site's location is presented on a map in Figure 1 of this report; the indicative site boundary is displayed on an Ordnance Survey (OS) map base in Appendix A.

1.3 The site has a manually verified public transport accessibility level (PTAL) rating of between 3 and 4 which are 'moderate' and 'good' levels of accessibility respectively as defined by Transport for London (TfL).

1.4 A total of three bus services with high peak period service frequencies can be accessed from bus stops to the north of the site on the A205 Upper Richmond Road West. Further bus stops are located on the A306 Roehampton Lane to the east of the site and provide access to two additional bus services. Barnes train station provides access to national rail services within around 850-metres to the north east of the site.

1.5 The roads within the Lennox estate including Arabella Drive, Ludovick Way, and Burke Close are not within one of Wandsworth Council's controlled parking zones (CPZ). Kerb side parking is unrestricted within the estate. Immediately to the north of the site is the A205 Upper Richmond Road West which is a Red Route and forms part of the Transport for London Road Network (TLRN). Stopping and waiting restrictions are present along the A205. To the north of the A205 the public highway falls within the jurisdiction of the neighbouring London Borough of Richmond upon Thames (LBRuT). The LBRuT roads to the north of the A205 are part of a CPZ.

1.6 There are several local shops to the north and south of the estate, however the primary high street is located further to the west along the A205 Upper Richmond Road West in East Sheen.

1.7 Most of the pedestrian traffic into the estate is via the two access points from Upper Richmond Road. The estate has two vehicular access points from Priory Lane to the east.

1.8 The application site currently comprises of open space in the northern part of the estate which also includes an existing multi-use games area (MUGA) and the Lennox Youth Club building.

1.9 The current proposal comprises of the development of up to 90 new residential dwellings in 'social rent' tenure across three different buildings, plus the re-provision of the existing MUGA, and associated parking, access, and landscape improvement works.

1.10 An illustrative Proposed Masterplan is presented at Appendix B of this report.

1.11 This report has been prepared to assess the access, parking, and servicing arrangements under the proposals for submission to the local planning authority as part of initial pre-application discussions. The initial scope of this document has been set out in a formal Scope of Works document which was submitted to the Council's highways officer in June 2023, the contents of which has since been confirmed as appropriate for the stage of the project. The Scope of Works document is presented at Appendix C of this report for ease of reference. The following chapter sets out the policy context relevant to this study.

2.0 POLICY CONTEXT

2.1 This proposal has been assessed considering the current transport planning policy guidance at the local, regional, and national level which have been examined as part of the preparation of this report.

2.2 These include policies relating to the relationship between new development and transport. The relevant documents are set out in the following:

- The new Wandsworth Local Plan 2023-2038 (July 2023);
- The London Plan (March 2021);
- National Planning Policy Framework (NPPF).

Wandsworth Council

2.3 At the time of preparing this report the Council's emerging new Local Plan has now been fully adopted and therefore holds material weight in planning terms. The new Local Plan (July 2023) supersedes the Core Strategy (March 2016) and the Development Management Policies Document (March 2016).

2.4 The new Local Plan is a collection of documents that sets out how the borough will develop up to 2038. The Local Plan must be in conformity with the Mayor's London Plan which prescribes regional planning policy guidance across all London Boroughs.

2.5 Policy LP49 of the new Wandsworth Local Plan relates to sustainable and active travel. The policy seeks for new developments to promote sustainable forms of transport and support the wider 'Healthy Streets' approach set out in the London Plan (2021). The policy is embedded below as follows:

> *"LP49 Sustainable Transport*
>
> *A. The Council will support proposals that reduce the need to travel and will work to promote safe, sustainable and accessible transport solutions for all users, which minimise the impacts of development including congestion, air pollution and carbon*

dioxide emissions, and maximise opportunities for health benefits and providing access for all to services, facilities and employment.

B. Development proposals, including for a change of use, will be expected to be people focused and meet the Healthy Streets objectives which put human health and well-being at the centre of transport planning, especially by providing for active travel and multi-destination trips. Proposals will be supported where:

1. the proportion of trips made by walking, cycling and public transport is high, and local connections by these modes are improved;

2. car dominance is reduced, and active use of streets and public spaces is increased;

3. neighbourhood environments are made safer, including reducing road danger and improving personal security (see Policy LP15 Health and Well-being);

4. freight movement is made safer, less polluting and more efficient including through the use of Urban Logistics Hubs in suitable locations;

5. air quality, and green and blue infrastructure are improved to create more attractive neighbourhoods for people (see Policy LP57 Urban Greening Factor);

6. the public realm is improved in terms of quality and resilience e.g. with the introduction of parklets;

7. placemaking, that promotes accessibility to existing and/or proposed mixed-use areas that provide a range of local facilities and amenities, is considered from the initial design stages;

8. accessibility to public transport is not negatively affected at a neighbourhood level; and

9. wider projects to improve access on foot and by bicycle are considered along with the individual street or junction proposals."

2.6 Policy LP50 relates to Transport and Development and is extracted as follows:

"LP50 Transport and Development

A. Development that will generate a large volume of trips must: 1. have good public transport access levels (PTALs) i.e. 4 or higher; and/or 2. be in an area with sufficient public transport capacity, or be capable of supporting improvements to provide good public transport accessibility and capacity, taking account of local character and context; and 3. be safe, avoid harm to highway safety, and provide suitable access to the site which can be achieved for all people; and 4. ensure improvements can be undertaken within the transport network that cost-effectively limit the significant impacts of the development, when required. Development will normally only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.

B. Development proposals will demonstrate their effect on traffic and transport by provision of Transport Assessments (TA). Transport Assessments and Travel Plans

should be prepared if development proposals meet the thresholds set out in the National Guidance from 2007 (or future update). Transport Assessments and Travel Plans may be required for smaller developments where the transport impact is expected to be significant or to affect sensitive locations.

C. Smaller scale developments that fall below the thresholds but could give rise to transport impacts will be required to demonstrate transport impacts in a transport statement.

D. Development proposals, including change of use, that require provision of, or contributions towards, necessary and relevant transport and access improvements established through a transport assessment or statement will make that provision or contribution.

E. The River Thames is considered a major transport route for freight and construction and will be protected for these uses, any development that impacts these uses will need to be supported by Transport Assessments (TA) to demonstrate how the impacts will be mitigated. Development proposals in close proximity to navigable waterways, must in supporting Transport Assessments include consideration of the maximisation of the use of the river for freight, including for the transportation of construction materials to, and waste from a development site either directly to/from the site or through the supply chain

F. For developments, including developments that require new or additional crossovers or vehicle access, it will need to be demonstrated they would not cause a road safety hazard or interfere with the safe operation of buses, particularly bus stops. Further guidance will be provided in a Housing SPD."

2.7 Policy LP51 relates to Parking, Servicing, and Car-Free Development. The policy demonstrates the Council's approach towards car and cycle parking standards in general accordance with the London Plan (March 2021). The policy is embedded as follows:

"LP51 Parking, Servicing and Car Free Development

A. Development will be supported where:

1. Cycle Parking is provided in accordance with the minimum levels set out in the London Plan with reference to Table 10.2 and any subsequent amendments. The parking must be easily accessible, secure, and well-located to the unit it is associated with.

2. Off street residential car parking is provided and does not exceed the maximum requirements set out in the London Plan with reference to Table 10.3 and any subsequent amendments, and it can be demonstrated that parking on site is the minimum necessary. On mixed-use developments car parking spaces should be

allocated to the specific uses proportionally. Off street parking should be designed in conformity with LP1.

3. Car parking in new shopping and leisure developments in Town Centres provides short stay parking and serves the Town Centre as a whole rather than being reserved solely for use in connection with the proposed development and be in accordance with Table 10.5 of the London Plan on maximum retail parking standards;

4. Car club parking and memberships are provided in all residential developments that require travel plans and count towards the maximum parking standards and are not appropriate in the CAZ, in accordance with LP50 Transport and Development (b).

5. Adequate off-street servicing arrangements are made for commercial vehicles and general servicing.

6. Minimum numbers of disability-friendly car parking spaces are provided in accordance with the London Plan and any subsequent amendments.

7. Electric vehicle charging capacity is provided in accordance with the London Plan and any subsequent amendments.

8. Office parking provision is provided in accordance with the London Plan and any subsequent amendments.

B. On-street Parking

1. New developments must comply with the London Plan's guidance regarding on-street car parking and any subsequent amendments. The Council will encourage applications for development that require less on-street parking in areas well-connected to public transport.

2. Developers will need to show that their proposal does not lead to an unacceptable amount of on-street parking. This will include showing acceptable motorcycle and scooter parking provision in town centre locations which does not detract from the character of the area.

3. For residential conversions, the Council will encourage replacement of existing general on-street parking with other kerbside uses to encourage more sustainable transport.

C. The Council will support the redevelopment of existing car parks for alternative uses where it can be shown that the provision of car parks is being met now and into the future.

D. Car-free development will be required where:

1. The PTAL is 4 or higher.

2. A Transport Assessment can demonstrate that through a combination of walking, cycling, public transport, car club parking, travel plans and other relevant measures that further private car parking is not required. A Transport Assessment shall demonstrate how reductions in the need to travel can be achieved. A Transport

Assessment will not be required if the development meets London Plan Parking Standards.

3. The appropriate minimum number of disability friendly parking spaces are provided in accordance with the London Plan and any subsequent amendments.

E. Low car development will be required where:

1. The PTAL is 3.

2. A Transport Assessment can demonstrate that through a combination of walking, cycling, public transport, car club parking, travel plans and other relevant measures minimal car parking is all that is required. A Transport Assessment shall demonstrate how reductions in the need to travel can be achieved. A Transport Assessment will not be required if the development meets London Plan Parking Standards.

3. The appropriate minimum number of disability friendly parking spaces are provided in accordance with the London Plan and any subsequent amendments.

F. No additional parking permits will be issued to any occupiers of additional housing units created in major residential or mixed-use developments anywhere in the borough or through conversions in existing or future Controlled Parking Zones (CPZ). For existing occupiers being rehoused as part of estate redevelopments, parking permits should be limited to residents who already have parking permits or who own and park a car on the estate.

G. Where development includes both affordable and market units, parking should be allocated equitably between market and affordable units. If the level of parking proposed for affordable units is less than that proposed for market units, the disparity will need to be justified taking account of estimated demand and information on relative levels of car ownership."

The London Plan

2.8 The Mayor of London, through the legislation establishing the Greater London Authority (GLA), must produce a spatial development strategy (SDS) which has become known as the London Plan. Chapter 10 of the current London Plan (March 2021) relates to London's Transport. Policy T1 of the London Plan sets out the strategic approach to transport:

"Policy T1 Strategic approach to transport

A Development Plans should support and development proposals should facilitate:

1) the delivery of the Mayor's strategic target of 80 per cent of all trips in London to be made by foot, cycle or public transport by 2041

2) the proposed transport schemes set out in Table 10.1.

B All development should make the most effective use of land, reflecting its connectivity and accessibility by existing and future public transport, walking and cycling routes, and ensure that any impacts on London's transport networks and supporting infrastructure are mitigated."

2.9 Policy T2 of the London Plan sets out the Mayor's strategy for 'Healthy Streets' and is an important feature of this version of the London Plan. Policy T2 is extracted as follows:

"Policy T2 Healthy Streets

A Development proposals and Development Plans should deliver patterns of land use that facilitate residents making shorter, regular trips by walking or cycling.

B Development Plans should:

1) promote and demonstrate the application of the Mayor's Healthy Streets Approach to: improve health and reduce health inequalities; reduce car dominance, ownership and use, road danger, severance, vehicle emissions and noise; increase walking, cycling and public transport use; improve street safety, comfort, convenience and amenity; and support these outcomes through sensitively designed freight facilities.

2) identify opportunities to improve the balance of space given to people to dwell, walk, cycle, and travel on public transport and in essential vehicles, so space is used more efficiently and streets are greener and more pleasant.

C In Opportunity Areas and other growth areas, new and improved walking, cycling and public transport networks should be planned at an early stage, with delivery phased appropriately to support mode shift towards active travel and public transport. Designs for new or enhanced streets must demonstrate how they deliver against the ten Healthy Streets Indicators.

D Development proposals should:

1) demonstrate how they will deliver improvements that support the ten Healthy Streets Indicators in line with Transport for London guidance.

2) reduce the dominance of vehicles on London's streets whether stationary or moving.

3) be permeable by foot and cycle and connect to local walking and cycling networks as well as public transport."

2.10 Policies T5 and T6 of the London Plan relate to the provision of cycle parking and car parking respectively in new development at the regional strategic level. The policies are extracted as follows:

"Policy T5 Cycling

A Development Plans and development proposals should help remove barriers to cycling and create a healthy environment in which people choose to cycle. This will be achieved through:

1) supporting the delivery of a London-wide network of cycle routes, with new routes and improved infrastructure

2) securing the provision of appropriate levels of cycle parking which should be fit for purpose, secure and well-located. Developments should provide cycle parking at least in accordance with the minimum standards set out in Table 10.2 and Figure 10.2, ensuring that a minimum of two short-stay and two long-stay cycle parking spaces are provided where the application of the minimum standards would result in a lower provision.

B Cycle parking should be designed and laid out in accordance with the guidance contained in the London Cycling Design Standards. Development proposals should demonstrate how cycle parking facilities will cater for larger cycles, including adapted cycles for disabled people.

C Development Plans requiring more generous provision of cycle parking based on local evidence will be supported.

D Where it is not possible to provide suitable short-stay cycle parking off the public highway, the borough should work with stakeholders to identify an appropriate on-street location for the required provision. This may mean the reallocation of space from other uses such as on street car parking. Alternatively, in town centres, adding the required provision to general town centre cycle parking is also acceptable. In such cases, a commuted sum should be paid to the local authority to secure provision.

E Where it is not possible to provide adequate cycle parking within residential developments, boroughs must work with developers to propose alternative solutions which meet the objectives of the standards. These may include options such as providing spaces in secure, conveniently-located, on-street parking facilities such as bicycle hangers.

F Where the use class of a development is not fixed at the point of application, the highest potential applicable cycle parking standard should be applied."

"Policy T6 Car parking

A Car parking should be restricted in line with levels of existing and future public transport accessibility and connectivity.

B Car-free development should be the starting point for all development proposals in places that are (or are planned to be) well-connected by public transport, with developments elsewhere designed to provide the minimum necessary parking ('car-lite'). Car-free development has no general parking but should still provide disabled persons parking in line with Part E of this policy.

C An absence of local on-street parking controls should not be a barrier to new development, and boroughs should look to implement these controls wherever necessary to allow existing residents to maintain safe and efficient use of their streets.

D The maximum car parking standards set out in Policy T6.1 Residential parking to Policy T6.5 Non-residential disabled persons parking should be applied to development proposals and used to set local standards within Development Plans.

E Appropriate disabled persons parking for Blue Badge holders should be provided as set out in Policy T6.1 Residential parking to Policy T6.5 Non- residential disabled persons parking.

F Where provided, each motorcycle parking space should count towards the maximum for car parking spaces at all use classes.

G Where car parking is provided in new developments, provision should be made for infrastructure for electric or other Ultra-Low Emission vehicles in line with Policy T6.1 Residential parking, Policy T6.2 Office parking, Policy T6.3 Retail parking, and Policy T6.4 Hotel and leisure uses parking. All operational parking should make this provision, including offering rapid charging. New or re-provided petrol filling stations should provide rapid charging hubs and/or hydrogen refuelling facilities.

H Where electric vehicle charging points are provided on-street, physical infrastructure should not negatively affect pedestrian amenity and should ideally be located off the footway. Where charging points are located on the footway, it must remain accessible to all those using it including disabled people.

I Adequate provision should be made for efficient deliveries and servicing and emergency access.

J A Parking Design and Management Plan should be submitted alongside all applications which include car parking provision, indicating how the car parking will be designed and managed, with reference to Transport for London guidance on parking management and parking design.

K Boroughs that have adopted or wish to adopt more restrictive general or operational parking policies are supported, including borough-wide or other area-based car-free policies. Outer London boroughs wishing to adopt minimum residential parking standards through a Development Plan Document (within the maximum standards set out in Policy T6.1 Residential parking) must only do so for parts of London that are PTAL 0-1. Inner London boroughs should not adopt minimum standards. Minimum standards are not appropriate for non-residential use classes in any part of London.

L Where sites are redeveloped, parking provision should reflect the current approach and not be re-provided at previous levels where this exceeds the standards set out in this policy. Some flexibility may be applied where retail sites are redeveloped outside of town centres in areas which are not well served by public transport, particularly in outer London."

2.11 Tables 10.3 and 10.2 of the London Plan set out the maximum car parking standards and minimum cycle parking standards, extracts of which are set out below as they relate to this site and the residential aspect of the scheme:

Table 10.3 - Maximum residential parking standards

Location	Number of beds	Maximum parking provision*
Central Activities Zone Inner London Opportunity Areas Metropolitan and Major Town Centres All areas of PTAL 5 – 6 Inner London PTAL 4	All	Car-Free~
Inner London PTAL 3	All	Up to 0.25 spaces per dwelling
Inner London PTAL 2 Outer London Opportunity Areas	All	Up to 0.5 spaces per dwelling
Inner London PTAL 0 – 1	All	Up to 0.75 spaces per dwelling
Outer London PTAL 4	1-2	Up to 0.5 - 0.75 spaces per dwelling+
Outer London PTAL 4	3+	Up to 0.5 - 0.75 spaces per dwelling+
Outer London PTAL 2 – 3	1-2	Up to 0.75 spaces per dwelling
Outer London PTAL 2 – 3	3+	Up to 1 space per dwelling
Outer London PTAL 0 – 1	1-2	Up to 1.5 space per dwelling
Outer London PTAL 0 – 1	3+	Up to 1.5 spaces per dwelling^

* Where Development Plans specify lower local maximum standards for general or operational parking, these should be followed

~ With the exception of disabled persons parking, see Part G Policy T6.1 Residential Parking shown here should be applied as a maximum

+ When considering development proposals that are higher density or in more accessible locations, the lower standard shown here should be applied as a maximum

^ Boroughs should consider standards that allow for higher levels of provision where there is clear evidence that this would support additional family housing

Table 10.2 - Minimum cycle parking standards

Use Class		Long-stay (e.g. for residents or employees)	Short-stay (e.g. for visitors or customers)
C3- C4	dwellings (all)	• 1 space per studio or 1 person 1 bedroom dwelling • 1.5 spaces per 2 person 1 bedroom dwelling • 2 spaces per all other dwellings	• 5 to 40 dwellings: 2 spaces • thereafter: 1 space per 40 dwellings

2.12 Parking is discussed in Chapter 5 of this report and relates to the local and regional planning policy guidance for the provision of parking for all modes of travel in new development. TfL provides a cycle parking calculator spreadsheet which has been used to calculate the cycle parking requirements for this development. The cycle parking provision for the proposal is set out in Chapter 5 of this report. TfL also provides design and access standards for cycle parking in Chapter 8 of the London Cycle Design Standards (LCDS) 2016 which this scheme must comply with.

National Planning Policy Framework (NPPF)

2.13 On a national level, the National Planning Policy Framework (updated July 2021) sets out national policy. Chapter 9 of the NPPF relates to promotion of sustainable transport. For ease of reference the relevant key extracts have been copied herein:

> *"104. Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:*
>
> *a) the potential impacts of development on transport networks can be addressed;*
> *b) opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;*
> *c) opportunities to promote walking, cycling and public transport use are identified and pursued;*
> *d) the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and*
> *e) patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places.*
>
> *107. If setting local parking standards for residential and non-residential development, policies should take into account:*
>
> *a) the accessibility of the development;*
> *b) the type, mix and use of development;*

c) the availability of and opportunities for public transport
d) local car ownership levels; and
e) the need to ensure an adequate provision of spaces for charging plug-in and other ultra-low emission vehicles.

110. In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;
b) safe and suitable access to the site can be achieved for all users; and
c) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.
111. Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."

2.14 In preparing the development proposal and this pre-application transport assessment, the above policies have been considered.

3.0 SITE ACCESSIBILITY

Local Amenities

3.1 The nearest amenities to the site are located within the southern part of the Lennox estate off Rockingham Close and comprise of a small parade of shops and services including convenience stores and a chemist.

3.2 There are several further local shops to the north and south of the estate, however the primary high street is located further to the west along the A205 Upper Richmond Road West within East Sheen town centre around 1.0 kilometre from the site. Putney town centre is around 2.5 kilometres to the east of the site. Refer to Figure 2 for a map of the local amenities.

3.3 In terms of public open space, Barnes Common is around 250-metres to the east of the site and Richmond Park is around 1.5 kilometres to the south of the site.

3.4 There are therefore a range of local amenities and public open spaces within a reasonable walking/cycling distance of the site which will reduce the need for new residents to own or travel by private car.

PTAL

3.5 In terms of public transport, to demonstrate the accessibility attributes of the application site in the context of its surroundings, an accessibility audit and a public transport accessibility level (PTAL) assessment have been undertaken.

3.6 The PTAL system, widely used by local authorities and the Greater London Authority (GLA), assigns a 'score' to any given location based on the level of public transport accessible from the site within reasonable walk distances and wait times.

3.7 The level of available public transport at a point of interest in London is quantified and measured using Transport for London's (TfL) PTAL model.

3.8 TfL provides an online GIS-based PTAL tool on their website. The GIS-based PTAL tool uses spatial data such as point data files (e.g. bus stops) and vector files (e.g. walking network) to give a specific point of interest's PTAL score.

3.9 TfL's online GIS-based PTAL tool was used as an initial basis to research the application site's PTAL score, however the walk routes to nearby bus stops as well as the service frequencies of the nearby bus routes has been found to be different from those on the webCAT tool. A manual PTAL verification has therefore been carried out to determine the site's PTAL rating from the indicative positions of the planned northern and southern buildings. The results indicate that the application site has a PTAL accessibility ratings ranging from 4 'good' to 3 'moderate' for the northern and southern buildings respectively.

3.10 The full manually verified PTAL output files are presented in Appendix D. TfL's PTAL table is extracted as follows:

Table 3 Public Transport Accessibility Levels

PTAL	Range of Index	Map Colour	Description
1a (Low)	0.01 – 2.50		Very poor
1b	2.51 – 5.00		Very poor
2	5.01 – 10.00		Poor
3	10.01 – 15.00		Moderate
4	15.01 – 20.00		Good
5	20.01 – 25.00		Very Good
6a	25.01 – 40.00		Excellent
6b (High)	40.01 +		Excellent

3.11 A total of three bus services with high peak period service frequencies can be accessed from bus stops to the north of the site on the A205 Upper Richmond Road West. These comprise of bus routes 33, 337, and 493 with AM peak hour service frequencies of 6, 12.5, and 12.5 buses respectively.

3.12 Further bus stops are located on the A306 Roehampton Lane to the east of the site and provide access to two additional bus services comprising routes 265 and 419 with AM peak hour service frequencies of 11.5 and 11 buses respectively.

3.13 In addition, bus route 969 passes through the estate along Arabella Drive in a loop from Priory Lane and provides a 'hail and ride' service through the Lennox

estate. The route runs from Whitton to Roehampton Vale and operates one service per day in each direction on Tuesdays and Fridays.

3.14 Barnes train station provides access to national rail services within around 850-metres to the north east of the site. Refer to Figure 2 for a map of the local public transport services described herein.

Cycling & Pedestrian Accessibility

3.15 The pedestrian footways within the Lennox estate are sufficiently wide, well-lit, and in a reasonable state of repair. Most of the pedestrian traffic into the estate is via the two access points from Upper Richmond Road immediately north of the application site. It is recognised that the two existing pedestrian entrances to the estate from the Upper Richmond Road could be enhanced and these proposals will be explored in further detail as the design of the scheme, particularly the landscape masterplan, progresses.

3.16 Immediately to the west of the western entrance to the estate via Upper Richmond Road is a signalised pedestrian crossing which provides a secure crossing to the bus stops, walk routes, and amenities to the north of the site. Immediately adjacent to the eastern entrance to the estate via Upper Richmond Road is an uncontrolled pedestrian crossing with a kerbed central reservation which again provides a secure crossing to the bus stops, walk routes, and amenities to the north of the site.

3.17 The cycling environment near the site is also satisfactory. There are signed on-road cycle routes along both sides of the carriageway on Upper Richmond Road providing connections by bicycle to Putney to the east of the site. There is also a signed off-road two-way cycle route on the west side of Priory Lane which runs from the junction with Upper Richmond Road to the north to Bank Lane to the south. To the south the off-road section of the cycle route ends, and it extends on the carriageway along Bank Lane and Roehampton Gate providing a connection to Richmond Park. These cycle routes form part of the Thames Cycle

Route which itself is part of National Cycle Route 4 which runs from London to Fishguard. A local cycling map is presented at Figure 3 of this report.

3.18 There Lennox estate is currently remote from the Santander Cycle Hire scheme with the nearest docking stations located in Putney town centre around 2.5 kilometres to the east of the site.

3.19 It should be noted that an Active Travel Zone (ATZ) assessment and a Healthy Streets Approach audit will form part of the Transport Assessment submitted with any future full planning application.

Car & Parking Accessibility

3.20 The site is well connected by car, being near the A205 Upper Richmond Road which provides access to Putney town centre to the east and East Sheen town centre to the west of the site. The estate connects to the Upper Richmond Road from Arabella Drive via Priory Lane which is a signal-controlled junction and provides signal-controlled pedestrian crossing across all four arms of the junction as well as advanced stop line boxes for cyclists.

3.21 As discussed, the roads within the Lennox estate including Arabella Drive, Ludovick Way, and Burke Close are not within one of Wandsworth Council's controlled parking zones (CPZ). Kerb side parking is unrestricted within the estate. It is however proposed to form a Parking Regulation Scheme (PRS) across the full extent of the Lennox estate to manage parking for existing residents as well as to provide a mechanism to restrict car ownership by future occupiers of the planned new dwellings. Further details of the PRS are set out later in this report.

3.22 Immediately to the north of the site is the A205 Upper Richmond Road West which is a Red Route and forms part of the Transport for London Road Network (TLRN). Stopping and waiting restrictions are present along the A205.

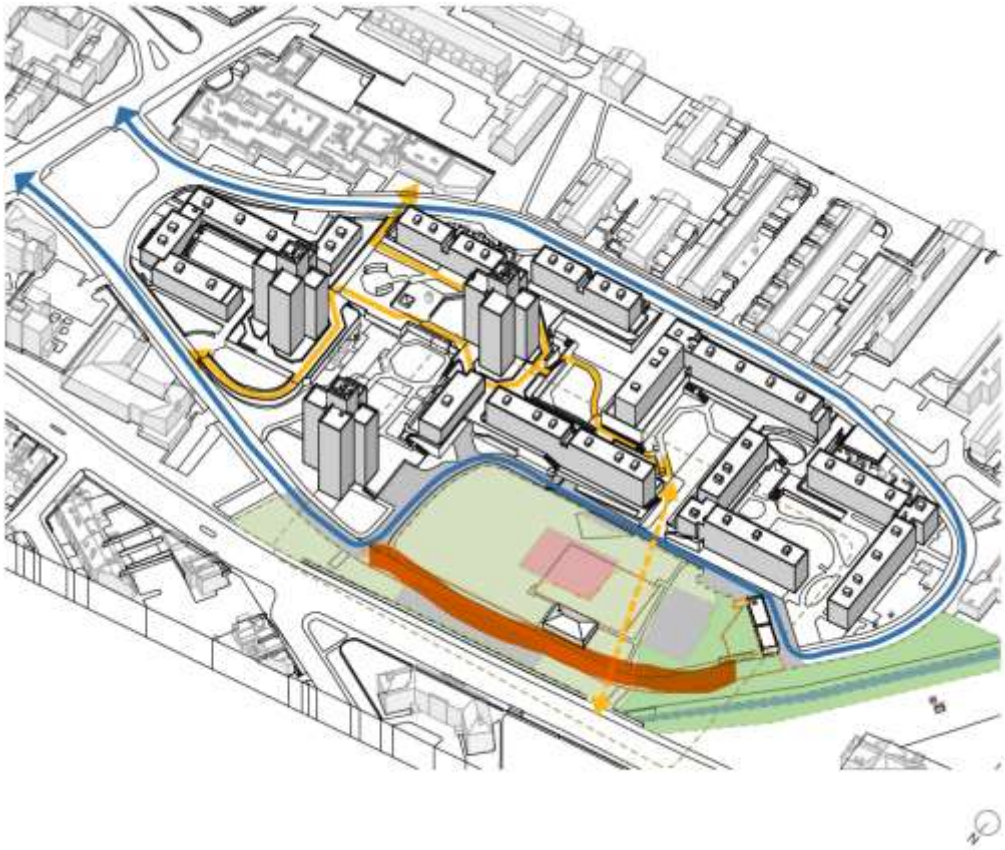
3.23 To the north of the A205 the public highway falls within the jurisdiction of the neighbouring London Borough of Richmond upon Thames (LBRuT). The LBRuT roads to the north of the A205 are part of a CPZ.

3.24 There are no fixed location car club vehicles within reasonable proximity to the site, the nearest vehicles are operated by Zipcar and the closest vehicle to the site is located on Queen's Ride around 750-metres to the east of the site. Zipcar also offers the 'Zipzone' which is where members can pick up and drop off 'Flex' vehicles. Wandsworth is a Borough within which Zipcar offers a Flex service and therefore there could be vehicles available within closer proximity to the site at times.

3.25 It is however proposed to introduce a new fixed location car club vehicle within the Lennox estate which will be of benefit to both existing residents as well as future occupiers of the planned new dwellings. Further details of the car club proposals are set out later in this report.

4.0 BASELINE HIGHWAYS CONDITIONS

4.1 Of note from a highway's viewpoint is the planned stopping up of a ~165-metre section of Arabella Drive that currently runs around the northern perimeter of the green open space between junctions with Ludovick Walk. The embedded plan below shows the section of Arabella Drive to be stopped-up highlighted in orange:



4.2 The impact of the revised road strategy within/around the estate will however need to be carefully designed and considered. The suitability of Ludovick Walk to accommodate an increase in traffic flow arising from the stopping-up of part of Arabella Drive will need to be looked at, with improvements and mitigation measures needed to enhance this route.

4.3 Understanding the current volume, direction, speed, and composition of vehicle traffic flowing through the estate will be very important to inform the proposed design of the new road system under the proposals. This will require the

installation of several automatic traffic counter (ATC) machines on the estate's internal road system.

4.4 Similarly, since there are no parking controls in the estate parking surveys will provide a clear picture of the current parking patterns around the estate. There will likely be an element of parking re-provision in the scheme if parking along the stretch of Arabella Drive to be closed off cannot be adequately absorbed into the estate.

4.5 This chapter of the report sets out the results of initial parking surveys and traffic flow surveys in the northern part of the Lennox estate which informs the assessment of the proposed development set out in later chapters.

Parking Survey Inventory

4.6 The first stage of the parking assessment is to map out the parking survey area. The parking surveys has been conducted using the industry standard 'Lambeth parking survey methodology'.

4.7 The Lambeth methodology prescribes a 200-metre walking distance for residential parking surveys such as this one. However, since the impacts of the development cover a wider area the entire northern section of the Lennox Estate has been included in this assessment. Refer to Figure 4 for a map illustrating the parking study area.

4.8 All vehicle crossovers and kerb space within five-metres of junctions have been eliminated from the surveys. The remainder of the parkable kerb space within the survey area has been measured on-site and the total distance of kerb space between crossovers / junctions has been recorded and split into increments of five metres in accordance with the Lambeth parking survey methodology.

4.9 It should however be noted that surveyor discretion has been allowed for within this assessment and existing established parking arrangements have been included in the parking survey inventory.

4.10 End-on parking opportunities have also been counted and included in analysis of the total available 'kerb-side' spaces. The parking survey inventory is presented in Table 1 as follows, additionally refer to Figures 5 a-e.

Table 1. Parking Survey Inventory

Street	PARKING STUDY INVENTORY			
	Kerb Side Inventory			
	Length of parallel kerb side parking (m)	No. of parallel kerb side parking spaces	No. of end-on parking bays	Total no. of parking spaces
Arabella Drive	860	172	10	182
Arabella Drive Cul-De-Sac 1	0	0	27	27
Arabella Drive Cul-De-Sac 2	15	3	9	12
Arabella Drive Cul-De-Sac 3	55	11	12	23
Burke Close	50	10	75	85
Ludovick Walk (west)	25	5	20	25
Ludovick Walk (east)	35	7	7	14
Total	1040	208	160	368

Notes:

All areas of kerb side parking have been counted. To calculate parking capacity each length of road between obstructions (such as crossovers, kerb build-outs, etc) has been measured and converted into parking spaces by dividing the length by 5m and rounding down to the nearest whole number.

End-on parking bays have been calculated by measuring the total width and dividing it by 2.4m (standard parking bay size); however surveyor discretion based on on-site observations is primarily taken into account.

There are disabled bays in the study area (refer to Figure 5); disabled parking has been excluded from this assessment as per the Lambeth methodology.

Source: PMA Survey

4.11 The parking survey inventory in Table 1 shows that there are a total of 368 kerb-side parking opportunities within the survey area. There are also 10 disabled bays within the parking survey area however they have been marked separately on the inventory maps in Figures 5 a-e and excluded from further analysis as per the Lambeth parking survey methodology.

Parking Survey Results

4.12 The next stage of the on-street parking assessment is to carry out a series of parking beat surveys. The Lambeth methodology states that one survey between the hours of 00:30-05:30 must be undertaken on two separate weekday nights

(Monday to Thursday). Overnight parking surveys are designed to capture the peak resident demand for on-street parking in an area.

4.13 The weekday overnight surveys were undertaken on Monday 15th and Wednesday 16th May 2023 at 01:00 and 02:00 respectively.

4.14 The average results of the overnight parking surveys are presented in Table 2 and have been produced to the standards prescribed within the Lambeth methodology. Full results of each survey are included at Appendix E. Maps of the parking surveys detailing where cars were parked with an 'x' are presented at Figures 6 a-b for clarity.

Table 2. Overnight Parking Survey Average

Street Name	Total no. of parking spaces	Total cars parked	Parking stress (%)
Arabella Drive	182	141	77%
Arabella Drive Cul-De-Sac 1	27	20	74%
Arabella Drive Cul-De-Sac 2	12	10	83%
Arabella Drive Cul-De-Sac 3	23	21	89%
Burke Close	85	66	77%
Ludovick Walk (west)	25	23	92%
Ludovick Walk (east)	14	15	104%
Total	368	294	80%

NB: arithmetic errors are due to roundings

Up to 14 cars also observed parked on Cul-De-Sac 1 on garage forecourts, posts etc

Up to 1 car also observed parked on Cul-De-Sac 3 on yellow lines

Up to 13 cars also observed parked on Burke Close on garage forecourts, posts etc

Up to 5 cars also observed parked on Ludovick Walk on yellow lines/hatching etc

Source: PMA Survey

4.15 The results in Table 2 demonstrate that the average overnight parking stress of available kerb side parking opportunities in the survey area is 80%, with a total of 294 cars parked in the 368 available spaces, leaving 74 parking opportunities free.

4.16 The results in Table 2 also demonstrate parking has been observed in other informal areas of the estate such as across garage forecourts and on yellow lines etc. The locations of these additional cars parked are shown in Figures 6 a-b.

These additional parked cars are not included within the overall parking stress calculations however they are still considered as part of the overall parking demand of current residents within the estate.

4.17 It is now widely regarded that a threshold of 85% or more is when a parking survey area is deemed to be heavily parked. The results of the parking surveys therefore demonstrate that whilst parking stress within the practical parking survey inventory is within capacity by some 5%, factoring in the additional ad-hoc parking demand across garage forecourts and on single yellow lines etc the 85% threshold is exceeded.

Assessment of Current Observed Parking Demand

4.18 To assess the veracity of the parking survey data in the preceding section, an interrogation of local car/van ownership data from the most recent population census in 2021 has been carried out. To properly define the study area and ensure that the data is as localised to the Lennox estate as possible, individual 'output areas' have been identified. The output area codes which cover the significant majority of the residential addresses within the Lennox estate are E00023033, E00023002, E00023037, and E00023035. Table 3 sets out the results:

Table 3. Lennox Estate Output Areas – Car/Van Availability All Dwelling Types

RM001 - Accommodation type by car or van availability by number of usual residents aged 17 years or over in household (2021)	Wandsworth	
	Output Areas *	
	Count	%
All Categories: Car or Van Availability	516	-
No Cars or Vans in Household	261	51%
1 Car or Van in Household	181	35%
2 or More Cars or Van in Household	74	14%

* E00023033, E00023002, E00023037, E00023035

Source: Office for National Statistics

4.19 The data in Table 3 illustrates that according to recent census information 51% of households in the Lennox estate do not own a car or van, 35% own one car or van, and 14% own two or more cars or vans.

4.20 There are 390 residential properties on Arabella Drive and Ludovick Walk plus 95 properties on Burke Close. These areas effectively comprise of the northern section of the Lennox estate and are the areas included in the parking study set out herein. Table 4 provides an assessment of the likely car or van ownership levels of the 485 residential properties largely within the parking survey area.

Table 4. Projected Car/Van Availability – Lennox Estate (North)

CPH	%	485 Dwellings	Total Cars
0	51%	247	0
1	35%	170	170
2	14%	68	136
Total	100%	485	306

Notes:
CPH = cars per household
% = Output Areas car ownership data
485 dwellings = existing dwelling in the north of the estate
Total cars = the projected parking demand by existing residents
Arithmetic errors are due to rounding's

4.21 The assessment shows that a total of 306 cars or vans are likely to be owned by the 485 dwellings within the northern part of the estate. By contrast the observed existing parking utilisation within the survey area shown in Table 2 and Figures 6 a-b of this report demonstrates that a total of 294 cars have been observed to be parked in legitimate areas plus 33 cars parked in informal areas and nine cars parked in disabled bays making a grand total of 336 cars parked within the full northern extent of the Lennox estate/parking survey area.

4.22 The interrogation of local car or van ownership data from the recent population census therefore indicates that there is a ~9% difference between the predicted demand from census data and observed demand from parking surveys. Effectively there are more cars parked than would be expected, this might suggest that there is an element of overspill parking onto the estate roads by non-residents, possibly by residents of the dwellings immediately to the north of the site (i.e. Upper Richmond Road and Priests Bridge) where CPZs are in force.

4.23 The formation of a Parking Regulation Scheme (PRS) across the full extent of the Lennox estate as described in Chapters 3 and 5 of this report is therefore anticipated to have the positive effect of reducing parking levels and associated car trips on the estate roads.

Traffic Flow Surveys

4.24 To determine the current volume of vehicle traffic flowing through the estate automatic traffic counter (ATC) machines were placed on the estate's internal road system. A total of five ATCs were placed within the northern part of the Lennox estate, each collected vehicle traffic data for the seven-day period of Thursday 18th to Wednesday 25th May 2023 inclusive. The location of the five ATC installations is presented on the following diagram for ease of reference:

Diagram 1. Lennox Estate ATC Survey Locations May 2023

4.25 ATC 1 was installed on Arabella Drive at the southern entrance to the estate off Priory Lane. A summary of the results of the ATC traffic flow survey is presented in Table 5, full data is presented at Appendix F.

Table 5. Arabella Drive ATC Site 1 Traffic Flow Summary

Time	Arabella Drive [Site 1] Weekday Average Flow - Summary		
	EB	WB	Total
0900-1000	44	47	91
1500-1600	50	57	107
0700-1900	390	452	842

Source: DCA Monisyst

4.26 The observed AM peak period at Site 1 is from 0900-1000 with a total of 41 total two-way vehicle movements recorded on an average weekday, whilst the observed PM peak period at Site 1 is from 1500-1600 with a total of 107 total two-way vehicle movements recorded on an average weekday. The observed peak periods are broadly aligned with the school peak periods as opposed to the generally observed wider network AM and PM peak periods which are 0800-0900 and 1700-1800 respectively.

4.27 An average total of 842 total two-way vehicle trips have been recorded at Site 1 on a typical weekday from 0700-1900 comprising of 390 eastbound vehicle trips (i.e. those exiting the estate to Priory Lane) and 452 westbound vehicle trips (i.e. those entering the estate off Priory Lane).

4.28 In terms of composition of traffic throughout the full seven-day period surveyed, in the eastbound direction 81% was recorded to be cars or light vans, 8% motorcycle, 3% bicycle, 7% two-axle van or lorry, and 1% three-axle van or lorry. In the westbound direction 79% was recorded to be cars or light vans, 7% motorcycle, 2% bicycle, 7% two-axle van or lorry, and 4% three-axle van or lorry.

4.29 In terms of speed of traffic throughout the full seven-day period surveyed, in the eastbound direction the recorded 85th %ile speed of all traffic was 16mph, and 15mph in the westbound direction. Observed speeds at the southern entrance to the estate are therefore comfortably within the 20mph speed limit on the adjoining road network (Arabella Drive and Priory Lane).

4.30 ATC 2 was installed on Arabella Drive at the westernmost part of the estate around 30-metres south of the junction with Ludovick Walk (west section). A summary of the results of the ATC traffic flow survey is presented in Table 6, full data is presented at Appendix F.

Table 6. Arabella Drive ATC Site 2 Traffic Flow Summary

Time	Arabella Drive [Site 2] Weekday Average Flow - Summary		
	NB	SB	Total
0800-0900	12	13	25
1500-1600	16	9	25
0700-1900	109	83	192

Source: DCA Monisyst

4.31 The observed AM peak period at Site 2 is from 0800-0900 with a total of 25 total two-way vehicle movements recorded on an average weekday, whilst the observed PM peak period at Site 2 is from 1500-1600 with a total of 25 total two-way vehicle movements recorded on an average weekday. As with Site 1 the observed peak periods are broadly aligned with the school peak periods as opposed to the generally observed wider network AM and PM peak periods.

4.32 An average total of 192 total two-way vehicle trips have been recorded at Site 2 on a typical weekday from 0700-1900 comprising of 109 northbound vehicle trips and 83 southbound vehicle trips. Traffic flow at Site 2 has therefore been observed to be 77% less than at Site 1.

4.33 In terms of composition of traffic throughout the full seven-day period surveyed, in the northbound direction 67% was recorded to be cars or light vans, 5% motorcycle, 15% bicycle, 11% two-axle van or lorry, and 1% three-axle van or lorry. In the southbound direction 66% was recorded to be cars or light vans, 7% motorcycle, 19% bicycle, 7% two-axle van or lorry, and 0% three-axle van or lorry.

4.34 In terms of speed of traffic throughout the full seven-day period surveyed, in the northbound direction the recorded 85th %ile speed of all traffic was 20mph, and

17mph in the southbound direction. Observed speeds at the westernmost part of Arabella Drive are therefore at/within within the 20mph speed limit.

4.35 ATC 3 was installed on the northern section of Arabella Drive between the two junctions with Ludovick Walk. It should be noted that this is the section of Arabella Drive which is planned to be stopped-up under the proposals. A summary of the results of the ATC traffic flow survey is presented in Table 7, full data is presented at Appendix F.

Table 7. Arabella Drive ATC Site 3 Traffic Flow Summary

Time	Arabella Drive [Site 3] Weekday Average Flow - Summary		
	EB	WB	Total
0800-0900	13	18	31
1500-1600	21	13	34
0700-1900	144	112	257

Source: DCA Monisyst

4.36 The observed AM peak period at Site 3 is from 0800-0900 with a total of 31 total two-way vehicle movements recorded on an average weekday, whilst the observed PM peak period at Site 3 is from 1500-1600 with a total of 34 total two-way vehicle movements recorded on an average weekday. Consistent with sites 1 and 2, the observed peak periods are broadly aligned with the school peak periods as opposed to the generally observed wider network AM and PM peak periods.

4.37 An average total of 257 total two-way vehicle trips have been recorded at Site 3 on a typical weekday from 0700-1900 comprising of 144 eastbound vehicle trips and 112 westbound vehicle trips.

4.38 In terms of composition of traffic throughout the full seven-day period surveyed, in the eastbound direction 74% was recorded to be cars or light vans, 6% motorcycle, 8% bicycle, 11% two-axle van or lorry, and 0% three-axle van or lorry. In the westbound direction 69% was recorded to be cars or light vans, 11% motorcycle, 9% bicycle, 10% two-axle van or lorry, and 0% three-axle van or lorry.

4.39 In terms of speed of traffic throughout the full seven-day period surveyed, in the eastbound direction the recorded 85th %ile speed of all traffic was 22mph, and 23mph in the westbound direction. Observed speeds at the northern section of Arabella Drive planned to be stopped up therefore exceed the 20mph speed limit.

4.40 ATC 4 was installed on Arabella Drive around 30-metres to the east of the junction with Ludovick Walk (east). A summary of the results of the ATC traffic flow survey is presented in Table 8, full data is presented at Appendix F.

Table 8. Arabella Drive ATC Site 4 Traffic Flow Summary

Time	Arabella Drive [Site 4] Weekday Average Flow - Summary		
	EB	WB	Total
0800-0900	17	24	42
1500-1600	26	19	46
0700-1900	185	147	332

Source: DCA Monisyst

4.41 The observed AM peak period at Site 4 is from 0800-0900 with a total of 42 total two-way vehicle movements recorded on an average weekday, whilst the observed PM peak period at Site 4 is from 1500-1600 with a total of 46 total two-way vehicle movements recorded on an average weekday. Consistent with sites 1-3, the observed peak periods are broadly aligned with the school peak periods as opposed to the generally observed wider network AM and PM peak periods.

4.42 An average total of 332 total two-way vehicle trips have been recorded at Site 3 on a typical weekday from 0700-1900 comprising of 185 eastbound vehicle trips and 147 westbound vehicle trips.

4.43 In terms of composition of traffic throughout the full seven-day period surveyed, in the eastbound direction 75% was recorded to be cars or light vans, 7% motorcycle, 4% bicycle, 13% two-axle van or lorry, and 0% three-axle van or lorry.

In the westbound direction 74% was recorded to be cars or light vans, 8% motorcycle, 6% bicycle, 10% two-axle van or lorry, and 1% three-axle van or lorry.

4.44 In terms of speed of traffic throughout the full seven-day period surveyed, in the eastbound direction the recorded 85th %ile speed of all traffic was 21mph, and 20mph in the westbound direction. Observed speeds at the section of Arabella Drive east of the Junction with Ludovick Walk therefore at and just exceed the 20mph speed limit.

4.45 A fifth ATC was installed on Arabella Drive at the northern entrance to the estate off Priory Lane. However, owing to persistent problems with vehicles parked over the pneumatic tubes attached to the ATC unit reliable data has not been collected at this location. Notwithstanding, the data from ATCs 1-4 provides a sufficient level of traffic flow information to inform the initial traffic impact assessment of the proposed development.

5.0 PROPOSED HIGHWAYS CONDITIONS – PARKING

Parking Provision (Blue Badge)

5.1 To recap, the application site currently comprises of open space in the northern part of the estate which also includes an existing multi-use games area (MUGA) and the Lennox Youth Club building. The current proposal comprises of the development of up to 90 new residential dwellings in 'social rent' tenure across three different buildings, plus the re-provision of the existing MUGA, and associated parking, access, and landscape improvement works. An illustrative Proposed Masterplan is presented at Appendix B of this report.

5.2 The proposed development will be car-free. No general needs car parking will be provided for occupiers of the new dwellings. However, Blue Badge parking will be provided at a ratio of up to 10% of the total number of new dwellings planned to be provided. Accordingly, nine new Blue Badge parking bays will be provided under the proposals as is shown on the illustrative Proposed Masterplan at Appendix B.

5.3 The provision of a car-free scheme is consistent with policy expectations at local and regional levels. Policy T6 part B of the adopted London Plan (March 2021) as laid out in Chapter 2 and extracted below for ease:

> *"B Car-free development should be the starting point for all development proposals in places that are (or are planned to be) well-connected by public transport, with developments elsewhere designed to provide the minimum necessary parking ('car-lite'). Car-free development has no general parking but should still provide disabled persons parking in line with Part E of this policy."*

5.4 This regional policy is also reflected in Wandsworth Council's adopted new Local Plan, notably at Policy LP51 part A2.

5.5 The site is well connected to public transport since there are bus stops within a reasonable distance of the site providing access to five different bus routes with

high peak period service frequency plus Barnes train station providing access to national rail services.

5.6 The provision of up to nine new Blue Badge parking spaces under the proposals is also consistent with policy expectations at local and regional levels. Policy T6.1 part G of the adopted London Plan (March 2021) states that:

> *"G Disabled persons parking should be provided for new residential developments. Residential development proposals delivering ten or more units must, as a minimum:*
> *1) ensure that for three per cent of dwellings, at least one designated disabled persons parking bay per dwelling is available from the outset.*
> *2) demonstrate as part of the Parking Design and Management Plan, how an additional seven per cent of dwellings could be provided with one designated disabled persons parking space per dwelling in future upon request as soon as existing provision is insufficient. This should be secured at the planning stage."*

5.7 This regional policy is also reflected in both Wandsworth Council's new Local Plan, notably at Policy LP51 part A6.

5.8 Electric vehicle (EV) charging facilities will be provided for the nine new Blue Badge parking bays in accordance with policy requirements. Policy T6 part G of the adopted London Plan (March 2021) states that 20% of all new parking spaces must be provided with an EV charge point from the outset, with all remaining spaces provided with passive infrastructure. This is also reflected at Policy LP51 A7 of the Council's new Local Plan.

5.9 It is also proposed to provide a new car club vehicle in a designated bay within the northern part of the Lennox estate as part of the development. The car club bay would be supplied with an EV charge point to support the delivery of a zero-emission car club vehicle.

5.10 A letter of intent has been provided by Enterprise car club confirming that it would provide a car club at the site together with a membership package and up-front driving credit to all first occupiers of the planned new dwellings.

5.11 It is anticipated that the car club would be secured by the Council as a condition or a Unilateral Undertaking as part of any future grant of consent following submission of a full planning application.

5.12 The provision of a car club under the proposals is consistent with policy expectations at local and regional levels, namely Policy T6.1 part D of the adopted London Plan (March 2021) as well as Policy LP51 part A4 of the Council's new Local Plan.

5.13 The provision of a new car club at the Lennox estate is likely to have the positive impact of reducing car ownership levels and therefore reduce demand for parking by current residents as well as providing occupiers of the new dwellings with an opportunity for ad-hoc car usage as an alternative to private car ownership. Research carried out by CoMoUK contained within the London Annual Car Club Report (2022) confirms that in 2022, each car club vehicle in London on average replaced 29 private cars, up from 24 in 2021.

Lennox Estate Parking Regulation Scheme

5.14 As discussed in Chapter 3, to manage parking for existing residents as well as to provide a mechanism to restrict car ownership by future occupiers of the planned new dwellings it is proposed to form a Parking Regulation Scheme (PRS) across the full extent of the Lennox estate. This is consistent with Policy T6 part C of the adopted London Plan (March 2021) which states:

> *"C An absence of local on-street parking controls should not be a barrier to new development, and boroughs should look to implement these controls wherever necessary to allow existing residents to maintain safe and efficient use of their streets."*

5.15 This regional policy is also reflected in Wandsworth Council's new Local Plan at Policy LP51 parts D2 and F.

5.16 An indicative layout of a PRS scheme across the full extent of the northern part of the Lennox estate is presented at Appendix G of this report. The PRS scheme

delivers a total of 356 parking opportunities comprising of 346 PRS bays and replacement of 10 existing disabled bays largely in-situ. Note that these figures *exclude* the nine additional Blue Badge parking bays which will be allocated to Blue Badge holders in the new development. A table of the PRS scheme is presented below for ease of reference and can be read alongside the plans at Appendix G:

Table 9. Indicative PRS Scheme Parking Inventory – Lennox Estate North

Street	PRS STUDY INVENTORY	
	Proposed PRS Scheme	
	Total no. PRS bays	Total no. disabled bays
Arabella Drive	162	4
Arabella Drive Cule-De-Sac 1	33	0
Arabella Drive Cule-De-Sac 2	9	0
Arabella Drive Cule-De-Sac 3	19	0
Burke Close	81	3
Ludovick Walk *	42	3
Total	346	10
Grand Total	356	

Source: PMA

* refer to illustrative masterplan for current bays included in the calculation

5.17 The provision of 356 parking opportunities in the northern extent of the Lennox estate through the delivery of a PRS accommodates over 100% of the current observed demand for parking as observed in the parking survey data set out in Chapter 4 (a grand total of 336 cars parked within the full northern extent of the Lennox estate/parking survey area). All future occupiers of the new dwellings would be exempt from applying for a parking permit for the Lennox estate PRS.

5.18 Accordingly, the proposals will result in nil detriment to the existing parking situation within the estate and from a parking perspective the scheme will therefore not result in conditions prejudicial to highway capacity, safety, or neighbouring amenity. This approach is generally consistent with Policy T4 'Assessing and mitigating transport impacts' of the adopted London Plan (March 2021) as well as Policy LP49 'Sustainable transport' of the Council's new Local Plan.

5.19 To deliver the PRS it is proposed that the Arabella Drive loop road which is currently part of the adopted public highway is transferred to the ownership of the Councils' housing department. The section of Arabella Drive in question is shown in yellow shading in the map extract below:

Diagram 2. Lennox Estate (North) Extent of Adopted Public Highway

5.20 It should be noted that the applicant intends to implement a PRS across the full Lennox estate including the northern part of the estate as set out herein as well as the southern part of the estate comprising of Dowdeswell Close and Rockingham Close. A parking survey inventory and parking surveys are scheduled to be carried out across the southern part of the Lennox estate in September 2023, the results of the surveys and an illustrative design for an extended PRS will be set out in future pre-application correspondence with the Council.

5.21 Owing to the benefits of the introduction of a PRS and a car club on the Lennox estate delivered through the proposals it would be prudent for the Council to monitor parking levels across the PRS in the future with the aim of reducing parking bays in favour of landscaping or cycle parking or other positive non-car features.

Parking Provision (Bicycles)

5.22 The proposed new dwellings will be provided with adequate long-stay and short-stay cycle parking in line with policy requirements at the local and regional levels. Policy LP51 part A1 of the Council's new Local Plan states that cycle parking must be provided in accordance with the standards prescribed in the London Plan.

5.23 Policy T5 part A2 and Table 10.2 of the adopted London Plan (March 2021) prescribes the following minimum cycle parking requirements for new residential development:

- LONG-STAY; 1 space per studio/one-bedroom one-person dwelling, 1.5 spaces per one-bedroom two-person dwelling, and 2 spaces per two or more-bedroom dwelling;
- SHORT-STAY; 5-40 dwellings, 2 spaces, thereafter one space per 40 dwellings.

5.24 Policy T5 part B of the adopted London Plan (March 2021) also prescribes that cycle parking should be designed and laid out in accordance with the guidance contained in the London Cycling Design Standards (LCDS, and development proposals should demonstrate how cycle parking facilities will cater for larger cycles, including adapted cycles for disabled people.

5.25 At this early stage of the design of the scheme the exact schedule of accommodation of the new dwellings and the layout of the floor plans is not in a fixed state and therefore it is confirmed that compliant levels of cycle parking will be provided as the scheme evolves with reference to the LCDS.

5.26 It should be noted not more than 75% of the long-stay cycle parking will be provided in two-tier format, with at least 20% provided in Sheffield stand format and a further 5% provided in Sheffield stands with enlarged space for accessible/disability bicycles.

6.0 PROPOSED HIGHWAYS CONDITIONS - ACCESS, LAYOUT, & SERVICING

Access/Layout

6.1 As is shown on the illustrative proposed masterplan at Appendix B and set out in Chapter 4, a key feature of the proposed development is the stopping-up of a section of Arabella Drive which currently extends around the northern edge of the existing open green space and MUGA/youth club building. An enhanced new MUGA will be provided within the scheme.

6.2 It should be noted that there is great potential to significantly enhance this area of the Lennox estate in consolidating the road system at this location. If reduced to a single route along Ludovick Walk the left-over space could be given over to urban greening, landscaping, and be built upon reducing any potential impact new development may have on usable public open space.

6.3 A full assessment of the opportunities and constraints associated with this key aspect of the proposals is set out in a separate document prepared by the scheme architects Pollard Thomas Edwards (PTE) and scheme landscape architects Farrer Huxley (FH) and should be read in conjunction with this report for full context. The PTE/FH document accompanies the formal highways pre-application submission.

6.4 It is proposed to provide a new one-way carriageway road traversing eastbound from the junction with Arabella Drive to the west and to the entrance to the under croft to the east. A one-way road is proposed owing to the constraints at the south east corner of Ludovick Walk. Creating/maintaining a two-way road width throughout Ludovick Walk would result in significant loss of existing trees in the south east corner of the existing open green space.

6.5 An illustrative signage strategy for this arrangement is presented at Appendix H of this report.

6.6 A uniform carriageway width of 3.8m is planned to be provided along Ludovick Walk past the initial 6.0m section of the road to the west and up to the under croft to the east. It is necessary to taper the road around the entrance to the existing cul-de-sac off the south side of Ludovick Walk, which will need to be set-forward to maintain a visibility splay to the parking bays to the east of the junction. A minimum 1.5m footpath is proposed to be provided throughout the southern section of Ludovick Walk however it should be noted that areas of increased footpath width are proposed and the separation between the carriageway and the existing ground floor properties which front onto Ludovick Walk is greater than 1.5m. The PTE/FH document sets this out in further detail.

6.7 The bend in the road at the south east corner accommodates a ~350mm clearance between the retaining wall on the north side and the swept paths of a bus and refuse vehicle which is considered to be adequate. Swept path diagrams of the scheme are provided at Appendix I showing a 10m bus and a large refuse collection vehicle traversing Ludovick Walk which confirms that the scheme can accommodate the largest vehicles requiring access through the estate, noting that bus route 969 (a 10m two-axle single-decked bus) is expected to be maintained.

6.8 In terms of the forecast flow of vehicle traffic along Ludovick Walk because of the scheme, existing traffic flow data collected within the estate has been examined. The data is set out in Chapter 4. ATCs 2, 3, and 4 were installed on Arabella Drive to the west of junction with Ludovick Walk, on the planned stopped-up section, and to the east of the junction with Ludovick Walk respectively. Table 10 sets out the results for ease of reference:

Table 10. ATCs 2, 3, and 4 Weekday Average Flow - Summary

Time	Arabella Drive [Site 2] Weekday Average Flow - Summary			Arabella Drive [Site 3] Weekday Average Flow - Summary			Arabella Drive [Site 4] Weekday Average Flow - Summary		
	NB	SB	Tot	EB	WB	Tot	EB	WB	Tot
0800-0900	12	13	25	13	18	31	17	24	42
1500-1600	16	9	25	21	13	34	26	19	46
0700-1900	109	83	192	144	112	257	185	147	332

Source: DCA Monisyst

6.9 The difference between the traffic flows at sites 3 and 2 are likely to represent the existing flow of traffic on the western section of Ludovick Walk, whereas the difference between the traffic flows at sites 3 and 4 are likely to present the existing flow of traffic on the eastern section of Ludovick Walk. These values are shown in Table 11.

Table 11. Existing Weekday Average Flows on Ludovick Walk - Forecast

Time	Ludovick Walk (West) Forecast Weekday Average Flow - Summary			Ludovick Walk (East) Forecast Weekday Average Flow - Summary		
	EB	WB	Tot	SB	NB	Tot
0800-0900	1	5	6	5	6	11
1500-1600	6	4	9	5	6	11
0700-1900	35	29	65	40	35	75

Source: PMA

6.10 The eastern section of Ludovick Walk is proposed to be maintained as a two-way section of road largely as per the existing established arrangement. The flow of traffic on Ludovick Walk on the eastern part of the road between the junction with Arabella Drive and the planned 'No Entry' sign to Ludovick Walk by the under croft under the proposals is therefore expected to remain largely as per the data in Table 11.

6.11 The western section of Ludovick Walk is proposed to be a one-way road eastbound. The flow of traffic on Ludovick Walk on the one-way section of road between the junction with Arabella Drive and the existing under croft is therefore expected to comprise of the total flow of traffic recorded at Site 3 as shown in Table 11. It is assumed that the eastbound traffic will traverse Ludovick Walk and it is also assumed that the westbound traffic recorded at Site 3 would be re-routed around the southern part of Arabella Drive such that it would also traverse Ludovick Walk to exit the estate back to Priory Lane.

6.12 Accordingly, it is likely that there will be 31 eastbound vehicle movements along the one-way section of Ludovick Walk in the AM peak period 0800-0900, 34 vehicle movements in the PM peak period 1500-1600, and 257 vehicle movements in the 12-hour period from 0700-1900. This equates to around 0.52

vehicles per minute (vpm) in the AM peak, 0.57 vpm in the PM peak, and 0.36 vpm from 0700-1900.

6.13 The forecast traffic flows on Ludovick Walk are therefore anticipated to be relatively light throughout a typical weekday and will not give rise to conditions prejudicial to road capacity, highway safety, or neighbouring amenity.

6.14 It is noted that the proposed new dwellings will generate additional traffic flow to/from the estate however this will be limited to the use of the nine new Blue Badge bays plus ad-hoc additional trips by visitors and deliveries and is therefore expected to be relatively minor. A full multi-modal trip generation assessment of the proposed development will be set out as part of the Transport Assessment submitted with the full planning application.

6.15 The planned revised highway layout accommodates up to nine new DDA compliant Blue Badge parking bays and it should be noted that these are the only bays which are planned to be allocated to Blue Badge holders in the proposed new dwellings. All other parking spaces shown on Ludovick Walk are planned to form part of the PRS scheme as laid out in Chapter 5 to accommodate the existing demand by current residents in this part of the estate.

6.16 All the new Blue Badge bays will be within the 50-metres maximum distance to an accessible entrance as prescribed in BS:8300 vol 1 which is referred to in Policy T6 part H of the adopted London Plan (March 2021).

6.17 The scheme re-provides three existing disabled bays on Ludovick Walk (current locations can be seen on the parking inventory maps at Figures 5 a-e of this document), the existing bays are not DDA compliant, however they are proposed to be re-provided as close to the current location as possible and to DDA specifications which is an improvement over-existing.

6.18 The number of parking spaces shown in the scheme is considered adequate overall, noting that the separate plan of an indicative PRS scheme across the

northern part of the estate provides sufficient parking opportunities to more than meet current observed demand.

6.19 Further enhancements to the pedestrian and cyclist connectivity within the proposed scheme as well as along Ludovick Walk and the connections to the Upper Richmond Road are proposed to be delivered as part of the proposals. These aspects will be set out in detail by the scheme landscape architects in future iterations of the scheme drawings if/when the proposed stopping-up of Arabella Drive and the provision of a new connection along Ludovick Walk are considered acceptable in-principle by the Council.

Servicing

6.20 Servicing bays are planned to be incorporated into the scheme to ensure that deliveries and refuse collections for the planned new dwellings are accommodated clear of the adjoining highway and therefore do not obstruct free-flowing traffic.

6.21 As is shown on the illustrative proposed masterplan at Appendix B, it is proposed to provide a servicing bay on the north side of Ludovick Walk on the one-way section of road adjacent to the planned new tower block. The servicing bay would accommodate deliveries and refuse collections. Swept path diagrams of a 7.5t long wheelbase (LWB) courier van entering and exiting the bay in a forward gear, and a large refuse collection vehicle reversing into the bay, are presented at Appendix I. As is shown the manoeuvres can be comfortably accommodated and vehicles will be able to pull into the bay clear of the adjoining carriageway.

6.22 An emergency services access with drop bollards is also proposed to extend along the eastern edge of the tower block to provide an area for the London Fire Brigade (LFB) to utilise in the event of an emergency. Swept path diagrams of a LFB fire tender entering and exiting the emergency access are also presented at Appendix I. A full Fire Strategy Assessment will be prepared by specialists for submission with the full planning application.

6.23 It is also proposed to provide a servicing bay on the west side of Ludovick Walk at the connection with Arabella Drive on the two-way section of road adjacent to the two planned new smaller blocks of housing. The servicing bay would accommodate deliveries and refuse collections to those dwellings. Swept path diagrams of a 7.5t long wheelbase (LWB) courier van and a large refuse collection vehicle reversing into the bay are presented at Appendix I. As is shown the manoeuvres can be comfortably accommodated and vehicles will be able to pull into the bay clear of the adjoining carriageway. This area would also be able to be utilised by the LFB in the event of an emergency.

6.24 Refuse and recycling bins will be provided for the development in accordance with the Council's requirements. Refuse bin stores will be provided for each of the new blocks of dwellings within 10-metres of the proposed collection points and therefore within a reasonable trundle distance for refuse collectors in accordance with Wandsworth Council's refuse and recyclable Supplementary Planning Document (SPD).

6.25 The existing residential bin stores on Ludovick Walk as well as within the wider estate on Arabella Drive would be collected directly from the carriageway as per the existing established arrangements.

6.26 The provision of servicing areas under the proposals is consistent with policy expectations at local and regional levels, specifically Policy T7 part G of the adopted London Plan (March 2021) states that:

> *"G Development proposals should facilitate safe, clean, and efficient deliveries and servicing. Provision of adequate space for servicing, storage and deliveries should be made off-street, with on-street loading bays only used where this is not possible. Construction Logistics Plans and Delivery and Servicing Plans will be required and should be developed in accordance with Transport for London guidance and in a way which reflects the scale and complexities of developments."*

6.27 This regional policy is also reflected in both Wandsworth Council's new Local Plan, notably at Policy LP51 part A7.

7.0 SUMMARY

7.1 To summarise, Paul Mew Associates is instructed by Wandsworth Borough Council in relation to the proposed development at the Lennox estate, Arabella Drive, Roehampton, London, SW15 5LN. The local planning and highway authority is the London Borough of Wandsworth.

7.2 The site has a public transport accessibility level (PTAL) rating of between 3 and 4 which are 'moderate' and 'good' levels of accessibility respectively as defined by Transport for London (TfL).

7.3 The roads within the Lennox estate including Arabella Drive, Ludovick Way, and Burke Close are not currently within one of Wandsworth Council's controlled parking zones (CPZ). Kerb side parking is unrestricted within the estate. Immediately to the north of the site is the A205 Upper Richmond Road West which is a Red Route and forms part of the Transport for London Road Network (TLRN). Stopping and waiting restrictions are present along the A205. To the north of the A205 the public highway falls within the jurisdiction of the neighbouring London Borough of Richmond upon Thames (LBRuT). The LBRuT roads to the north of the A205 are part of a CPZ.

7.4 The application site currently comprises of open space in the northern part of the estate which also includes an existing multi-use games area (MUGA) and the Lennox Youth Club building. The current proposal comprises of the development of up to 90 new residential dwellings in 'social rent' tenure across three different buildings, plus the re-provision of the existing MUGA, and associated parking, access, and landscape improvement works.

7.5 This report has been prepared to assess the access, parking, and servicing arrangements under the proposals for submission to the local planning authority as part of initial pre-application discussions. The initial scope of this document has been set out in a formal Scope of Works document which was submitted to the Council's highways officer in June 2023, the contents of which has since been confirmed as appropriate for the stage of the project.

7.6 The proposed development will be car-free. No general needs car parking will be provided for occupiers of the new dwellings. However, Blue Badge parking will be provided at a ratio of up to 10% of the total number of new dwellings planned to be provided. Accordingly, nine new Blue Badge parking bays will be provided under the proposals. The provision of a car-free scheme is consistent with policy expectations at local and regional levels.

7.7 EV parking, a new car club, and cycle parking are also proposed to be provided in accordance with local and regional policy requirements as set out in Chapter 5 of this document.

7.8 To manage parking for existing residents as well as to provide a mechanism to restrict car ownership by future occupiers of the planned new dwellings it is proposed to form a Parking Regulation Scheme (PRS) across the full extent of the Lennox estate. The delivery of a PRS accommodates 100% of the current observed demand for parking as observed in the parking survey data set out in this document. All future occupiers of the new dwellings would be exempt from applying for a parking permit for the Lennox estate PRS.

7.9 The provision of a parking controls is consistent with policy expectations at local and regional levels.

7.10 A key feature of the proposed development is the stopping-up of a section of Arabella Drive which currently extends around the northern edge of the existing open green space and MUGA/youth club building. An enhanced new MUGA will be provided within the scheme.

7.11 There is great potential to significantly enhance this area of the Lennox estate in consolidating the road system at this location. If reduced to a single route along Ludovick Walk the left-over space could be given over to urban greening, landscaping, and be built upon reducing any potential impact new development may have on usable public open space. A full assessment of the opportunities and constraints associated with this key aspect of the proposals is set out in a separate document prepared by the scheme architects, PTE, and scheme

landscape architects, FH, and should be read in conjunction with this report for full context.

7.12 It is proposed to provide a new one-way carriageway road traversing eastbound from the junction with Arabella Drive to the west and to the entrance to the under croft to the east. A one-way road is proposed owing to the constraints at the south east corner of Ludovick Walk. Creating/maintaining a two-way road width throughout Ludovick Walk would result in significant loss of existing trees in the south east corner of the existing open green space.

7.13 The eastern section of Ludovick Walk is proposed to be maintained as a two-way section of road largely as per the existing established arrangement. The flow of traffic on Ludovick Walk on the eastern part of the road between the junction with Arabella Drive and the planned 'No Entry' sign to Ludovick Walk by the under croft under the proposals is therefore expected to remain largely as per existing recordings.

7.14 The flow of traffic on Ludovick Walk on the one-way section of road between the junction with Arabella Drive and the existing under croft is expected to comprise of 31 eastbound vehicle movements in the AM peak period 0800-0900, 34 vehicle movements in the PM peak period 1500-1600, and 257 vehicle movements in the 12-hour period from 0700-1900. This equates to around 0.52 vehicles per minute (vpm) in the AM peak, 0.57 vpm in the PM peak, and 0.36 vpm from 0700-1900.

7.15 The forecast traffic flows on Ludovick Walk are therefore anticipated to be relatively light throughout a typical weekday and will not give rise to conditions prejudicial to road capacity, highway safety, or neighbouring amenity.

7.16 It is noted that the proposed new dwellings will generate additional traffic flow to/from the estate however this will be limited to the use of the nine new Blue Badge bays plus ad-hoc additional trips by visitors and deliveries and is therefore expected to be relatively minor. A full multi-modal trip generation assessment of

the proposed development will be set out as part of the Transport Assessment submitted with the full planning application.

7.17 Further enhancements to the pedestrian and cyclist connectivity within the proposed scheme as well as along Ludovick Walk and the connections to the Upper Richmond Road are proposed to be delivered as part of the proposals. These aspects will be set out in detail by the scheme landscape architects in future iterations of the scheme drawings if/when the principle of the proposed stopping-up of Arabella Drive and the provision of a new connection along Ludovick Walk are considered acceptable in-principle by the Council.

7.18 Servicing bays are planned to be incorporated into the scheme to ensure that deliveries and refuse collections for the planned new dwellings are accommodated clear of the adjoining highway and therefore do not obstruct free-flowing traffic.

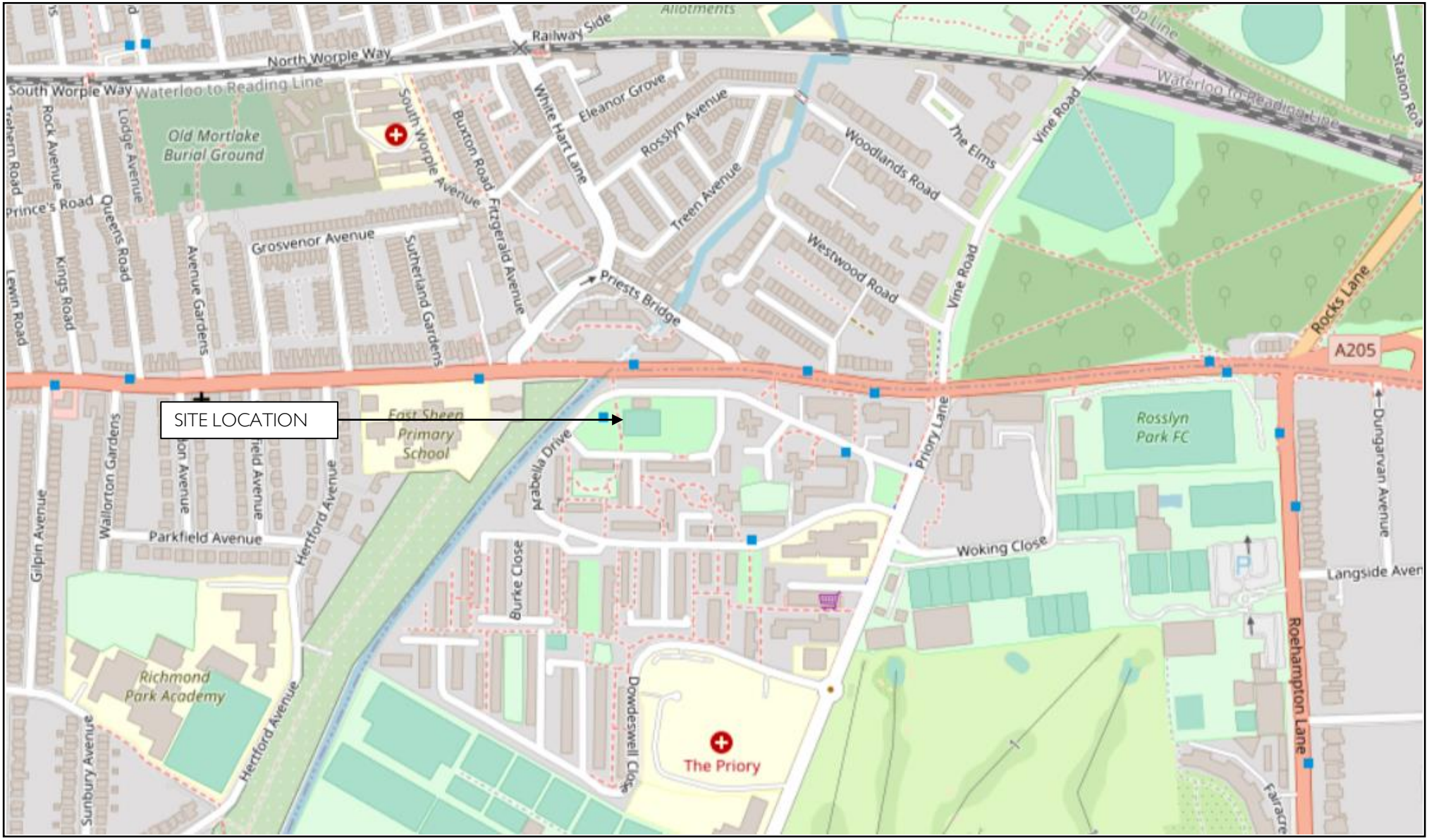
7.19 It is proposed to provide a servicing bay on the north side of Ludovick Walk on the one-way section of road adjacent to the planned new tower block. An emergency services access with drop bollards is also proposed to extend along the eastern edge of the tower block to provide an area for the London Fire Brigade (LFB) to utilise in the event of an emergency. It is also proposed to provide a servicing bay on the west side of Ludovick Walk at the connection with Arabella Drive on the two-way section of road adjacent to the two planned new smaller blocks of housing.

7.20 Refuse and recycling bins will be provided for the development in accordance with the Council's refuse and recyclable Supplementary Planning Document (SPD).

7.21 The existing residential bin stores on Ludovick Walk as well as within the wider estate on Arabella Drive would be collected directly from the carriageway as per the existing established arrangements.

7.22 Overall, the development proposal is considered to be acceptable in-principle from a highways perspective subject to further design reviews.

FIGURES



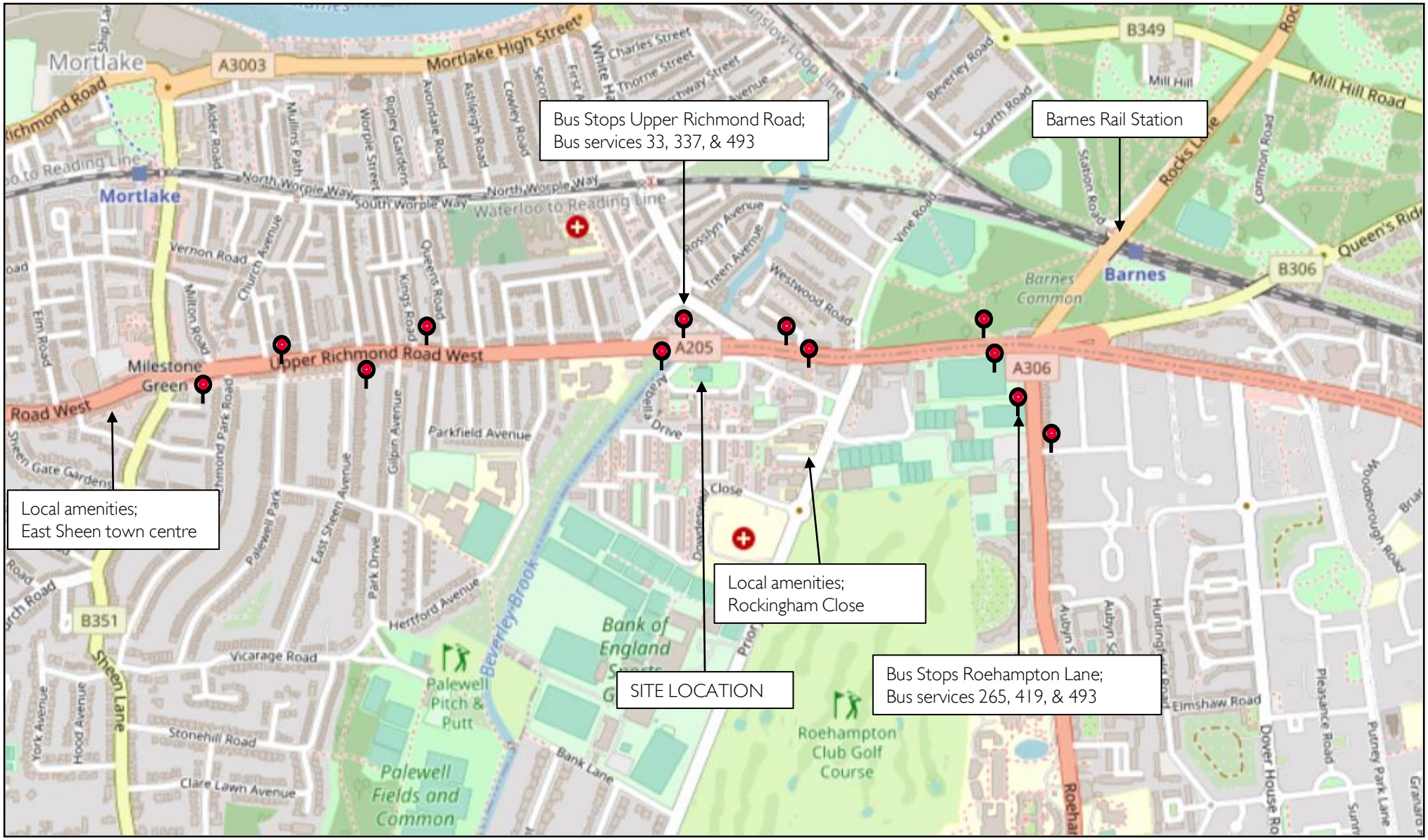
Date: 17-August-2023
Scale: NTS
Source: Open Street Map
Drawing No: P2852/TS/1

N

P2852: LENNOX ESTATE, ARABELLA DRIVE, LONDON, SW15

Figure 1.
Site Location

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
T: 0208 780 0426 W: www.pma-traffic.co.uk



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Source: Open Street Map
Drawing No: P2852/TS/2

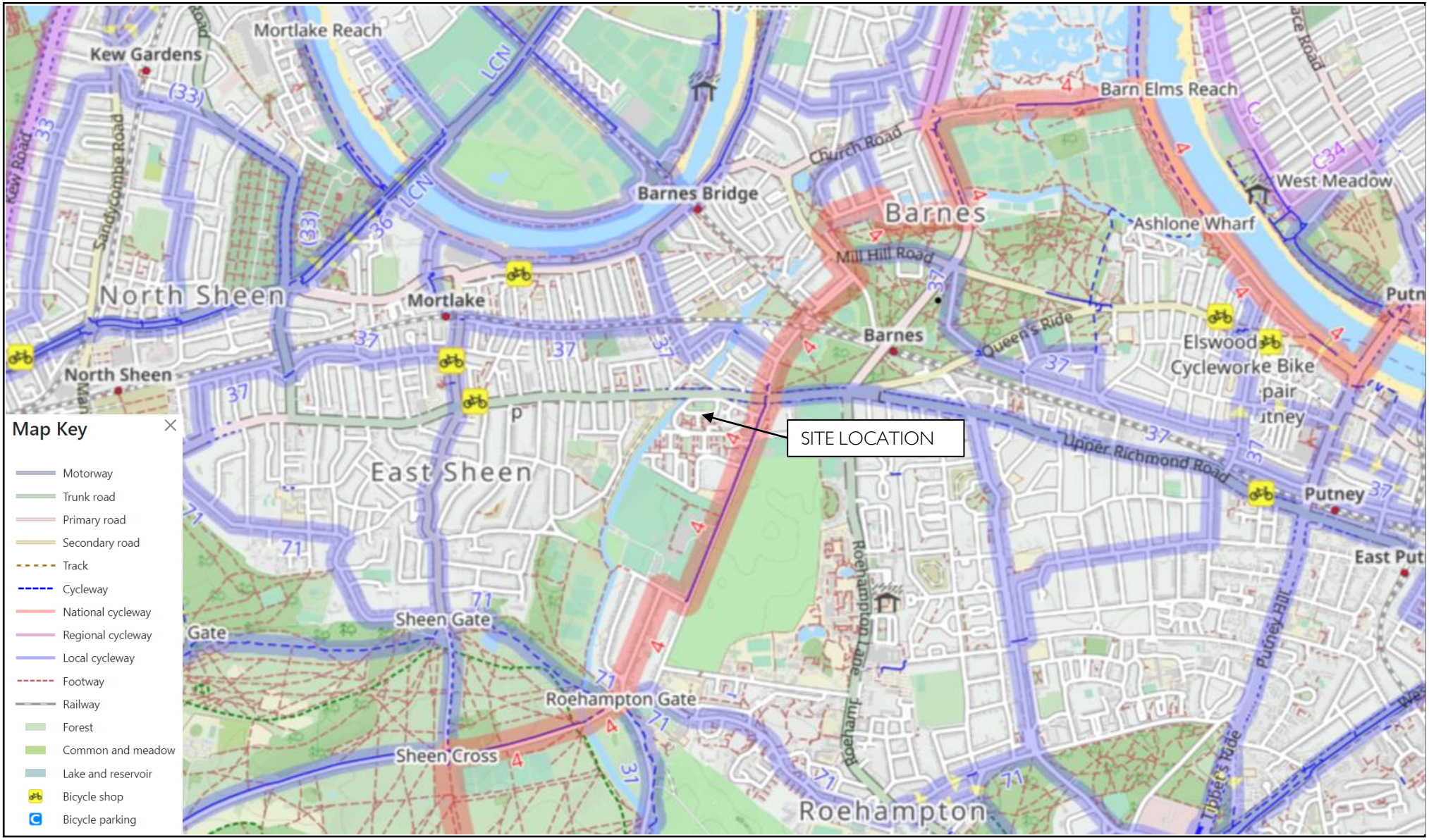
N

P2852: LENNOX ESTATE, ARABELLA DRIVE, LONDON, SW15

Figure 2.

Local Amenities & Public Transport Accessibility Map

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
T: 0208 780 0426 W: www.pma-traffic.co.uk

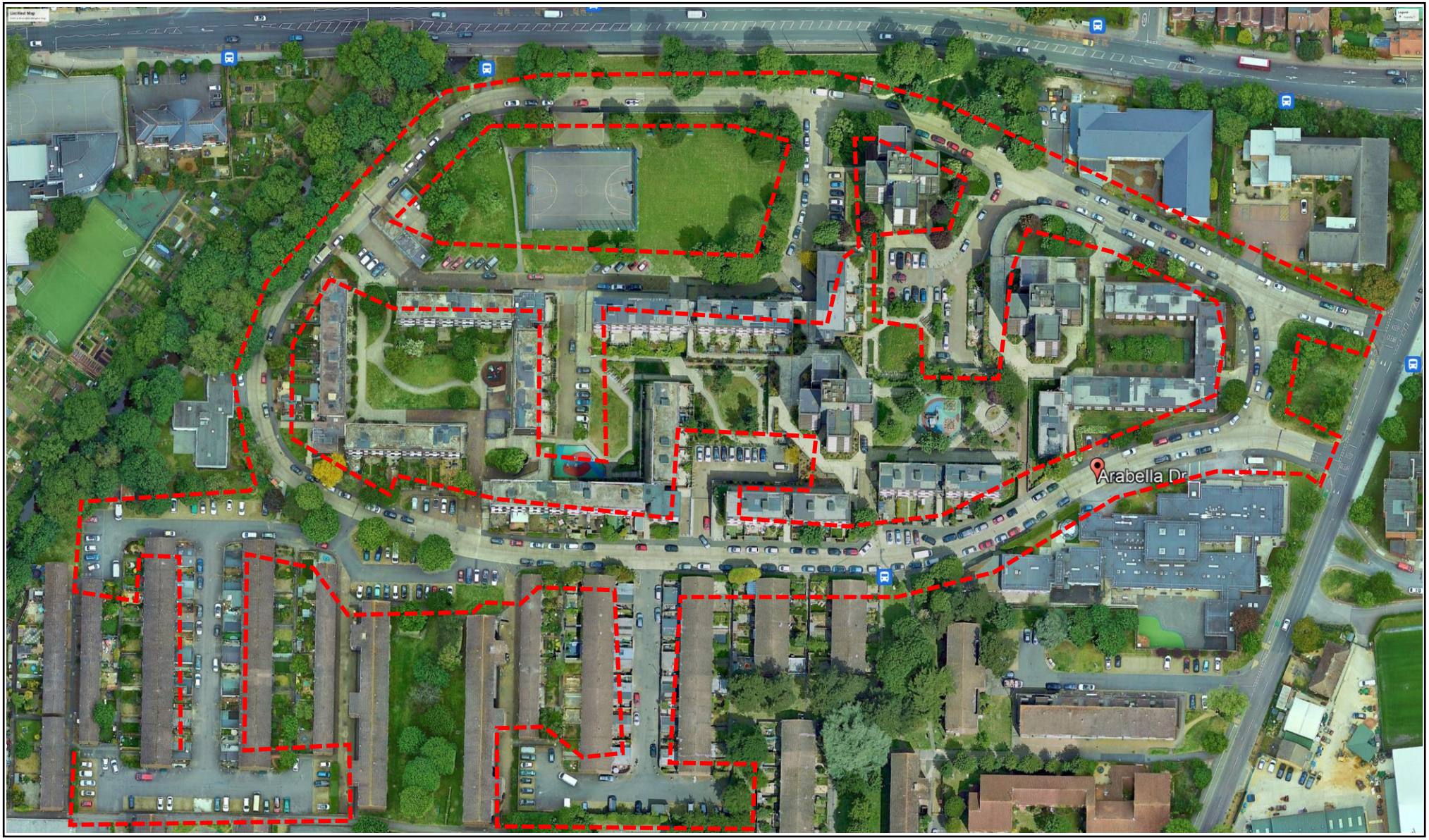


Date: 17-August-2023
Scale: NTS
Source: Open Street Map
Drawing No: P2852/TS/3

P2852: LENNOX ESTATE, ARABELLA DRIVE, LONDON, SW15

Figure 3.
Cycling Accessibility Map

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
T: 0208 780 0426 W: www.pma-traffic.co.uk



Date: 04-May-2023
Scale: NTS
Source: Google Earth
Drawing No: P2852/TS/4

N

P2852: LENNOX ESTATE, ARABELLA DRIVE, LONDON, SW15

Figure 4.
Parking Survey Area

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
T: 0208 780 0426 W: www.pma-traffic.co.uk

KERB SIDE INVENTORY KEY:

- Unrestricted Kerb Side Parking
- Unsuitable for Parking
- Disabled Parking Bays
- Garage Forecourt
- Single/Double Yellow Line
- Dropped Kerb (DK)

ARABELLA DRIVE

Games Court

LUDOVICK WALK (EAST)

LUDOVICK WALK (WEST)

ARABELLA DRIVE

7 end-on bays

5 x end-on bays

8 x end-on bays

9 x end-on bays

Access

Gate

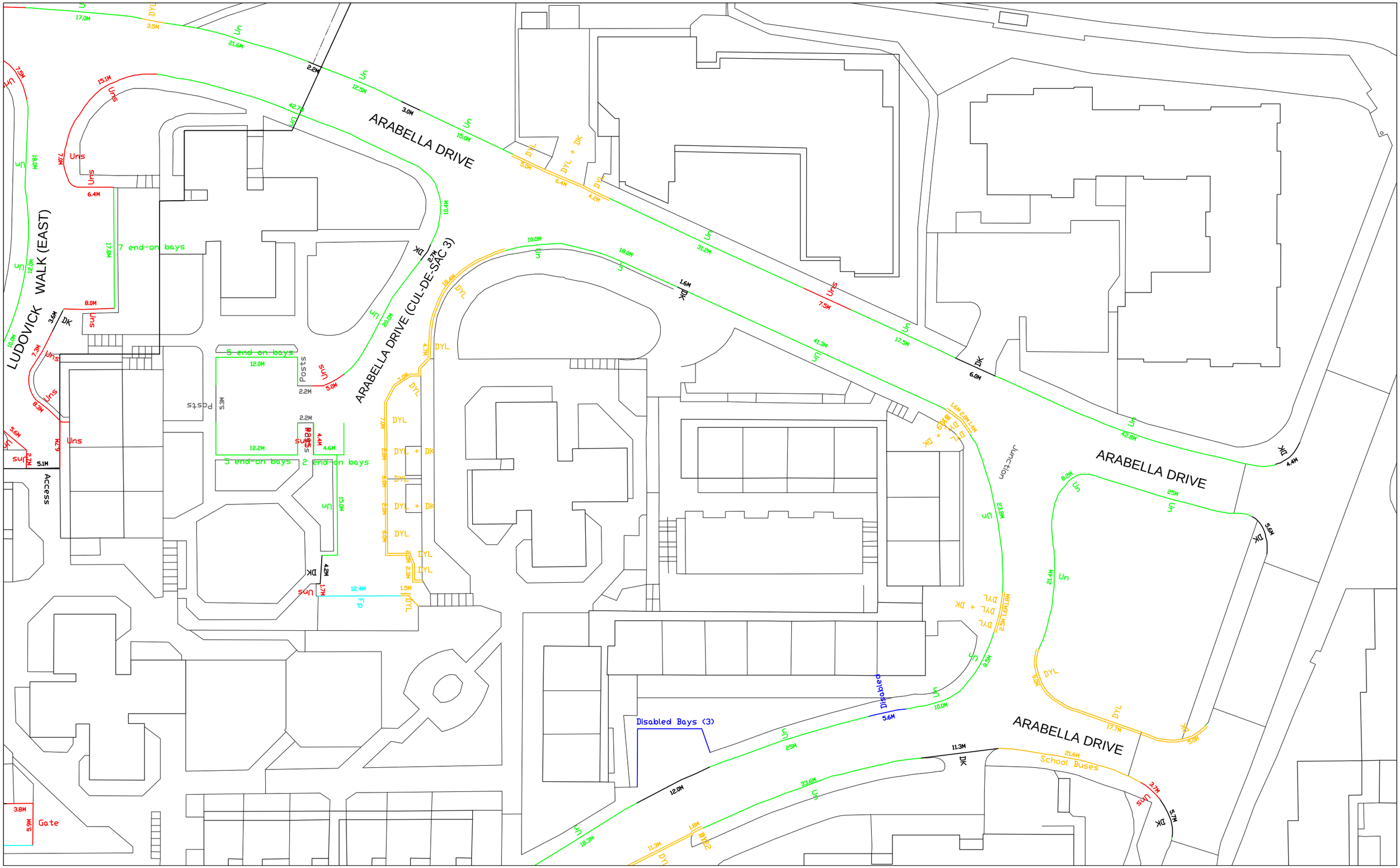
Date: 04-May-2023
Scale: 1:500@A3
Source: OS/PMA
Drawing No. P2852/TS/5a

N

P2852: LENNOX ESTATE, ARABELLA DRIVE, LONDON, SW15

Figure 5a.
Parking Survey Inventory

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk



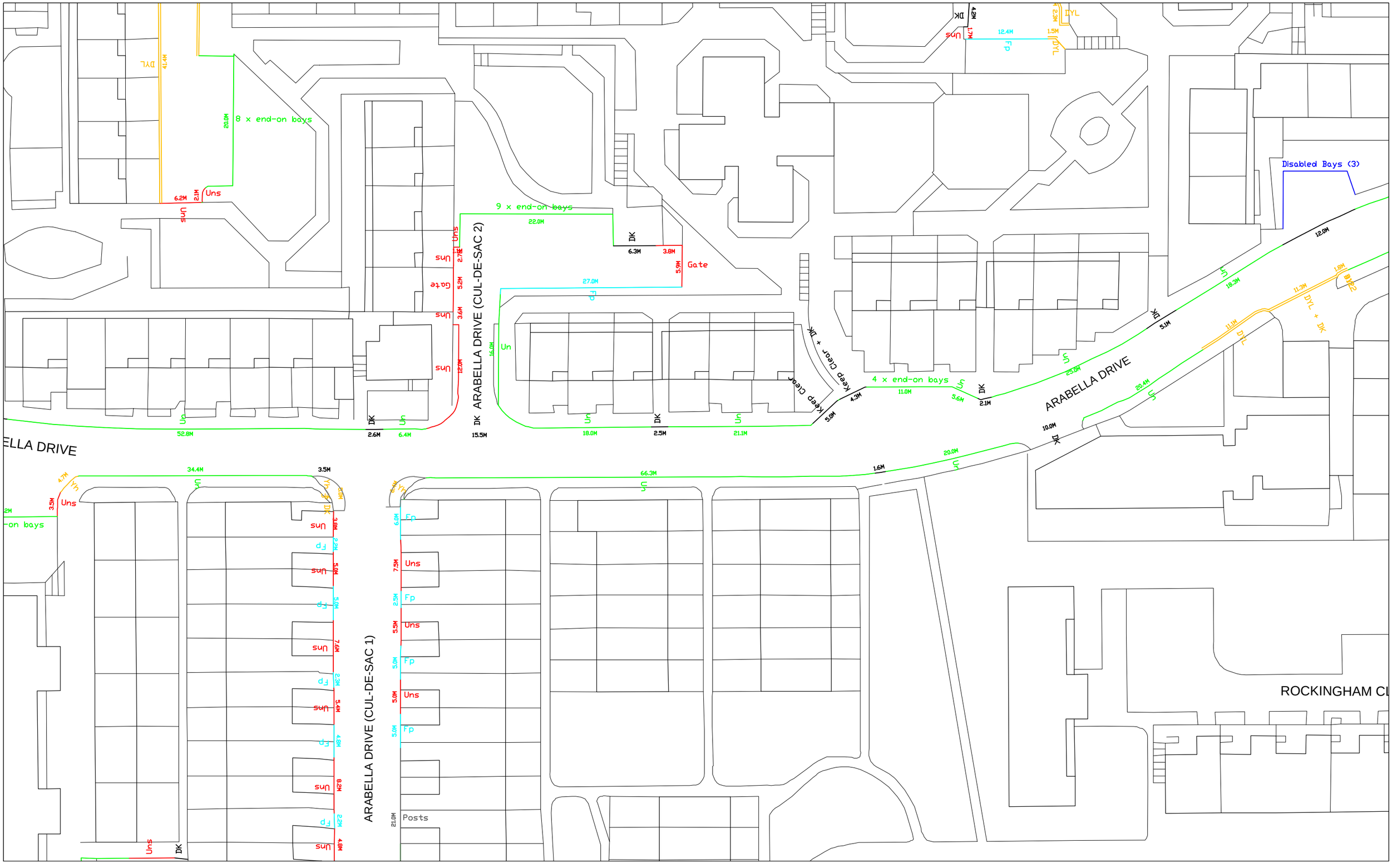
Date: 04-May-2023
Scale: 1:500@A3
Source: OS/PMA
Drawing No. P2852/TS/5b

N

P2852: LENNOX ESTATE, ARABELLA DRIVE, LONDON, SW15

Figure 5b.
Parking Survey Inventory

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk



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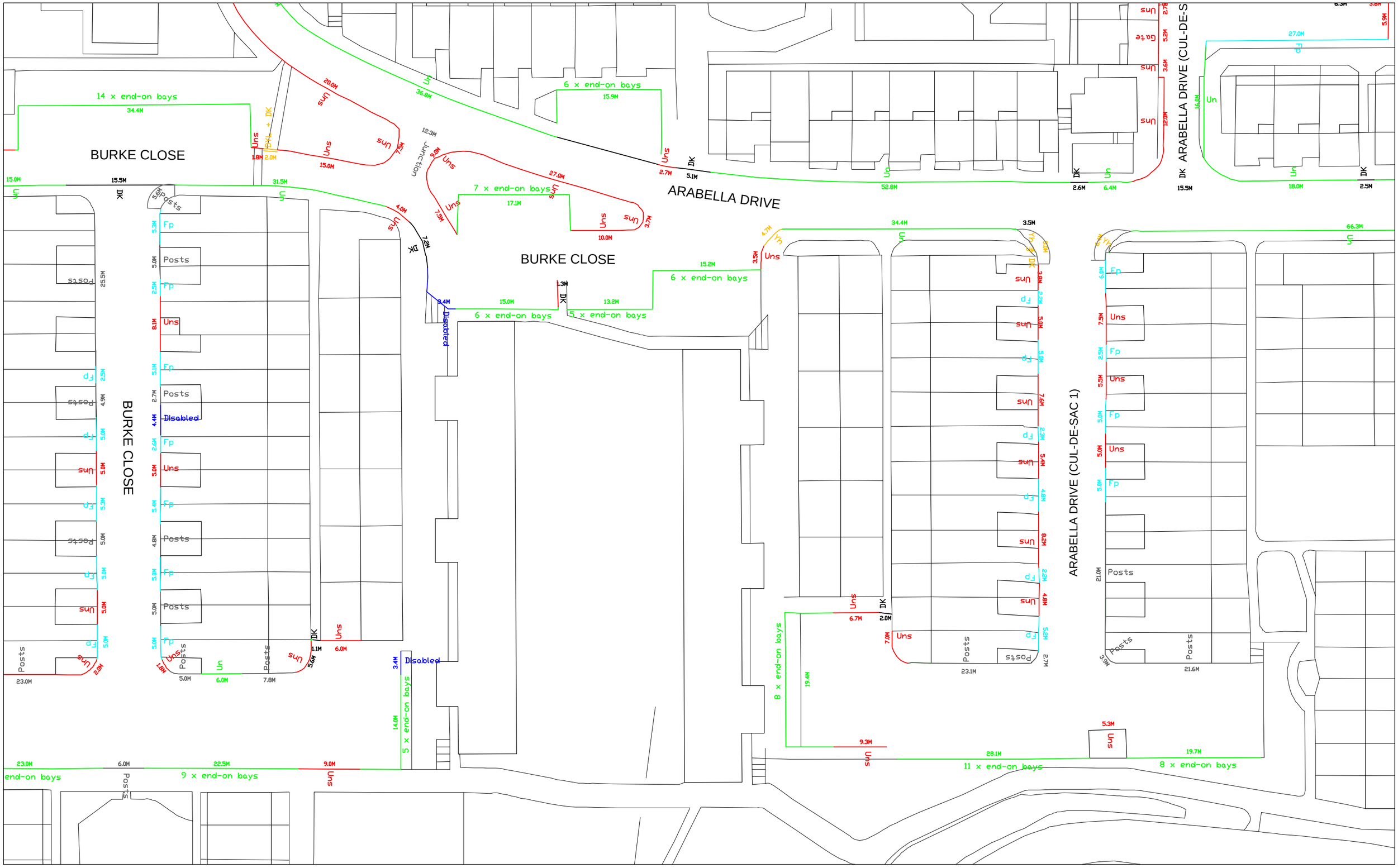
Scale: 1:500@A3
Source: OS/PMA
Drawing No. P2852/TS/5c

N

P2852: LENNOX ESTATE, ARABELLA DRIVE, LONDON, SW15

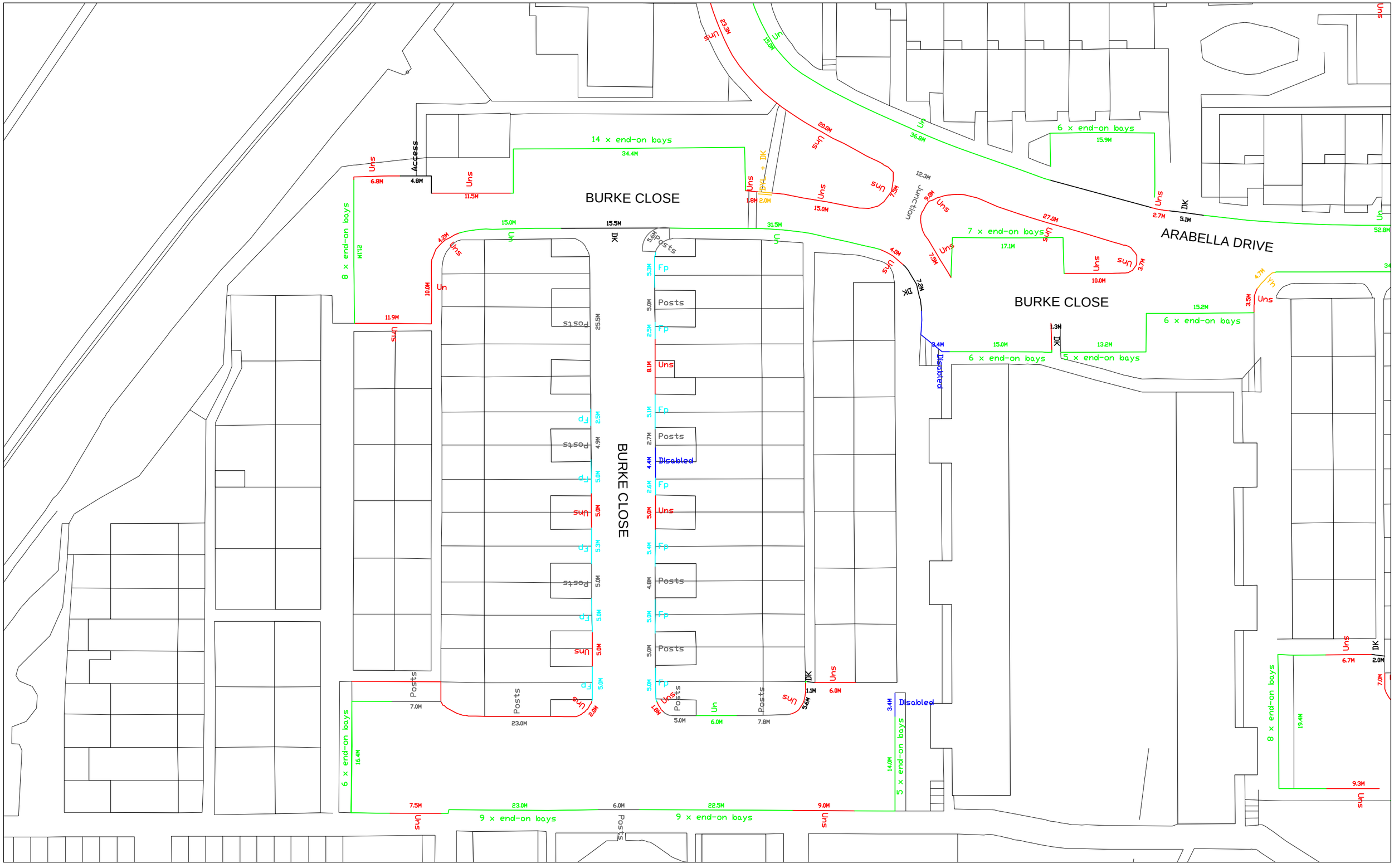
Figure 5c.
Parking Survey Inventory

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk



Date: 04-May-2023 Scale: 1:500@A3 Source: OS/PMA Drawing No. P2852/TS/5d	N	P2852: LENNOX ESTATE, ARABELLA DRIVE, LONDON, SW15 Figure 5d. Parking Survey Inventory

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk



Date: 04-May-2023
Scale: 1:500@A3
Source: OS/PMA
Drawing No. P2852/TS/5e

N

P2852: LENNOX ESTATE, ARABELLA DRIVE, LONDON, SW15

Figure 5e.
Parking Survey Inventory

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk

KERB SIDE INVENTORY KEY:

- Unrestricted Kerb Side Parking
- Unsuitable for Parking
- Disabled Parking Bays
- Garage Forecourt
- Single/Double Yellow Line
- Dropped Kerb (DK)
- Parked Car Survey 1

UPPER RICHMOND ROAD WEST

ARABELLA DRIVE

Games Court

LUDOVICK WALK (EAST)

LUDOVICK WALK (WEST)

ARABELLA DRIVE (CUL-DE-SAC 3)

ARABELLA DRIVE (CUL-DE-SAC 2)

ARABELLA DRIVE (CUL-DE-SAC 1)

BURKE CLOSE

ROCKINGHAM CLOSE

PRIORY LANE

DOWDESWELL CLOSE

Date: 19-May-2023
Scale: NTS@A3
Source: OS/PMA
Drawing No. P2852/TS/6a

N

P2852: LENNOX ESTATE, ARABELLA DRIVE, LONDON, SW15

Figure 6a.

Parking Survey Monday 15th May 2023 @ 01:00

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk

KERB SIDE INVENTORY KEY:

- Unrestricted Kerb Side Parking
- Unsuitable for Parking
- Disabled Parking Bays
- Garage Forecourt
- Single/Double Yellow Line
- Dropped Kerb (DK)
- Parked Car Survey 2

UPPER RICHMOND ROAD WEST

ARABELLA DRIVE

Games Court

LUDOVICK WALK (EAST)

LUDOVICK WALK (WEST)

ARABELLA DRIVE (CUL-DE-SAC 3)

ARABELLA DRIVE (CUL-DE-SAC 2)

ARABELLA DRIVE (CUL-DE-SAC 1)

BURKE CLOSE

ROCKINGHAM CLOSE

DOWDESWELL CLOSE

PRIORY LANE

Date: 19-May-2023
Scale: NTS@A3
Source: OS/PMA
Drawing No. P2852/TS/6b

N

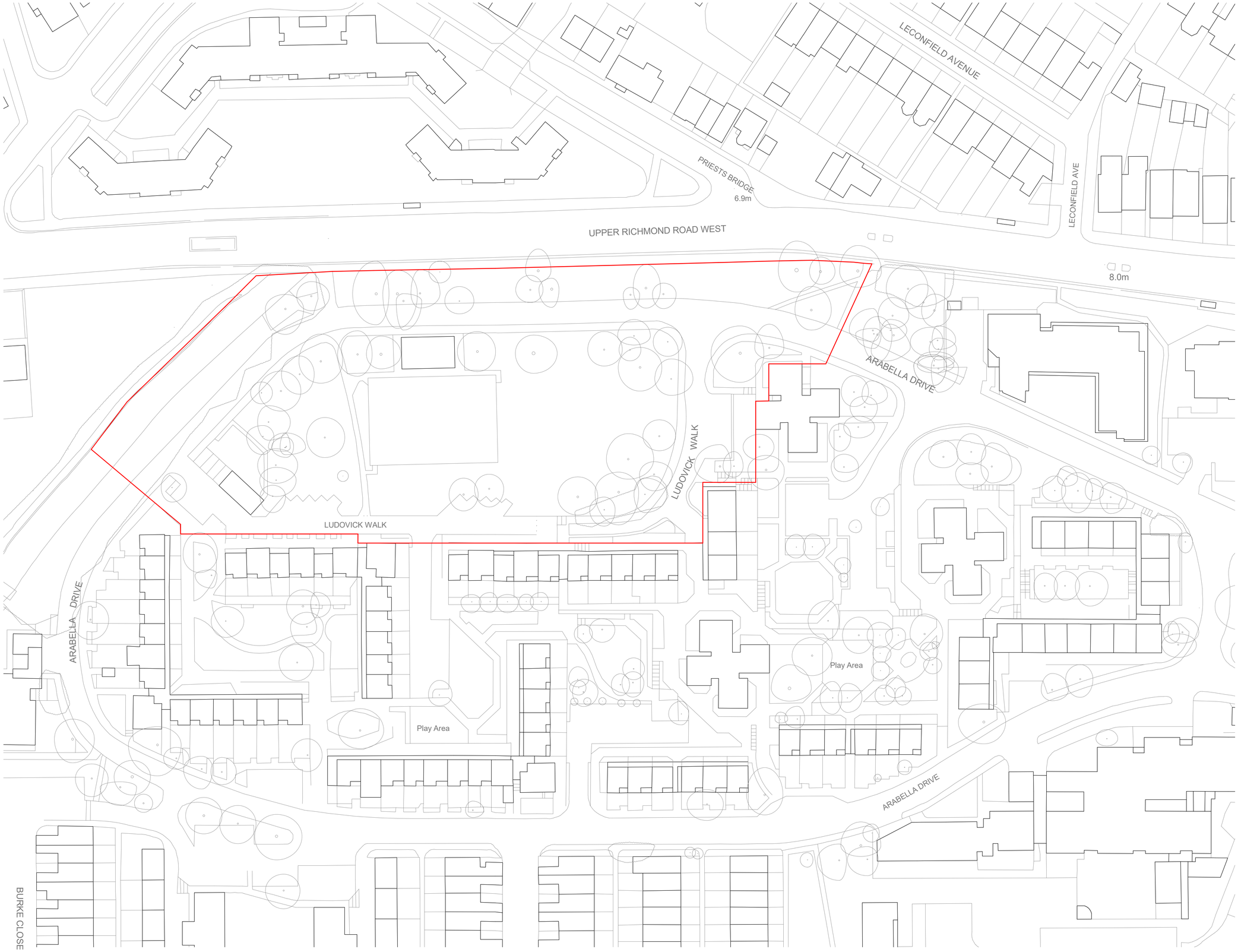
P2852: LENNOX ESTATE, ARABELLA DRIVE, LONDON, SW15

Figure 6b.

Parking Survey Wednesday 17th May 2023 @ 02:00

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk

APPENDIX A
Indicative Site Boundary Plan



1 Site Plan - Existing - 1_500
Scale: 1 : 500

GENERAL NOTES:
This drawing is © 2017 PTE architects.
Use figured dimensions only. **DO NOT SCALE**.

All dimensions are in millimetres unless noted otherwise.

This drawing must be read in conjunction with all other relevant drawings and specifications from the Architect and other consultants.

If in doubt, ask.

SETTING OUT NOTES:
All setting out to be confirmed on site prior to construction - any discrepancy must be immediately reported to the Architect.

All setting out to face of structure or to grid. All partitions set out to studwork or structure.

For setting out and specification of M&E services refer to M&E Consultants documents.

For setting out and specification of structure refer to Structural Engineer's documents.

5 0 5 10 25 m
Metres 1:500

N

rev	date	description	drawn	audited
P03	29.08.23	Issued For Information	JC	SM
P02	03.05.23	Issued For Information	JC	SM
P01	29.03.23	Issued For Information	JC	SM

drawing status
FOR INFORMATION

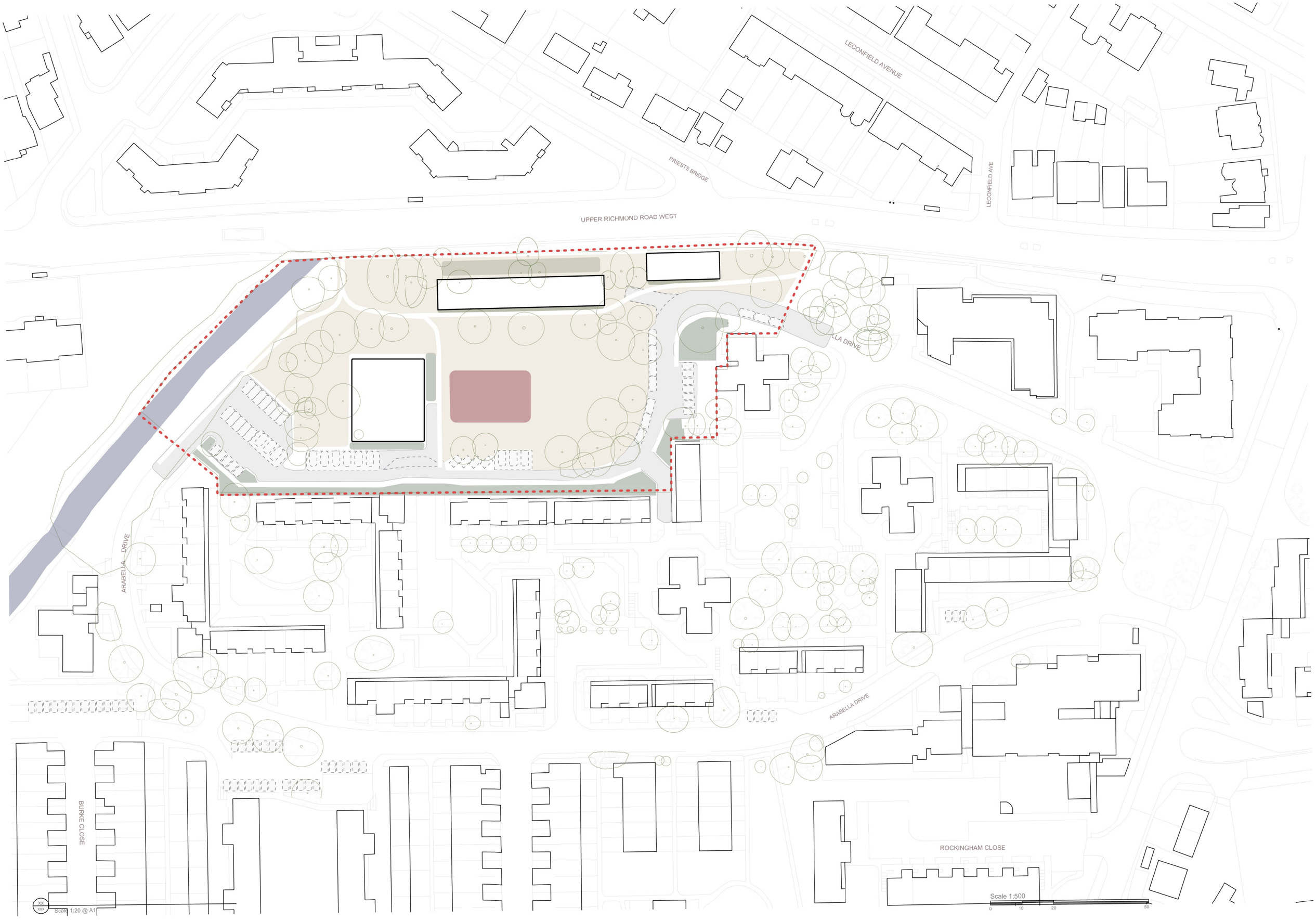
Diespeker Wharf
38 Graham Street
London N1 8JX
020 7336 7777
forename.surname@ptea.co.uk
@ptearchitects
www.pollardthomasedwards.co.uk

Pollard Thomas Edwards

project	job number	drawn	scale	date created
Lennox Estate	22-014	JC	1 : 500@A1	MAR' 23

drawing title	drawing number	revision	suitability
Existing Masterplan	**LEN- PTE- ZZ-XX-DR-A-99008**	**P03**	**S2**

APPENDIX B
Illustrative Proposed Landscape Masterplan



P:\1. LIVE\LIVE PROJECTS 800+\P824 LENNOX ESTATE\04-LA DRAWINGS\CAD\XREFS(DWG)\824 - FH - LANDSCAPE BASE.DWG

APPENDIX C
Initial Highways Scope of Works June 2023

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS 020 8780 0426

INITIAL HIGHWAYS SCOPE OF WORKS

Author:	Paul Mew Associates
Date:	June 2023
Project:	Lennox Estate, Arabella Drive, Roehampton, SW15
Subject:	Initial Highways Scope of Work for Discussion with LB Wandsworth
Planning Ref:	Pre-Application Stage

1.0 SCHEME OVERVIEW & INITIAL HIGHWAYS SCOPE OF WORKS

1.1 Paul Mew Associates is instructed by Wandsworth Borough Council in relation to the proposed development at the Lennox Estate, Arabella Drive, Roehampton, London, SW15 5LN. The local planning and highway authority is the London Borough of Wandsworth.

1.2 The application site currently comprises of open space in the northern part of the estate which also includes an existing multi-use games area (MUGA) and the Lennox Youth Club building.

1.3 The current proposal comprises of the development of up to 89 new residential dwellings in 'social rent' tenure across three different buildings, plus the re-provision of the existing MUGA, and associated parking, access, and landscape improvement works.

1.4 Of note from a highway's viewpoint is the planned stopping up of a ~165-metre section of Arabella Drive that currently runs around the northern perimeter of the green open space between junctions with Ludovick Walk. Arabella Drive including the Arabella Drive loop around the top of the estate is adopted highway land, as is the Dowdeswell Close branch along the bottom end of the estate, whereas everything that branches off including Ludovick Walk is housing department land.

1.5 It is noted that there is great potential in consolidating the road system at this location, and in-principle we can see how this will be a positive aspect of the proposed development. If reduced to a single route the left-over space could be given over to urban greening or be built upon reducing any potential impact new development may have on usable public open space.

1.6 The impact of the revised road strategy within/around the estate will however need to be carefully designed and considered. The suitability of Ludovick Walk to accommodate an increase in traffic flow arising from the stopping-up of part of Arabella Drive will need to be looked at, with improvements and mitigation measures needed to enhance this route. The impact of this aspect of the proposal on the wider refuse vehicle accessibility strategy, access for emergency service vehicles, and the route public transport service vehicles take through the site will also be of critical importance.

1.7 Understanding the current volume, direction, speed, and composition of vehicle traffic flowing through the estate will be very important to inform the proposed design of the new road system under the proposals. This will require the installation of several automatic traffic counter (ATC) machines on the estate's internal road system.

1.8 There are no parking controls in the estate and there seems to be a lot of demand by current residents. Parking surveys will provide us with a clear picture of the current parking patterns around the estate. There will likely be an element of parking re-provision in the scheme if parking along the stretch of Arabella Drive to be closed off cannot be adequately absorbed into the estate.

1.9 Another key point is parking demand arising from the new dwellings. Since there is no controlled parking zone there is no mechanism to restrict car ownership of the future occupiers of the new dwellings (i.e. by restricting access to permits). The consequence of this is having to provide parking in line with Council policy requirements and predicted demand, both of which arrive at a similar rate of around 0.5 spaces per new dwelling. This could mean finding space for a further ~45 parking bays in the scheme.

1.10 A controlled parking zone (CPZ) is therefore likely to form a key part of the development. It is understood from initial consultation with residents that there could be an appetite to introduce a scheme, and early engagement with the Council's

parking/housing colleagues has helped to understand the procedures involved should this be pursued.

1.11 On our current level of understanding and based on our experience with very similar schemes in the recent past we see the need to carry out the following set of tasks prior to engaging with LB Wandsworth's highways department as part of a formal pre-application consultation process:

1. Carry out a full transport policy review at the local (LBW), regional (the London Plan) and national (National Planning Policy Framework (NPPF)) levels;

2. Determine an area-specific public transport accessibility level (PTAL) rating for the development site which will be used to inform policy interpretation in respect to proposed parking levels for planned new dwellings;

3. Visit the site and perform an inventory of all kerb side and other unallocated parking opportunities within the Lennox Estate;

4. Undertake two overnight parking surveys on typical weekday nights in accordance with industry standard methodology. Surveys for residential development in predominantly residential areas are carried out overnight as it is reasonably assumed that most of the residents are at home and parked for the night, hence capturing the peak demand period for parking. This is an industry accepted method. Label with an 'x' where each car is parked during each car parking survey. Calculate existing parking stress;

5. Based on the results of the baseline parking surveys, levels of planned new on-site parking, and the impacts of the potential removal of the loop section of Arabella Drive, assess the impact of the redevelopment of the site on the local highway;

6. With reference to local parking policy guidance and local census data, assess the parking demand for the proposed development. Discuss the feasibility of the implementation of an estate CPZ;

7. Carry out a review of the car parking requirements, Blue Badge parking requirements, electric vehicle (EV) parking requirements, and cycle parking requirements based on policy expectations;

8. Install ATC machines at strategic locations around Arabella Drive / Ludovick Walk to collect current volume, direction, speed, and composition of vehicle traffic flowing through the estate;

9. Obtain AutoCAD,dwg format drawings of the current design layout and check any site access, parking, and turning layouts to ensure that they are safe and feasible;

10. Provide illustrative feasibility highways design drawings of the proposed new road system, including any traffic management features, revised road geometry, road markings, and required traffic signage, to safely stop-up the section of Arabella Drive. Check that the new feasibility plans work in respect to access for refuse vehicles, emergency service vehicles, and public transport service vehicles using vehicle swept path simulation software;

11. Review the planned refuse collection arrangements in terms of trundle distances from bin stores to dwellings and from the public highway, as well as access for fire tenders;

12. Present the results of the above into a standalone Pre-Application Transport Statement for submission to the Council for review;

13. Attend a formal pre-application meeting with LB Wandsworth highways team to discuss and seek agreement to the principle of the key highways related items.

1.12 We look forward to confirmation that the above scope of work is satisfactory at this early stage of the project, and to presenting the information to LB Wandsworth highways team for discussion in due course.

APPENDIX D
Manually Verified PTAL Output Files

PTAL REPORT: MANUAL VERIFICATION

Site Details	Lennox Estate (North Blocks), SW15 5LE
Description:	**Standard PTAL calculation**
Coordinates	521557
	175468
Date:	29/08/2023

Calculation Parameters

Day of Week:	M-F
Time Period:	AM Peak
Walk Speed:	4.8
Bus Walk Access Time (mins):	8
BUS Reliability Factor:	2
LU Max. Walk Access Time (mins):	12
LU Reliability Factor:	0.75
Rail Walk Access Time (mins):	12
Rail Reliability Factor:	0.75

Standard calculation

This is a standard PTAL calcualtion for a sample location.

Data					Calculations					
A	B	C	D	E	F	G	H	I	J	K
Mode	Stop	Route	Distance (meters)	Frequency (vph)	Walk Time (mins)	SWT (mins)	TAT (mins)	EDF	Weight	AI
Bus	Priory Lane (Stop D)	33	110	6	1.38	7.00	8.38	3.58	0.5	1.79
Bus	Priory Lane (Stop D)	337	110	12.5	1.38	4.40	5.78	5.19	0.5	2.60
Bus	Priory Lane (Stop D)	493	110	12.5	1.38	4.40	5.78	5.19	1	5.19
Bus	Roehampton Lane (Stop S)	265	590	11.5	7.38	4.61	11.98	2.50	0.5	1.25
Bus	Roehampton Lane (Stop S)	419	590	11	7.38	4.73	12.10	2.48	0.5	1.24
Rail	Barnes	SHEPRTN-WATRLMN 2H92	765	1	9.56	30.75	40.31	0.74	0.5	0.37
Rail	Barnes	WDON-WATRLMN 2K03	765	0.33	9.56	91.66	101.22	0.30	0.5	0.15
Rail	Barnes	WATRLMN-WATRLMN 2K09	765	2	9.56	15.75	25.31	1.19	0.5	0.59
Rail	Barnes	WATRLMN-WATRLMN 2O09	765	2	9.56	15.75	25.31	1.19	0.5	0.59
Rail	Barnes	WATRLMN-WEYBDGB 2S13	765	2	9.56	15.75	25.31	1.19	0.5	0.59
Rail	Barnes	WATRLMN-HOUNSLW 2S91	765	0.33	9.56	91.66	101.22	0.30	0.5	0.15
Rail	Barnes	TWCKNHM-WATRLMN 2R03	765	0.33	9.56	91.66	101.22	0.30	0.5	0.15
Rail	Barnes	WATRLMN-WATRLMN 2R09	765	2	9.56	15.75	25.31	1.19	0.5	0.59
Rail	Barnes	STAINES-WATRLMN 2S10	765	2.33	9.56	13.63	23.19	1.29	1	1.29
Rail	Barnes	WEYBDGB-WATRLMN 2S12	765	1.67	9.56	18.71	28.28	1.06	0.5	0.53
Rail	Barnes	HOUNSLW-WATRLMN 2V05	765	0.67	9.56	45.53	55.09	0.54	0.5	0.27

Sum of AI's	**17.36**
PTAL	**4**

PTAL REPORT: MANUAL VERIFICATION

Site Details	Lennox Estate (South Block), SW15 5LE
Description:	**Standard PTAL calculation**
Coordinates	521479
	175415
Date:	29/08/2023

Calculation Parameters

Day of Week:	M-F
Time Period:	AM Peak
Walk Speed:	4.8
Bus Walk Access Time (mins):	8
BUS Reliability Factor:	2
LU Max. Walk Access Time (mins):	12
LU Reliability Factor:	0.75
Rail Walk Access Time (mins):	12
Rail Reliability Factor:	0.75

Standard calculation

This is a standard PTAL calcualtion for a sample location.

Data					Calculations					
A	B	C	D	E	F	G	H	I	J	K
Mode	Stop	Route	Distance (meters)	Frequency (vph)	Walk Time (mins)	SWT (mins)	TAT (mins)	EDF	Weight	AI
Bus	Priory Lane (Stop K)	33	150	6	1.88	7.00	8.88	3.38	0.5	1.69
Bus	Priory Lane (Stop K)	337	150	12.5	1.88	4.40	6.28	4.78	0.5	2.39
Bus	Priory Lane (Stop K)	493	150	12.5	1.88	4.40	6.28	4.78	1	4.78
Rail	Barnes	SHEPRTN-WATRLMN 2H92	850	1	10.63	30.75	41.38	0.73	0.5	0.36
Rail	Barnes	WDON-WATRLMN 2K03	850	0.33	10.63	91.66	102.28	0.29	0.5	0.15
Rail	Barnes	WATRLMN-WATRLMN 2K09	850	2	10.63	15.75	26.38	1.14	0.5	0.57
Rail	Barnes	WATRLMN-WATRLMN 2O09	850	2	10.63	15.75	26.38	1.14	0.5	0.57
Rail	Barnes	WATRLMN-WEYBDGB 2S13	850	2	10.63	15.75	26.38	1.14	0.5	0.57
Rail	Barnes	WATRLMN-HOUNSLW 2S91	850	0.33	10.63	91.66	102.28	0.29	0.5	0.15
Rail	Barnes	TWCKNHM-WATRLMN 2R03	850	0.33	10.63	91.66	102.28	0.29	0.5	0.15
Rail	Barnes	WATRLMN-WATRLMN 2R09	850	2	10.63	15.75	26.38	1.14	0.5	0.57
Rail	Barnes	STAINES-WATRLMN 2S10	850	2.33	10.63	13.63	24.25	1.24	1	1.24
Rail	Barnes	WEYBDGB-WATRLMN 2S12	850	1.67	10.63	18.71	29.34	1.02	0.5	0.51
Rail	Barnes	HOUNSLW-WATRLMN 2V05	850	0.67	10.63	45.53	56.15	0.53	0.5	0.27

Sum of AI's	**13.95**
PTAL	**3**

APPENDIX E
Parking Survey Results (Tabulated)

P2852: LENNOX ESTATE, ARABELLA DRIVE, ROEHAMPTON, SW15

Parking Survey Results

Overnight Parking Survey, Monday 15th May 2023 - 01:00am

Street Name	Total no. of parking spaces	Total cars parked	Parking stress (%)
Arabella Drive	182	142	78%
Arabella Drive Cul-De-Sac 1	27	20	74%
Arabella Drive Cul-De-Sac 2	12	10	83%
Arabella Drive Cul-De-Sac 3	23	20	87%
Burke Close	85	65	76%
Ludovick Walk (west)	25	23	92%
Ludovick Walk (east)	14	15	107%
Total	368	295	80%

Notes:

14 cars also observed parked on Cul-De-Sac 1 on garage forecourts, posts etc

13 cars also observed parked on Burke Close on garage forecourts, posts etc

5 cars also observed parked on Ludovick Walk on yellow lines/hatching etc

Overnight Parking Survey, Wednesday 17th May 2023 - 02:00am

Street Name	Total no. of parking spaces	Total cars parked	Parking stress (%)
Arabella Drive	182	139	76%
Arabella Drive Cul-De-Sac 1	27	20	74%
Arabella Drive Cul-De-Sac 2	12	10	83%
Arabella Drive Cul-De-Sac 3	23	21	91%
Burke Close	85	66	78%
Ludovick Walk (west)	25	23	92%
Ludovick Walk (east)	14	14	100%
Total	368	293	80%

Notes:

13 cars also observed parked on Cul-De-Sac 1 on garage forecourts, posts etc

1 car also observed parked on Cul-De-Sac 3 on yellow lines

10 cars also observed parked on Burke Close on garage forecourts, posts etc

5 cars also observed parked on Ludovick Walk on yellow lines/hatching etc

Overnight Parking Survey Average May 2023

Street Name	Total no. of parking spaces	Total cars parked	Parking stress (%)
Arabella Drive	182	141	77%
Arabella Drive Cul-De-Sac 1	27	20	74%
Arabella Drive Cul-De-Sac 2	12	10	83%
Arabella Drive Cul-De-Sac 3	23	21	89%
Burke Close	85	66	77%
Ludovick Walk (west)	25	23	92%
Ludovick Walk (east)	14	15	104%
Total	368	294	80%

NB: arithmetic errors are due to roundings

Up to 14 cars also observed parked on Cul-De-Sac 1 on garage forecourts, posts etc

Up to 1 car also observed parked on Cul-De-Sac 3 on yellow lines

Up to 13 cars also observed parked on Burke Close on garage forecourts, posts etc

Up to 5 cars also observed parked on Ludovick Walk on yellow lines/hatching etc

Source: PMA Survey

APPENDIX F
Arabella Drive ATC Volume Data

P2852: LENNOX ESTATE, ROEHAMPTON, LONDON, SW15

ARABELLA DRIVE [SITE 1] - Total Vehicle Flows - Thursday 18th May to Wednesday 24th May 2023

Time	Thursday 18-05-2023		Friday 19-05-2023		Saturday 20-05-2023		Sunday 21-05-2023		Monday 22-05-2023		Tuesday 23-05-2023		Wednesday 24-05-2023	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
0000-0100	2	8	4	7	8	9	10	11	2	4	2	7	3	11
0100-0200	2	1	4	7	2	9	5	5	2	3	1	2	4	4
0200-0300	1	3	2	5	5	7	3	7	6	3	1	3	2	2
0300-0400	2	3	3	4	3	5	3	4	2	3	1	2	2	1
0400-0500	4	3	5	1	3	3	4	1	6	1	2	3	4	4
0500-0600	8	5	9	6	8	3	5	4	4	3	8	5	8	3
0600-0700	24	13	19	11	12	5	6	4	25	12	20	10	18	14
0700-0800	39	24	33	14	26	11	5	4	34	18	43	25	29	19
0800-0900	39	24	38	42	26	21	13	6	45	44	38	53	43	38
0900-1000	38	50	51	55	19	20	15	20	45	41	38	47	47	44
1000-1100	27	26	29	24	22	17	19	10	27	25	25	27	33	31
1100-1200	20	25	31	26	16	16	25	20	35	38	32	30	26	23
1200-1300	28	38	34	36	20	27	22	43	32	30	29	34	26	19
1300-1400	34	31	31	39	29	29	37	35	28	34	29	22	17	26
1400-1500	21	45	33	55	29	31	21	35	18	39	20	42	29	46
1500-1600	47	55	56	64	19	36	25	33	43	45	43	68	61	51
1600-1700	24	44	29	35	17	25	17	27	31	45	33	51	28	46
1700-1800	30	35	25	48	29	37	26	47	28	39	32	38	32	37
1800-1900	21	43	29	52	28	38	31	44	26	42	21	36	17	36
1900-2000	22	26	25	35	17	37	17	28	10	30	22	37	28	36
2000-2100	25	22	23	35	21	27	16	30	15	27	9	28	23	34
2100-2200	14	30	16	29	16	22	15	23	10	19	24	25	8	23
2200-2300	7	23	10	18	13	29	16	19	14	23	12	19	9	21
2300-2400	7	11	12	21	11	20	9	23	4	13	4	7	2	10
Total	486	588	551	669	399	484	365	483	492	581	489	621	499	579
Total 2-Way	1074		1220		883		848		1073		1110		1078	

Notes:

Values illustrate total vehicle flows

Source: DCA Monisyst

P2852: LENNOX ESTATE, ROEHAMPTON, LONDON, SW15

ARABELLA DRIVE [SITE 2] - Total Vehicle Flows - Thursday 18th May to Wednesday 24th May 2023

Time	Thursday 18-05-2023		Friday 19-05-2023		Saturday 20-05-2023		Sunday 21-05-2023		Monday 22-05-2023		Tuesday 23-05-2023		Wednesday 24-05-2023	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
0000-0100	2	1	0	0	0	0	0	0	0	1	1	1	2	0
0100-0200	0	1	1	1	1	0	1	1	2	1	0	0	0	0
0200-0300	1	0	2	0	0	1	0	0	2	2	1	0	0	1
0300-0400	2	0	1	0	2	0	0	0	0	0	0	0	0	0
0400-0500	2	0	1	0	0	0	0	0	1	0	2	0	1	0
0500-0600	3	2	3	0	3	1	0	1	1	0	3	0	3	0
0600-0700	4	1	5	1	1	0	5	1	4	2	5	2	4	2
0700-0800	4	6	4	10	3	3	1	2	10	7	7	8	10	9
0800-0900	10	11	12	13	5	4	0	1	10	14	14	15	12	12
0900-1000	13	4	15	12	3	2	9	1	14	10	21	3	11	10
1000-1100	9	3	9	3	6	2	1	3	4	5	6	4	9	5
1100-1200	6	2	6	5	3	2	10	2	6	4	6	8	4	4
1200-1300	7	2	6	6	7	6	8	5	6	5	7	3	6	7
1300-1400	8	5	9	8	7	4	6	3	8	8	8	10	10	3
1400-1500	9	4	22	5	6	3	13	8	19	8	10	4	6	3
1500-1600	13	3	12	9	4	4	7	2	20	11	17	11	16	13
1600-1700	7	4	5	9	7	6	4	2	7	7	11	9	5	11
1700-1800	7	5	8	5	10	7	11	4	8	6	7	6	4	5
1800-1900	5	5	3	4	4	3	8	2	5	11	4	8	8	5
1900-2000	7	1	10	5	9	4	1	2	6	9	3	6	6	3
2000-2100	8	6	4	5	3	7	7	4	10	5	8	4	9	7
2100-2200	0	2	2	3	4	0	4	5	5	4	9	5	3	5
2200-2300	3	2	8	4	1	2	2	3	3	1	3	3	4	2
2300-2400	1	2	2	3	2	0	3	2	1	3	4	0	1	1
Total	131	72	150	111	91	61	101	54	152	124	157	110	134	108
Total 2-Way	203		261		152		155		276		267		242	

Notes:

Values illustrate total vehicle flows

Source: DCA Monisyst

P2852: LENNOX ESTATE, ROEHAMPTON, LONDON, SW15

ARABELLA DRIVE [SITE 3] - Total Vehicle Flows - Thursday 18th May to Wednesday 24th May 2023

Time	Thursday 18-05-2023		Friday 19-05-2023		Saturday 20-05-2023		Sunday 21-05-2023		Monday 22-05-2023		Tuesday 23-05-2023		Wednesday 24-05-2023	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
0000-0100	3	3	0	0	0	0	0	0	0	1	1	0	1	0
0100-0200	0	1	2	2	1	1	2	1	3	1	0	0	0	0
0200-0300	1	0	2	0	0	1	0	1	2	2	1	1	0	1
0300-0400	1	0	1	0	2	0	1	2	0	0	0	0	0	0
0400-0500	1	0	2	0	0	0	0	0	1	0	2	1	1	0
0500-0600	3	3	1	1	3	2	1	2	1	0	2	2	1	1
0600-0700	10	3	6	4	3	3	2	1	7	4	7	3	8	4
0700-0800	10	7	9	10	2	4	3	2	14	6	9	11	15	10
0800-0900	9	6	10	19	8	1	4	1	9	25	18	21	18	20
0900-1000	17	6	20	7	7	4	8	2	21	8	28	5	18	8
1000-1100	8	4	9	5	8	5	3	1	9	10	9	7	9	5
1100-1200	13	5	8	6	4	3	10	2	10	7	5	10	11	8
1200-1300	8	5	13	8	11	12	8	3	11	9	7	6	8	9
1300-1400	13	8	11	6	8	4	9	6	10	6	11	9	12	4
1400-1500	11	8	15	10	7	6	13	9	16	10	13	9	3	8
1500-1600	16	7	25	15	4	5	8	4	22	13	23	13	21	17
1600-1700	11	9	16	15	10	8	4	4	13	15	12	10	11	13
1700-1800	17	8	8	7	5	8	11	9	9	8	5	9	7	7
1800-1900	3	12	5	6	7	7	13	9	8	9	6	9	6	9
1900-2000	11	2	9	8	9	6	3	3	6	9	5	5	9	7
2000-2100	8	8	5	6	5	10	9	7	7	6	12	4	10	5
2100-2200	2	6	4	5	5	1	5	3	3	5	6	6	5	10
2200-2300	4	2	13	9	3	3	2	4	5	5	6	5	6	4
2300-2400	2	4	3	7	1	3	2	4	2	3	3	2	1	3
Total	182	117	197	156	113	97	121	80	189	162	191	148	181	153
Total 2-Way	299		353		210		201		351		339		334	

Notes:

Values illustrate total vehicle flows

Source: DCA Monisyst

P2852: LENNOX ESTATE, ROEHAMPTON, LONDON, SW15

ARABELLA DRIVE [SITE 4] - Total Vehicle Flows - Thursday 18th May to Wednesday 24th May 2023

Time	Thursday 18-05-2023		Friday 19-05-2023		Saturday 20-05-2023		Sunday 21-05-2023		Monday 22-05-2023		Tuesday 23-05-2023		Wednesday 24-05-2023	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
0000-0100	5	5	1	1	1	2	2	2	0	0	2	1	3	1
0100-0200	1	3	2	2	1	1	2	1	3	1	0	0	0	0
0200-0300	2	0	1	0	0	2	0	2	2	2	0	1	0	1
0300-0400	2	0	1	0	2	0	1	2	0	0	0	0	0	0
0400-0500	1	0	2	0	0	2	0	0	2	0	1	2	1	1
0500-0600	3	4	1	3	3	2	1	3	2	1	2	2	2	1
0600-0700	10	4	8	5	3	3	1	1	7	3	9	3	7	5
0700-0800	16	9	14	12	4	4	2	2	19	9	14	12	25	15
0800-0900	14	9	17	26	8	1	5	1	15	31	21	28	20	28
0900-1000	18	8	22	7	12	5	9	5	21	9	33	8	22	10
1000-1100	12	7	14	9	11	6	7	3	10	10	10	8	9	7
1100-1200	13	5	9	7	7	7	13	5	15	8	10	11	13	8
1200-1300	10	9	17	12	14	13	11	7	16	10	12	10	12	7
1300-1400	16	8	12	8	9	2	15	12	15	11	15	13	15	8
1400-1500	10	9	18	13	10	7	16	8	21	16	18	13	7	13
1500-1600	21	10	29	21	5	4	11	6	28	19	28	25	25	22
1600-1700	10	9	18	13	11	8	9	9	14	20	15	12	15	17
1700-1800	17	11	11	11	7	12	13	9	9	9	9	12	11	8
1800-1900	7	18	7	4	7	10	15	9	12	11	13	12	5	11
1900-2000	12	5	12	12	12	9	5	8	9	10	6	11	7	5
2000-2100	10	9	6	6	4	13	11	8	8	12	13	6	9	9
2100-2200	6	10	3	6	7	3	5	4	5	6	8	8	4	8
2200-2300	5	3	13	8	5	3	4	8	7	8	6	7	8	7
2300-2400	2	5	4	9	4	4	4	8	3	6	4	5	1	5
Total	223	160	242	195	147	123	162	123	243	212	249	210	221	197
Total 2-Way	383		437		270		285		455		459		418	

Notes:

Values illustrate total vehicle flows

Source: DCA Monisyst

APPENDIX G

Indicative Layout of a PRS Scheme; Northern Part of the Lennox Estate

PRS INVENTORY:

- PRS Parking Bays
- Disabled Parking Bays
- Single/Double Yellow Line
- Dropped Kerb (DK)

ARABELLA DRIVE

Games Court

LUDOVICK WALK (EAST)

LUDOVICK WALK (WEST)

REFER TO ILLUSTRATIVE PROPOSED MASTERPLAN FOR PARKING LAYOUT ON LUDOVICK WALK

ARABELLA DRIVE (CUL-DE-SAC 3)

ARABELLA DRIVE (CUL-DE-SAC 2)

ARABELLA DRIVE (CUL-DE-SAC 1)

BURKE CLOSE

ROCKINGHAM CLOSE

PRIORY LANE

Date: 17-August-2023
Scale: 1:1000@A3
Source: OS/PMA
Drawing No. P2852/TS/G

N

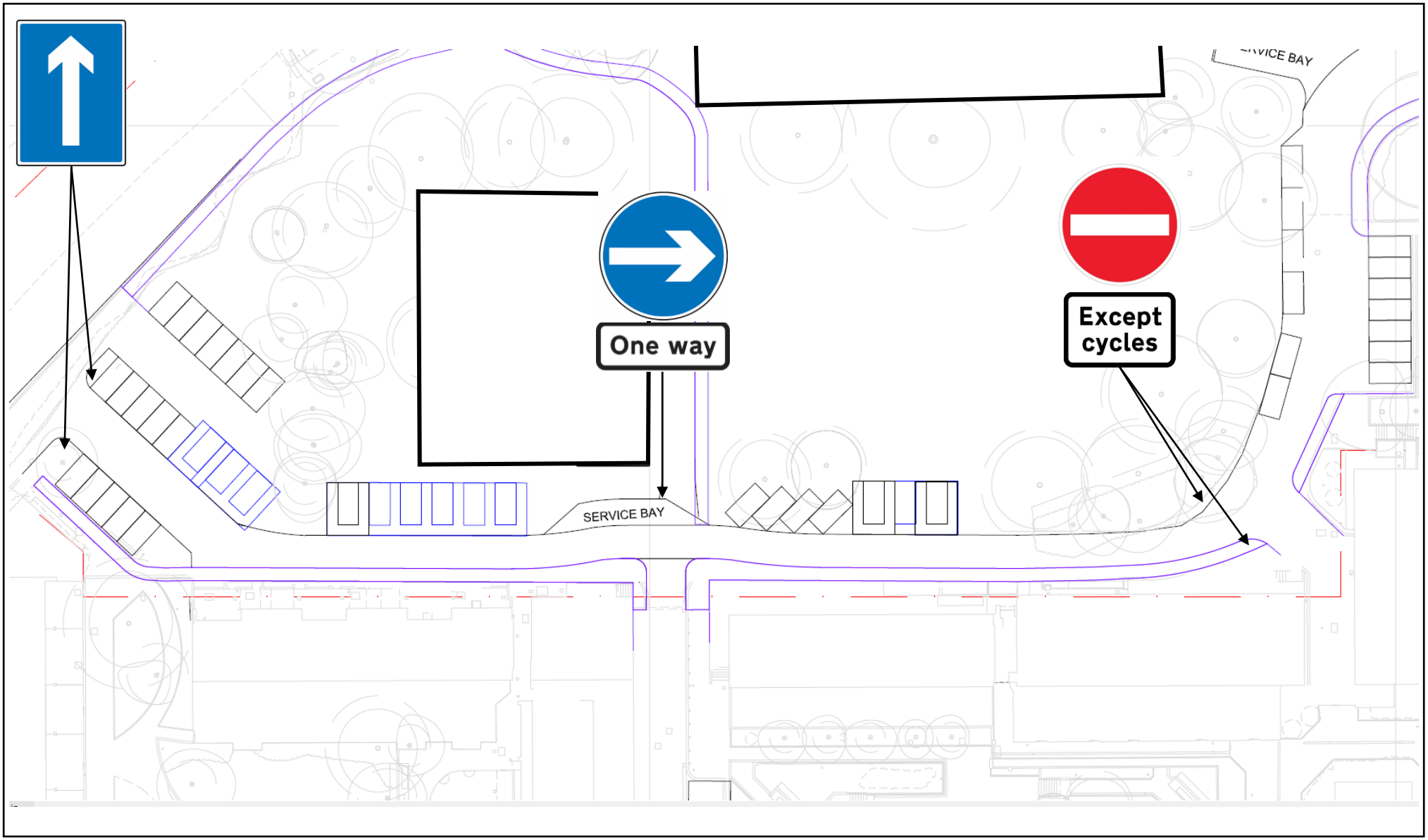
P2852: LENNOX ESTATE, ARABELLA DRIVE, LONDON, SW15

Appendix G.

Indicative Layout of a PRS Scheme; Northern Part of the Lennox Estate

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk

APPENDIX H
Ludovick Walk Illustrative Signage Strategy



Date: 23-August-2023
Scale: NTS
Source: PMA
Drawing No: P2852/TS/H

N

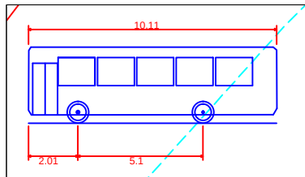
P2852: LENNOX ESTATE, ARABELLA DRIVE, LONDON, SW15

Appendix H.

Ludovick Walk Illustrative Signage Strategy

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
T: 0208 780 0426 W: www.pma-traffic.co.uk

APPENDIX I
Swept Path Diagrams



Modulo-9
Overall Length 10.110m
Overall Width 2.500m
Overall Body Height 3.095m
Min Body Ground Clearance 0.136m
Track Width 2.500m
Lock to Lock Time 4.00s
Kerb to Kerb Turning Radius 8.450m

SERVICE BAY

SERVICE BAY

Date: 23-August-2023
Scale: 1:250@A3
Source: Various
Drawing No. P2852/I/SK1

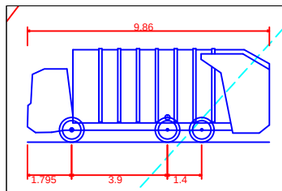
N

P2852: LENNOX ESTATE, ARABELLA DRIVE, ROEHAMPTON, SW15

Appendix I Figure SK1.

Draft Illustrative Proposed Highways Works - Bus Traversing the Scheme

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk



Large Refuse Vehicle (3 axle)

Overall Length	9.860m
Overall Width	2.450m
Overall Body Height	3.514m
Min Body Ground Clearance	0.356m
Track Width	2.450m
Lock to Lock Time	4.00s
Kerb to Kerb Turning Radius	9.500m

SERVICE BAY

SERVICE BAY

Date: 23-August-2023
Scale: 1:250@A3
Source: Various
Drawing No. P2852/I/SK2

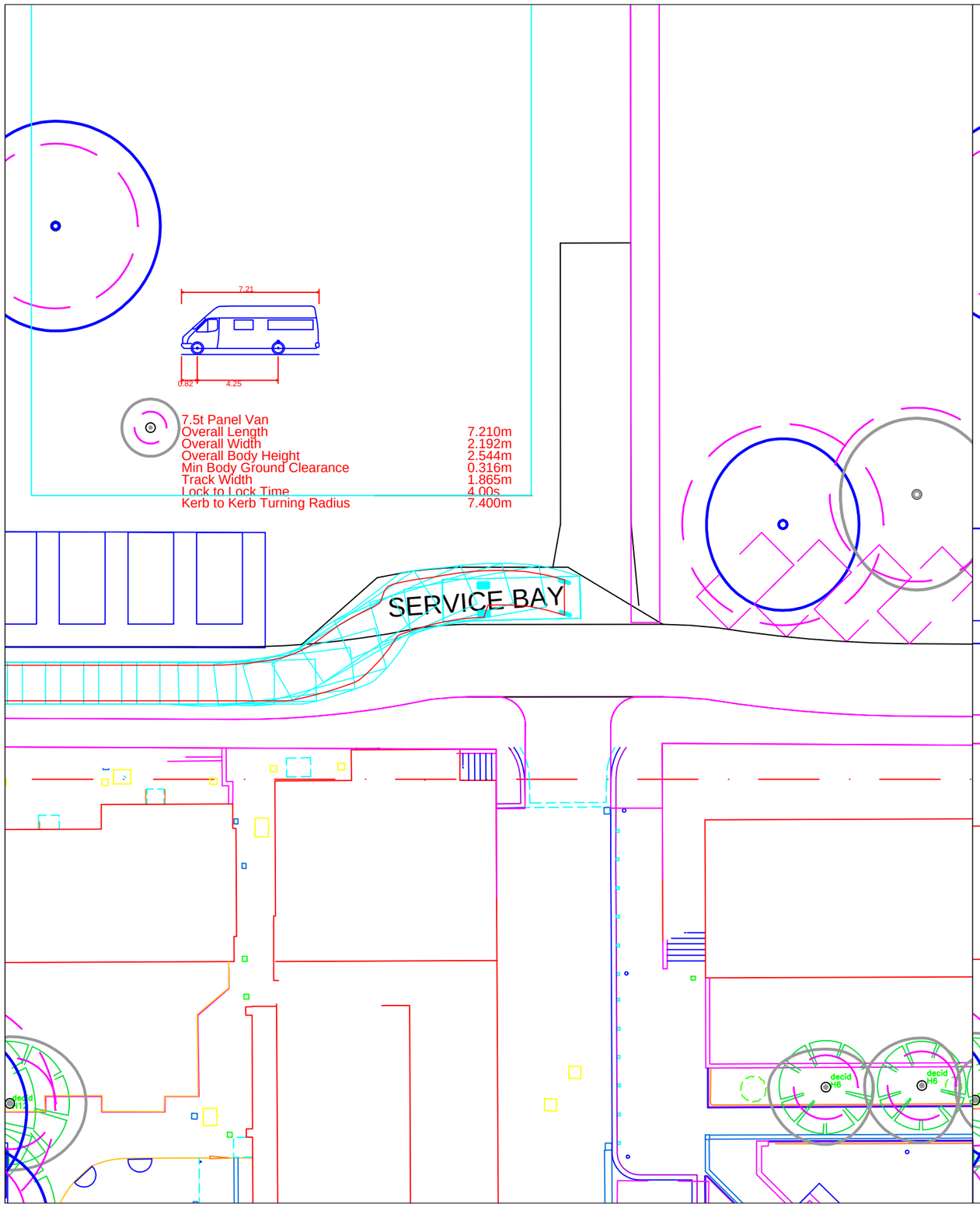
N

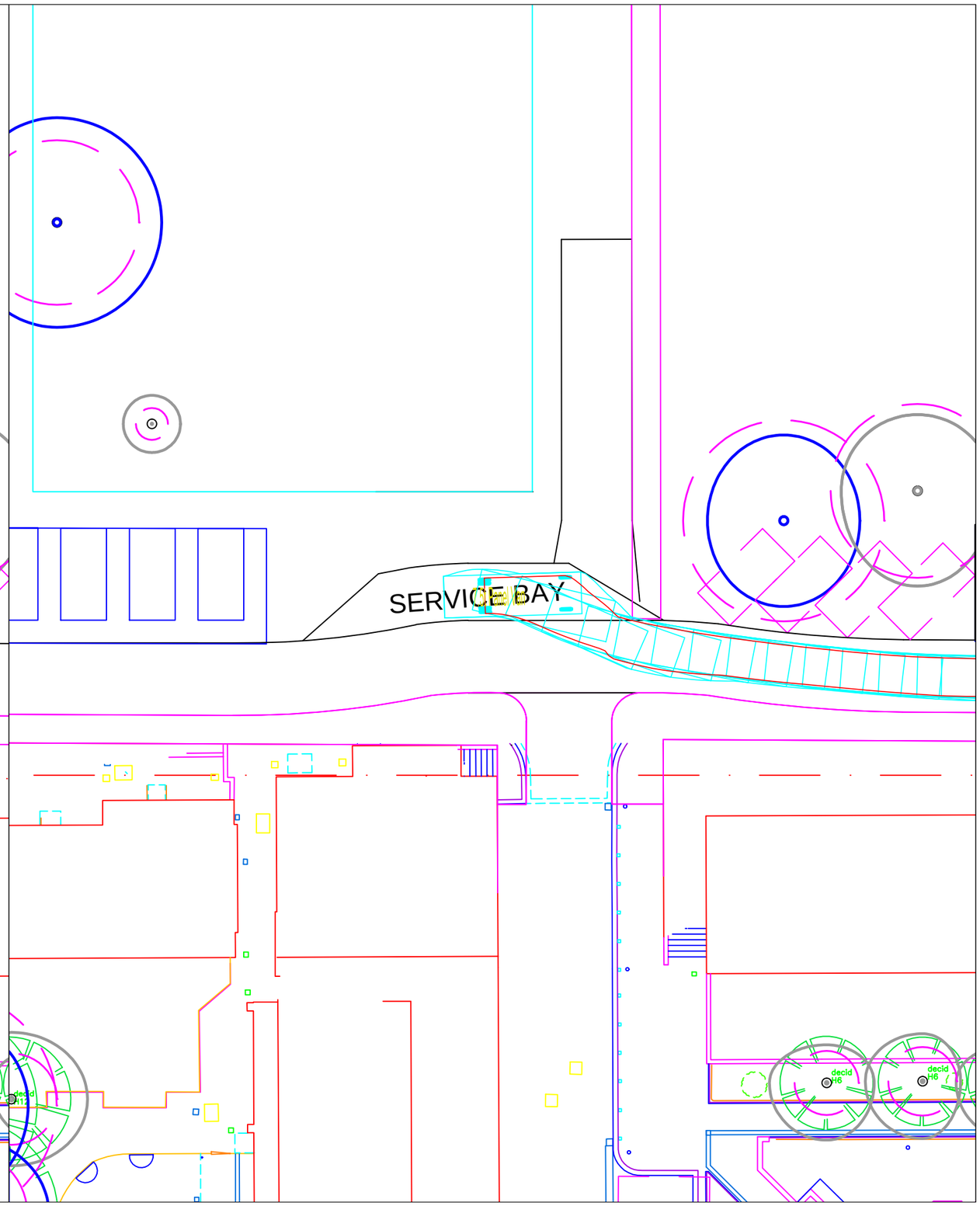
P2852: LENNOX ESTATE, ARABELLA DRIVE, ROEHAMPTON, SW15

Appendix I Figure SK2.

Draft Illustrative Proposed Highways Works - Large Refuse Vehicle Traversing the Scheme

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk





Date: 23-August-2023
Scale: 1:250@A3
Source: Various
Drawing No. P2852/I/SK3

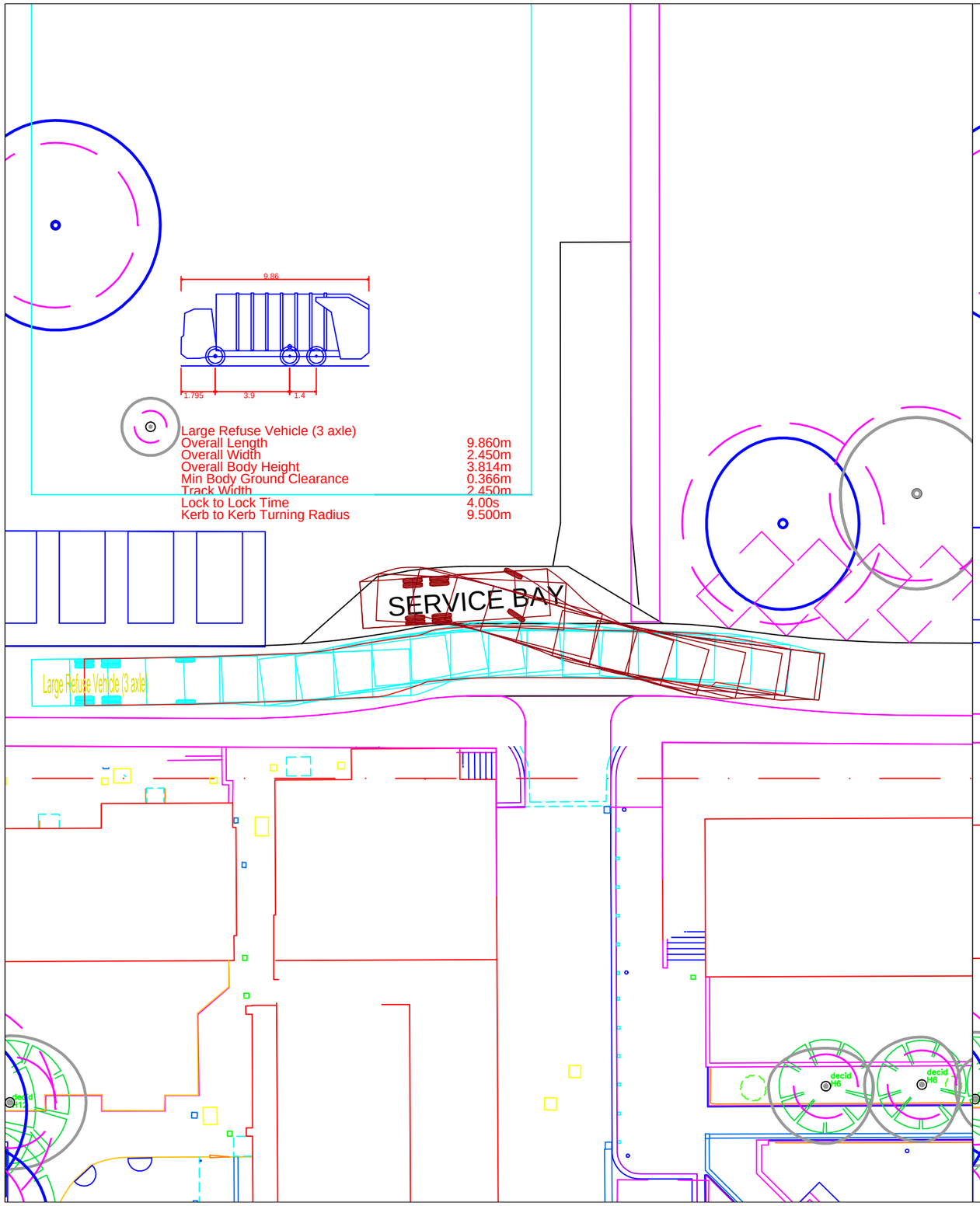
N

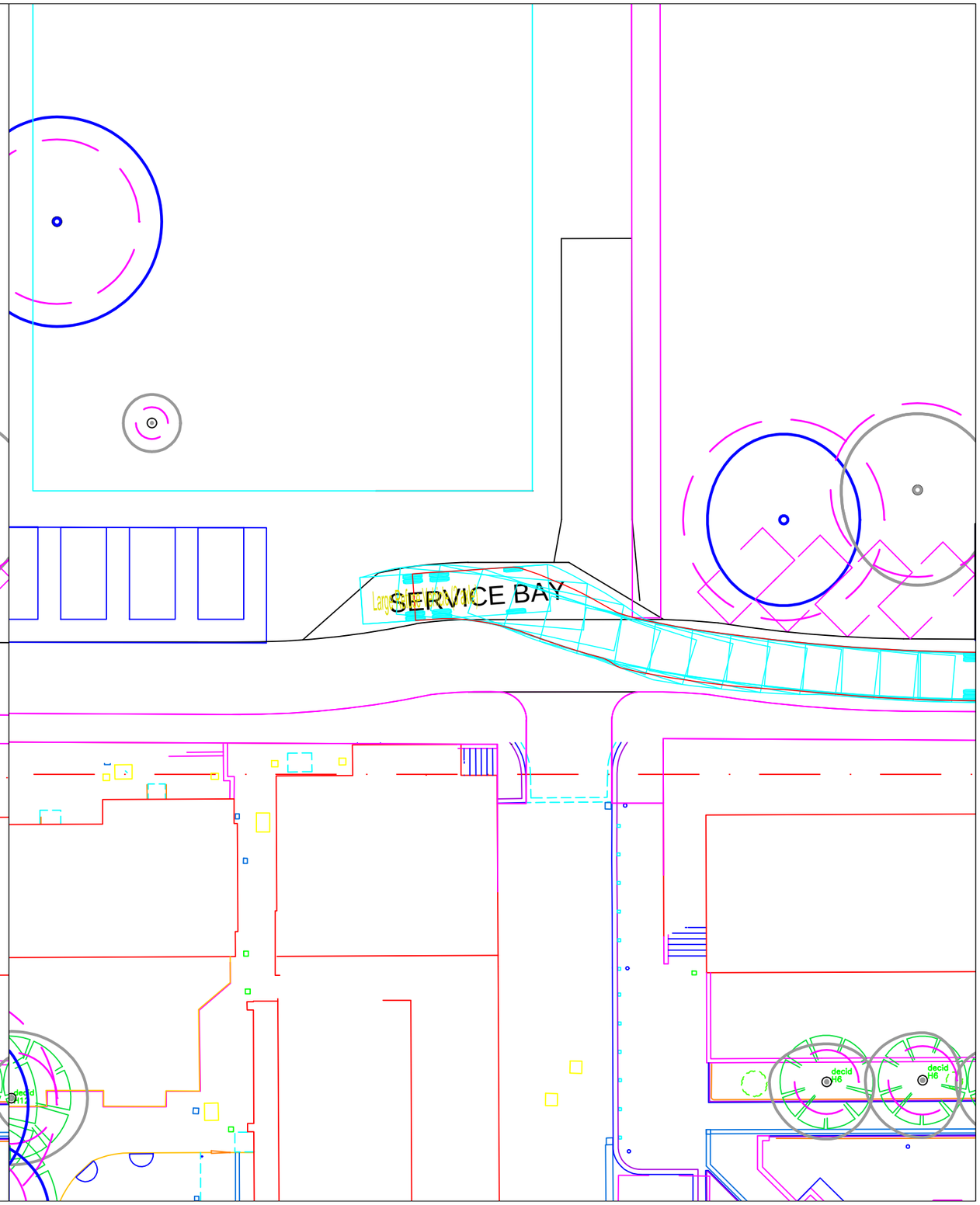
P2852: LENNOX ESTATE, ARABELLA DRIVE, ROEHAMPTON, SW15

Appendix I Figure SK3.

Draft Illustrative Proposed Highways Works - 7.5t LWB Courier Van Enter (L) & Exit (R) Service Bay South

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk





Date: 23-August-2023
Scale: 1:250@A3
Source: Various
Drawing No. P2852/I/SK4

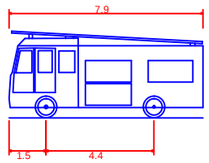
N

P2852: LENNOX ESTATE, ARABELLA DRIVE, ROEHAMPTON, SW15

Appendix I Figure SK4.

Draft Illustrative Proposed Highways Works - Large Refuse Vehicle Enter (L) & Exit (R) Service Bay South

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk



LFB Fire Tender (LWB)

Overall Length	7.900m
Overall Width	2.500m
Overall Body Height	3.533m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock to Lock Time	4.00s
Kerb to Kerb Turning Radius	7.750m

SERVICE BAY

LFB Fire Tender(LWB)

decid H6

decid H6

decid H12

SERVICE BAY

LFB Fire Tender(LWB)

decid H6

decid H6

decid H12

Date: 23-August-2023
Scale: 1:250@A3
Source: Various
Drawing No. P2852/I/SK5

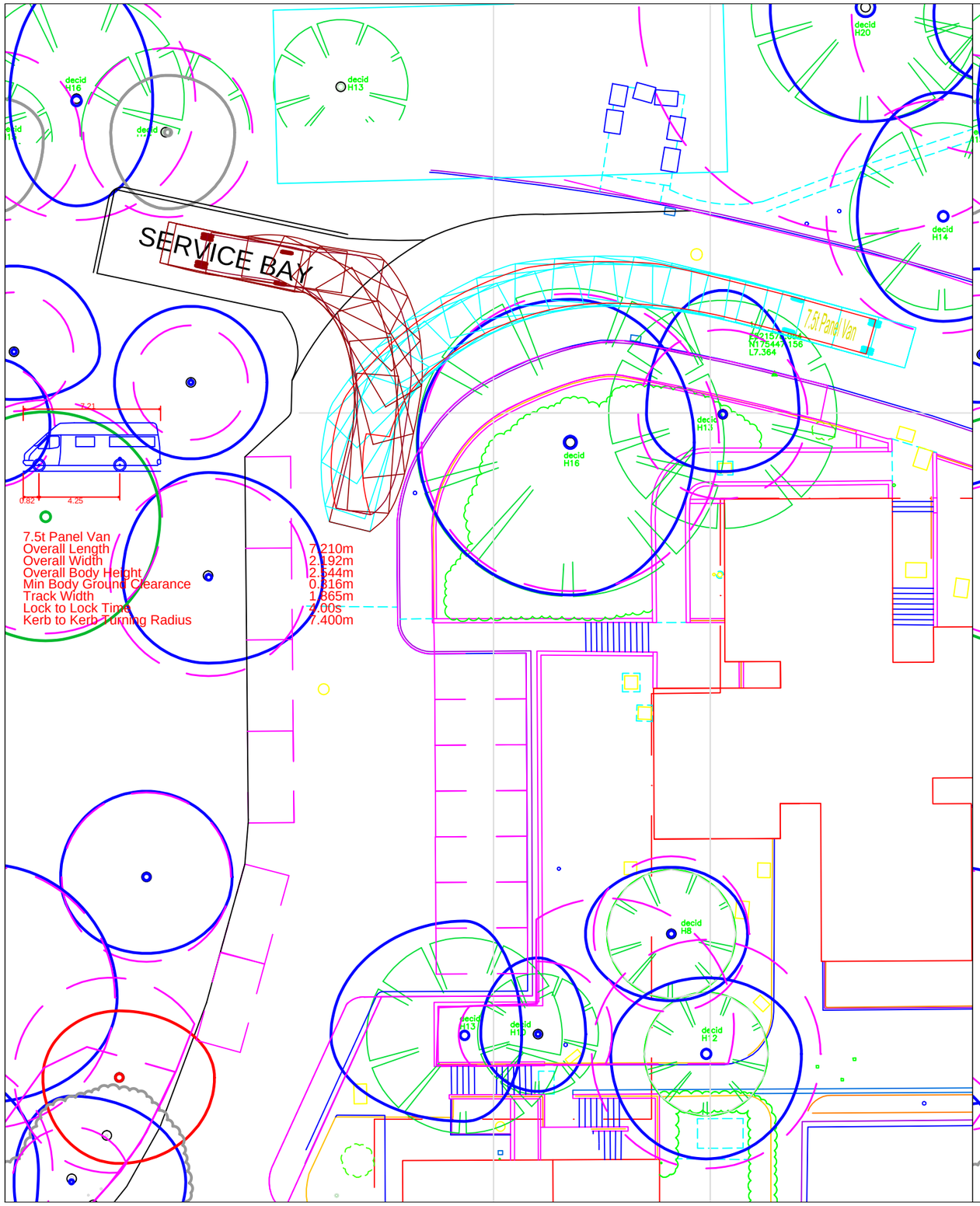
N

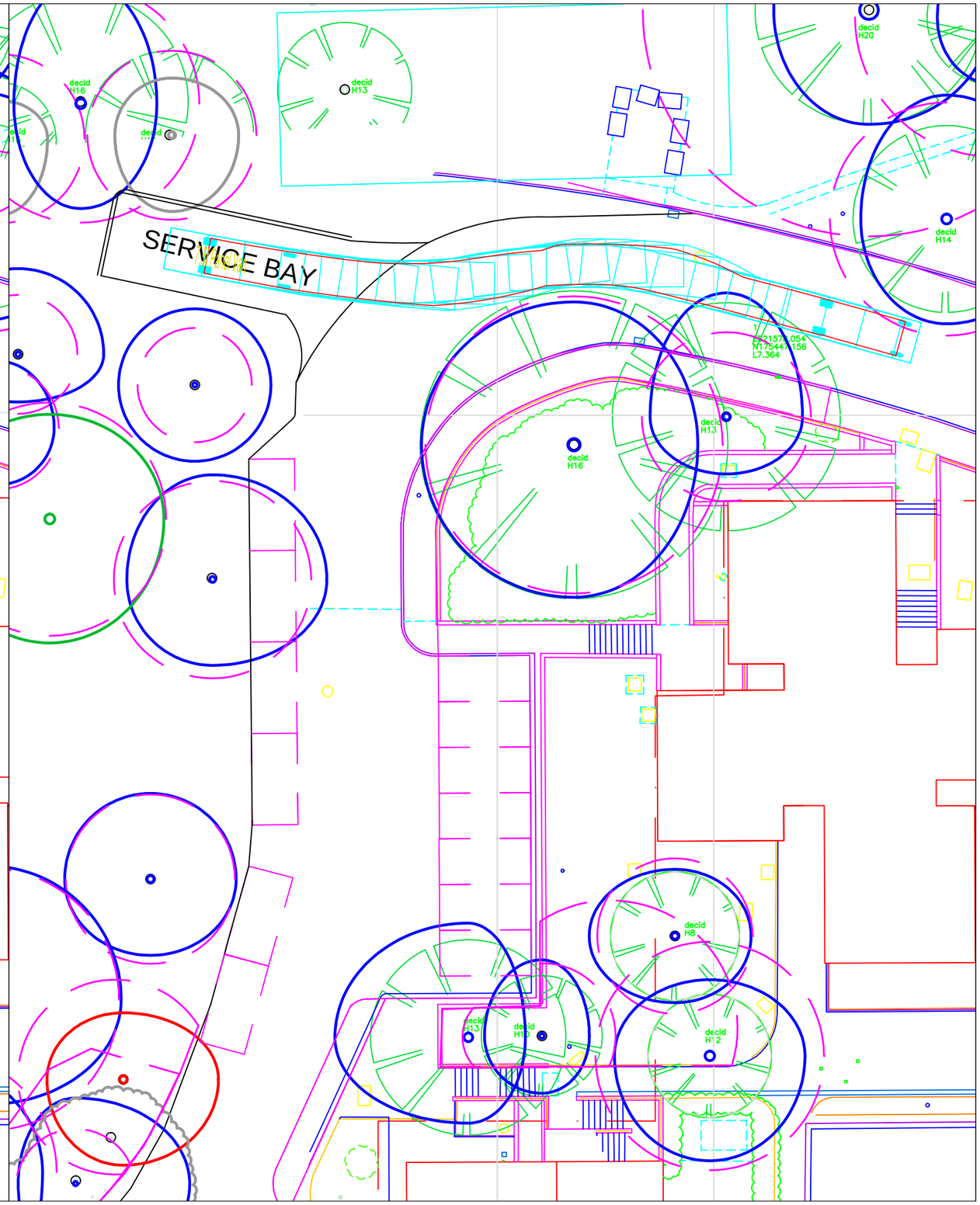
P2852: LENNOX ESTATE, ARABELLA DRIVE, ROEHAMPTON, SW15

Appendix I Figure SK5.

Draft Illustrative Proposed Highways Works - LFB Fire Tender Enter (L) & Exit (R) Emergency Access

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk





Date: 23-August-2023
Scale: 1:250@A3
Source: Various
Drawing No. P2852/I/SK6

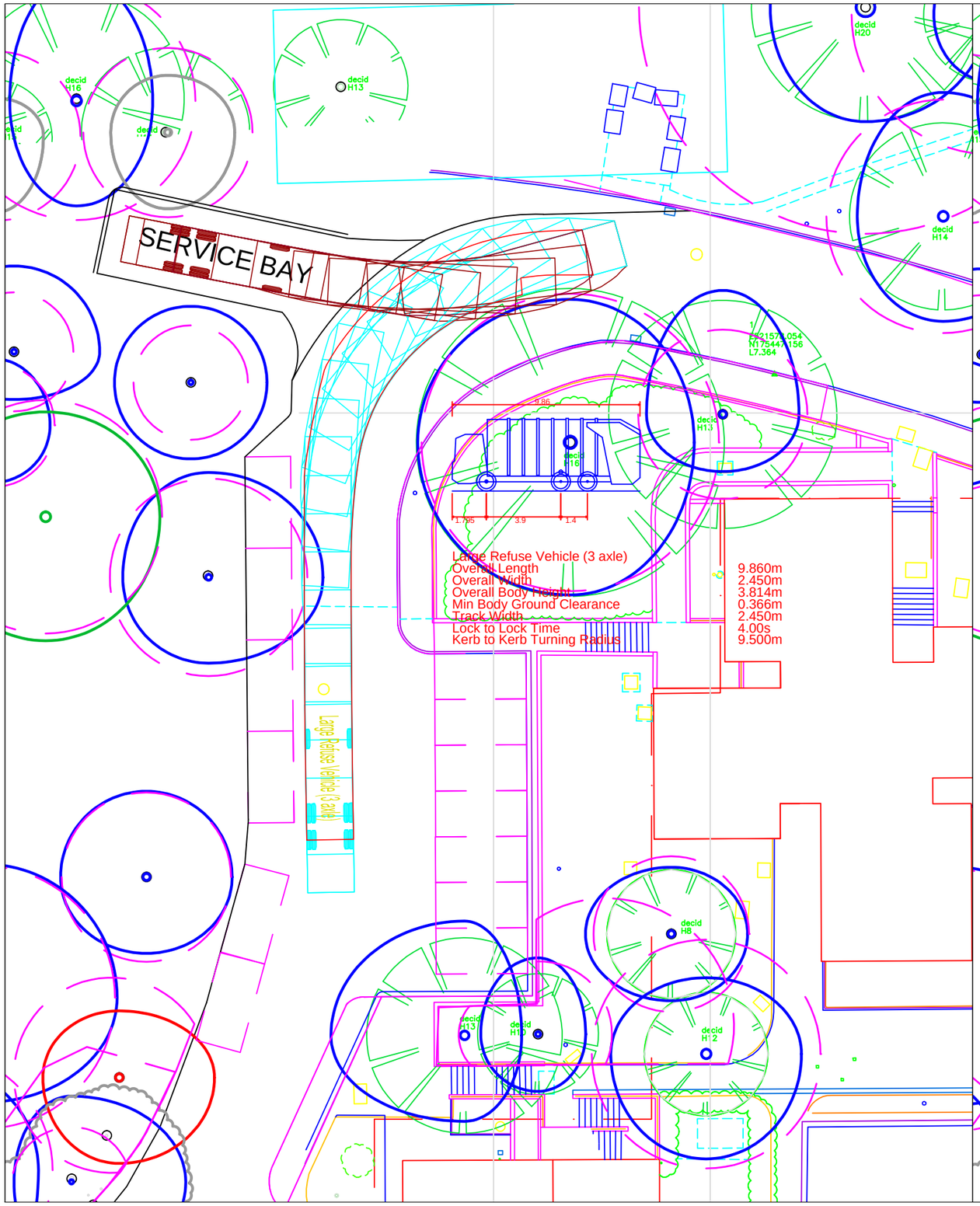
N

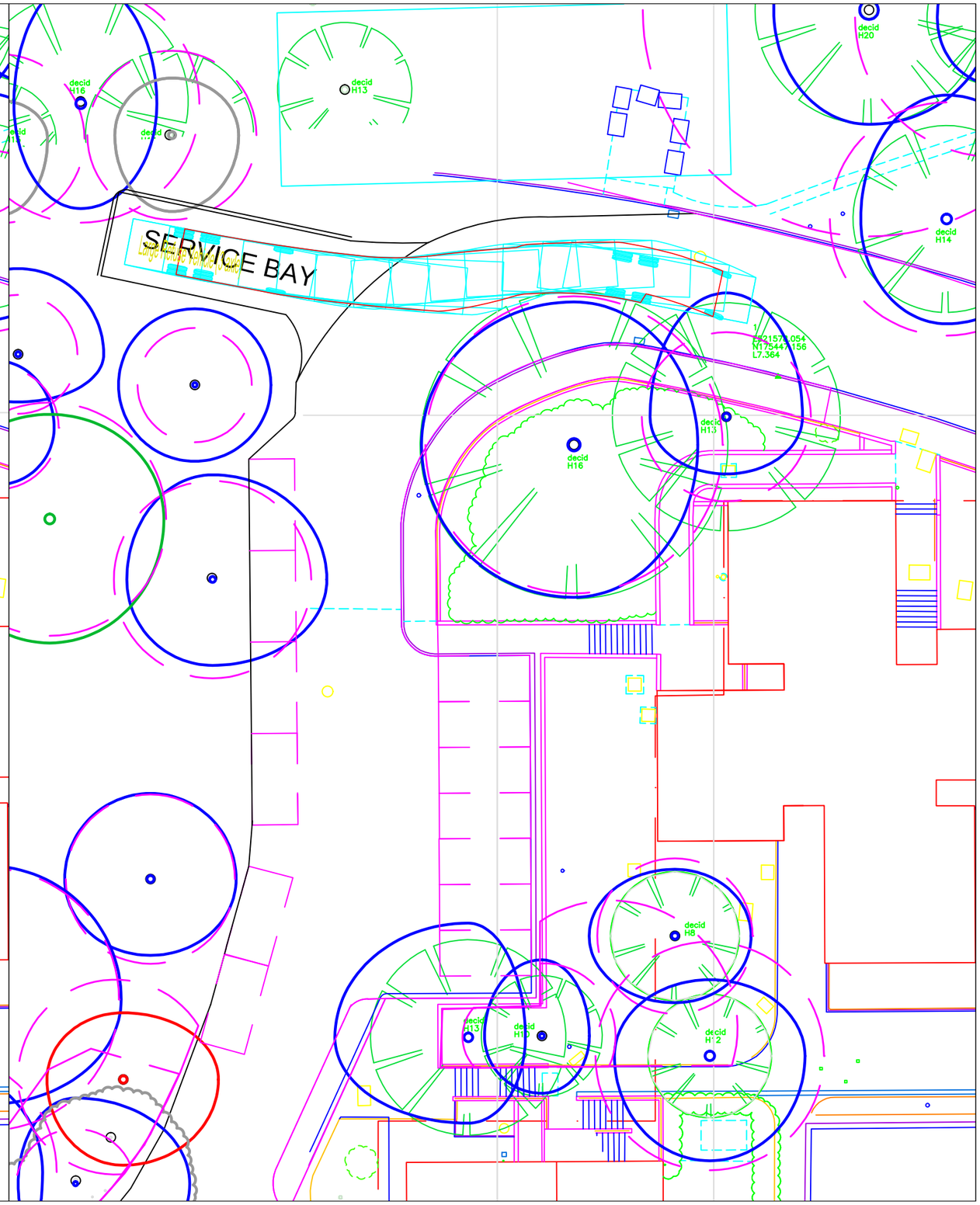
P2852: LENNOX ESTATE, ARABELLA DRIVE, ROEHAMPTON, SW15

Appendix I Figure SK6.

Draft Illustrative Proposed Highways Works - 7.5t LWB Courier Van Enter (L) & Exit (R) Service Bay East

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk





Date: 23-August-2023
Scale: 1:250@A3
Source: Various
Drawing No. P2852/I/SK7

N

P2852: LENNOX ESTATE, ARABELLA DRIVE, ROEHAMPTON, SW15

Appendix I Figure SK7.

Draft Illustrative Proposed Highways Works - Large Refuse Vehicle Enter (L) & Exit (R) Service Bay East

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk