



**RESIDENTIAL DEVELOPMENT  
HAREFIELD GROVE, HAREFIELD**

**TRANSPORT STATEMENT**

**APRIL 2022**



**the journey is the reward**

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|                      |                      |
|----------------------|----------------------|
| <b>Project Code:</b> | <b>CHHarefield.1</b> |
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| <b>Issue Date:</b>   | <b>April 2022</b>    |
| <b>Status:</b>       | <b>FINAL</b>         |

**Residential Development  
Harefield Grove, Harefield  
Transport Statement**

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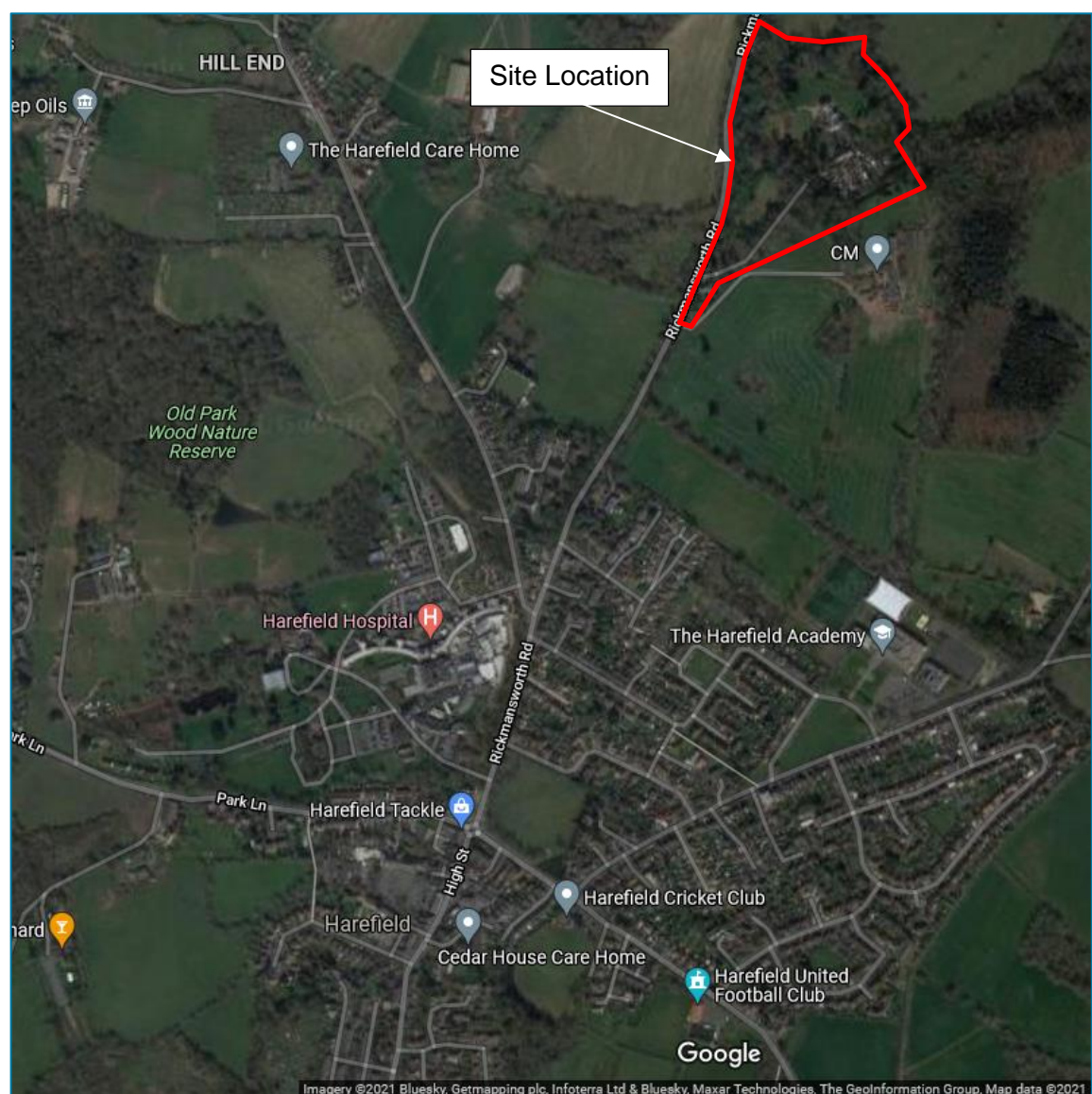
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# 1 Introduction

- 1.1 Mayer Brown has been appointed by Comer Homes Group to prepare this report in support of a planning application for the development of a parcel of land on the outskirts of the village of Harefield in the London Borough of Hillingdon (LBH), known as 'Harefield Grove', to provide 39 residential units.
- 1.2 The vacant site is accessed from Rickmansworth Road, circa 865m north of the centre of Harefield. The site and its red line boundary are indicated in the location plan in Figure 1.1 below:



**Figure 1.1: Site Location**

- 1.3 The site features a historic mansion in extensive grounds. The mansion also now features an extension and both the mansion, this extension, and the stables have been used as offices since 1982. The site has also been used since 2003 for film and television recordings.
- 1.4 The site received planning consent for the establishment of 24 residential units on the site in 2016 (ref. 28301/APP/2013/3104). The majority of these consented dwellings would be conversions of the existing historic buildings on the site, with a limited few being newly built units.
- 1.5 Two of the consented dwellings have since been constructed. These are known as the Former Lodge houses and are located close to the site access with Rickmansworth Road.
- 1.6 The proposals constitute the construction of an additional 39 dwellings – resulting in an increase of just 17 dwellings compared the consented number of dwellings within the site. These new dwellings would be supported by ancillary parking bays and landscaping.
- 1.7 This assessment has been set out in the format of a Transport Statement providing:
- the transport policy background associated with this planning application
  - a detailed sustainability and accessibility assessment of the site
  - a detailed examination of the development proposals
  - an assessment of the net highways and transportation impacts of the proposed scheme
- 1.8 The remainder of this report consists of the following sections:
- Policy Background
  - Site Location & Existing Conditions
  - Accessibility
  - Development Proposals
  - Traffic Impact
  - Summary and Conclusions
- 1.9 This report concludes that the proposed development:
- adheres to local and national planning policies
  - is located within walking/cycling distance of key services in the area
  - will provide suitable access, parking and servicing arrangements
  - will have no material impact on the existing operation of the local highway network
- 1.10 It is therefore concluded that there are no reasons why the proposed development should not be permitted on highways or transportation grounds.

## 2 Policy Background

### National Planning Policy Framework

- 2.1 National Planning Policy Framework (NPPF) July 2021 sets out the overarching themes and national objectives that local policy should be tailored towards.
- 2.2 In transport terms, its focus lies in encouraging modal shift towards sustainable transport modes and reducing emissions and congestion.
- 2.3 Paragraph 110 of the NPPF, located within the section ‘Promoting Sustainable Transport – Considering Development Proposals’, states:
- 2.4 *“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;*
  - c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code 46; and*
  - d) 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.”*
- 2.5 The development is provided with sufficient and appropriate opportunity to promote sustainable transport modes given its location through the promotion of a Travel Plan on the site. The access arrangements at the site are not altered from the existing consented access, which does not have any evident safety concerns, and the internal design is of a high quality and meets the requirements of the National Design Guide. The highways traffic impact is expected to be minimal, as explored in the ‘Traffic Impact’ section of this report.
- 2.6 Paragraph 111 of the NPPF states:
- “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.”*

2.7 It is demonstrated later in this report that the proposals do not constitute a highway safety concern, and that the traffic associated with the development is not expected to have a significant impact on the local network.

2.8 Paragraph 112 of the NPPF states:

*“Within this context, applications for development should:*

*a) give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;*

*b) address the needs of people with disabilities and reduced mobility in relation to all modes of transport;*

*c) create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;*

*d) allow for the efficient delivery of goods, and access by service and emergency vehicles; and*

*e) be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.”*

2.9 The development is compliant with all points of the above paragraph, as:

- Pedestrian and cycle movements are facilitated within the scheme. Access to immediate public transport is limited by the local circumstances, however the site is within a short drive of high-quality rail infrastructure, and the traffic impact of the proposals is highly limited
- The internal site design will accommodate the needs of people with disability and reduced mobility
- The development includes high-quality landscaping and the creation of facilities for residents creating a secure and attractive environment
- Vehicle tracking provided later in this report demonstrates that the site layout can be easily navigated by servicing and delivery vehicles
- Electric vehicle charging will be provided throughout the development. Details of charging port locations are considered a detailed design issue and are not addressed further in this report



## London Plan 2021

- 2.10 The site is located in the London Borough of Hillingdon, within Greater London, and so the policy of the London Plan applies to development on the site. However the site must be considered in its local rural context, differing greatly from a typical urban London area - indeed, the site access is just 900m from the boundary of Greater London and has a PTAL rating of 0.

- 2.11 Policy T4 of the London Plan, 'Assessing and Mitigating Transport Impacts' from Chapter 10 Transport, sets out the following:

*"A Development Plans and development proposals should reflect and be integrated with current and planned transport access, capacity and connectivity.*

*B When required in accordance with national or local guidance, transport assessments/statements should be submitted with development proposals to ensure that impacts on the capacity of the transport network (including impacts on pedestrians and the cycle network), at the local, network-wide and strategic level, are fully assessed. Transport assessments should focus on embedding the Healthy Streets Approach within, and in the vicinity of, new development. Travel Plans, Parking Design and Management Plans, Construction Logistics Plans and Delivery and Servicing Plans will be required having regard to Transport for London guidance.*

*C Where appropriate, mitigation, either through direct provision of public transport, walking and cycling facilities and highways improvements or through financial contributions, will be required to address adverse transport impacts that are identified.*

*D Where the ability to absorb increased travel demand through active travel modes has been exhausted, existing public transport capacity is insufficient to allow for the travel generated by proposed developments, and no firm plans and funding exist for an increase in capacity to cater for the increased demand, planning permission will be contingent on the provision of necessary public transport and active travel infrastructure.*

*E The cumulative impacts of development on public transport and the road network capacity including walking and cycling, as well as associated effects on public health, should be taken into account and mitigated.*

*F Development proposals should not increase road danger."*

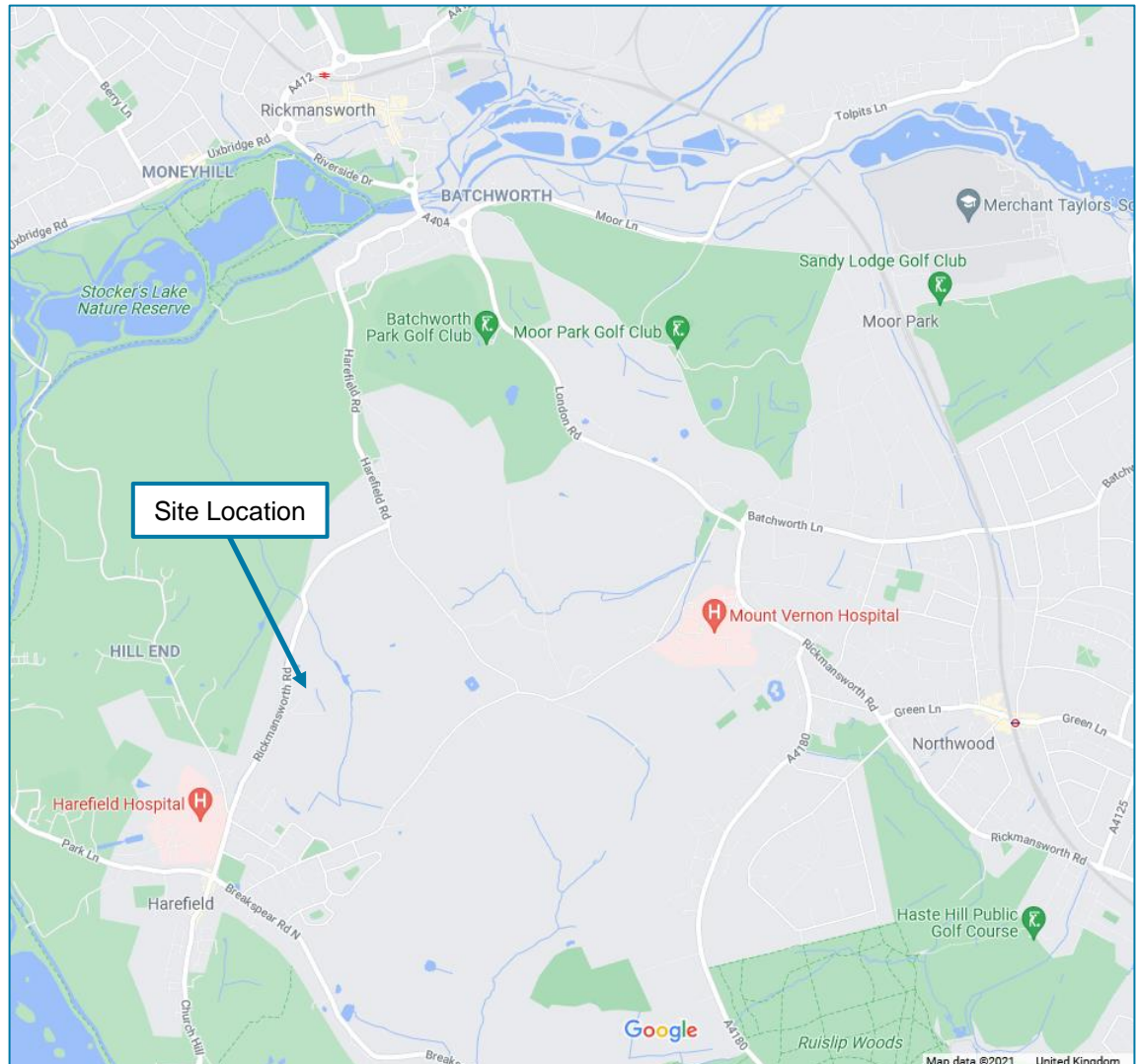
- 2.12 The proposals accord with Policy T4, as the development is integrated within the existing access strategy for the site and the proposals are supported by a robust Transport Statement and Travel Plan.



- 2.13 Transport mitigation measures and new infrastructure are not commensurate with the scale of this development, which would have a negligible transport impact, as demonstrated later in this report.
- 2.14 The proposals do not constitute an increase in road danger.

### 3 Site Location and Existing Conditions

3.1 The site location within the local highways context is indicated in Figure 3.1 below:



**Figure 3.1: The Site in Relation to Local Highway Network**

- 3.2 The site is located on Rickmansworth Road, a rural lane with a speed restriction of the national speed limit. According with its rural nature, the road does not feature footways or street lighting.
- 3.3 The site access is located 865m north of the centre of Harefield, and within a circa 8-minute drive of Rickmansworth rail and underground station, providing access to the London Underground Metropolitan Line, as well as Chiltern Railways train services.
- 3.4 To the south of the site is a metalwork fabricators firm. All other sides of the site are bounded by fields or woods.

### Site Access Arrangements

- 3.5 The site incorporates a circa 250m driveway, Lime Tree Drive, between Rickmansworth Road and the main mansion site. The junction between the drive and Rickmansworth Road provides access into the site.
- 3.6 The access junction is wide enough to accommodate emergency services and refuse vehicles, as demonstrated in drawing ATR-101 as part of the consented application on the site (discharging of traffic arrangements condition application reference 28301/APP/2018/2354), and on the tracking drawings provided in this report.
- 3.7 The Transport Assessment associated with the consented proposals on the site determined that the access visibility splays were in excess of the DMRB requirements for the road, based on ATC surveys which recorded 5-day mean 85<sup>th</sup> percentile speeds of 47.3mph northbound and 43.3mph southbound.
- 3.8 An additional ATC survey was conducted at the same location from the 20<sup>th</sup>-26<sup>th</sup> October 2021 and recorded 5-day mean 85<sup>th</sup> percentile speeds of 45.6mph northbound and 42.7mph southbound.
- 3.9 It is therefore evident that speeds have not changed on Rickmansworth Road, and it is therefore understood that the visibility splay calculations remain valid, and that the site access has sufficient visibility.
- 3.10 The achievable visibility splay from the site access to the right along Rickmansworth Road is 2.4m x 175m and 2.4m x 215m to the left. The DMRB states that vehicle speeds of 70kph require a stopping sight distance of 120m, and speeds of 85kph require a stopping sight distance of 160m. It is therefore evident that the achievable visibility splays are in excess of DMRB standards and are suitable for vehicle speeds along Rickmansworth Road.
- 3.11 The access has been resurfaced as part of the construction of the Former Lodge houses.
- 3.12 Rickmansworth Road is a rural road with a national speed limit speed restriction. In keeping with its rural nature, no footways or street lighting are provided. The Officer Report for the consented application on the site sets out that:

*“TfL has requested that improvements be made to the highway to create a continuous walking route to the site for access to buses in Harefield Village. This would entail the construction of a footway some 300 m long connecting the site entrance to the termination of the footway adjacent to the junction of Rickmansworth Road and Hall Drive. However, it is noted that there appear to be drainage ditches along both sides of this stretch of Rickmansworth Road and a considerable amount of vegetation would be lost as a result of the construction of the footway, to the detriment of the visual amenity of the area.”*

3.13 NPPF acknowledges (in paragraph 105) that:

*“opportunities to maximise sustainable transport solutions will vary between urban and rural areas”*

3.14 In this instance it is clear that incorporating a new footway to Harefield would be out of step with the local character (in conflict with NPPF paragraph 112.c) and detrimental to the rural environment. This conclusion is reflected in the officer’s report for the consented development on the site.

#### **Accident Statistics**

3.15 Road traffic accident data recorded over the past 5 years on the local highway network in the vicinity of the site has been assessed by reference to the CrashMap website, which provides information about recorded injury collisions on the roads of Great Britain. CrashMap only uses official data from incidents reported to the police, so the results are the most reliable available.

3.16 As illustrated on Figure 3.2 below, this shows that there have been no recorded incidents on Rickmansworth Road in the vicinity of the site in the past five years. This indicates that the site access currently operates sufficiently safely.

3.17 There have been a number of incidents in the centre of Harefield over the 5-year period assessed, however this is to be expected of a well-trafficked area in the middle of the local urban centre.



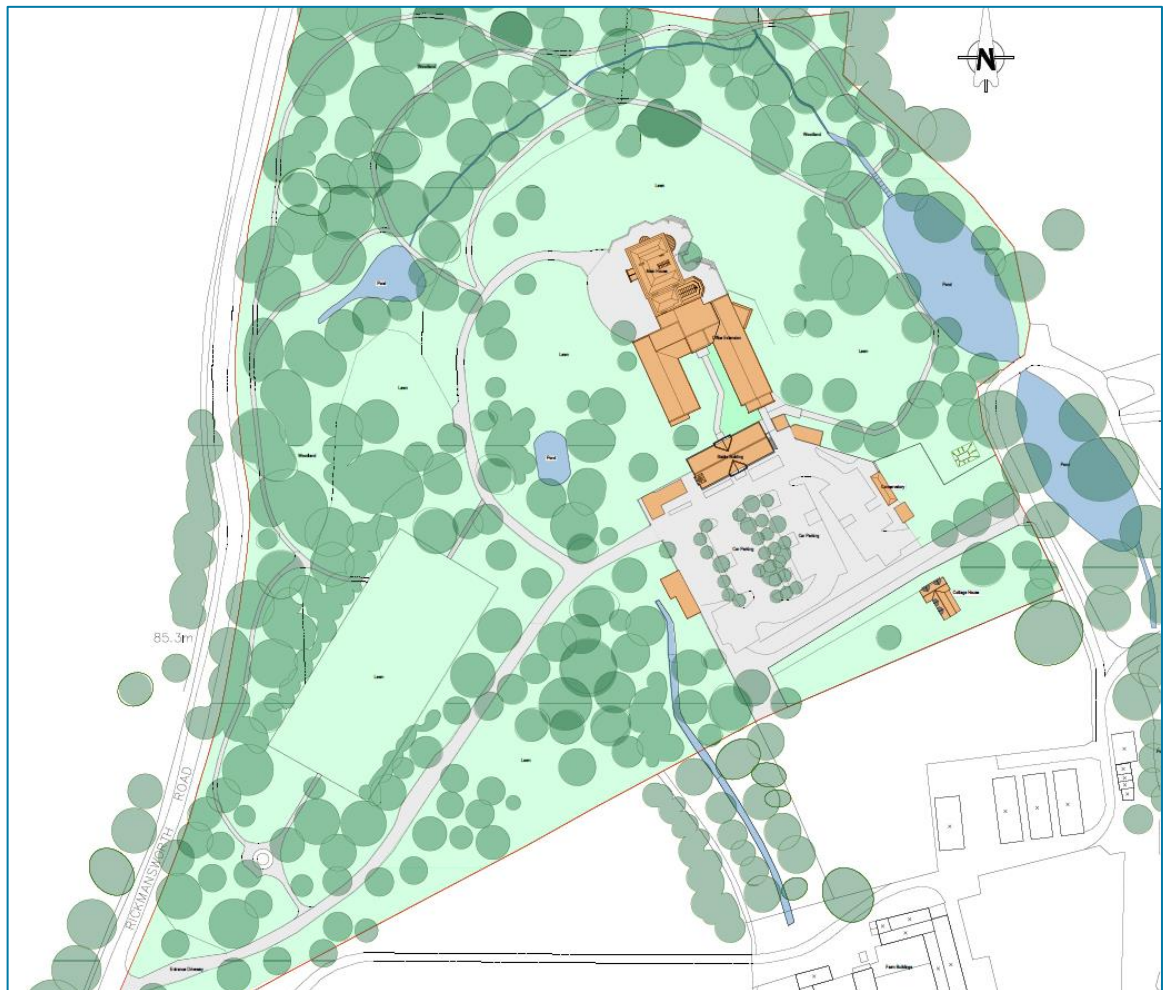
**Figure 3.2: Accident Map**

- 3.18 Given the limited projected traffic attraction of the development (set out later in this note), it is not considered that this minimal increase will have a significant impact on the operation or safety of the site access junction or the local highway network.

## 4 Accessibility

### Pedestrians & Cycles

- 4.1 Good pedestrian access is provided within the site's grounds by way of an extensive footpath network, as indicated in the existing site plan in Figure 4.1 below:

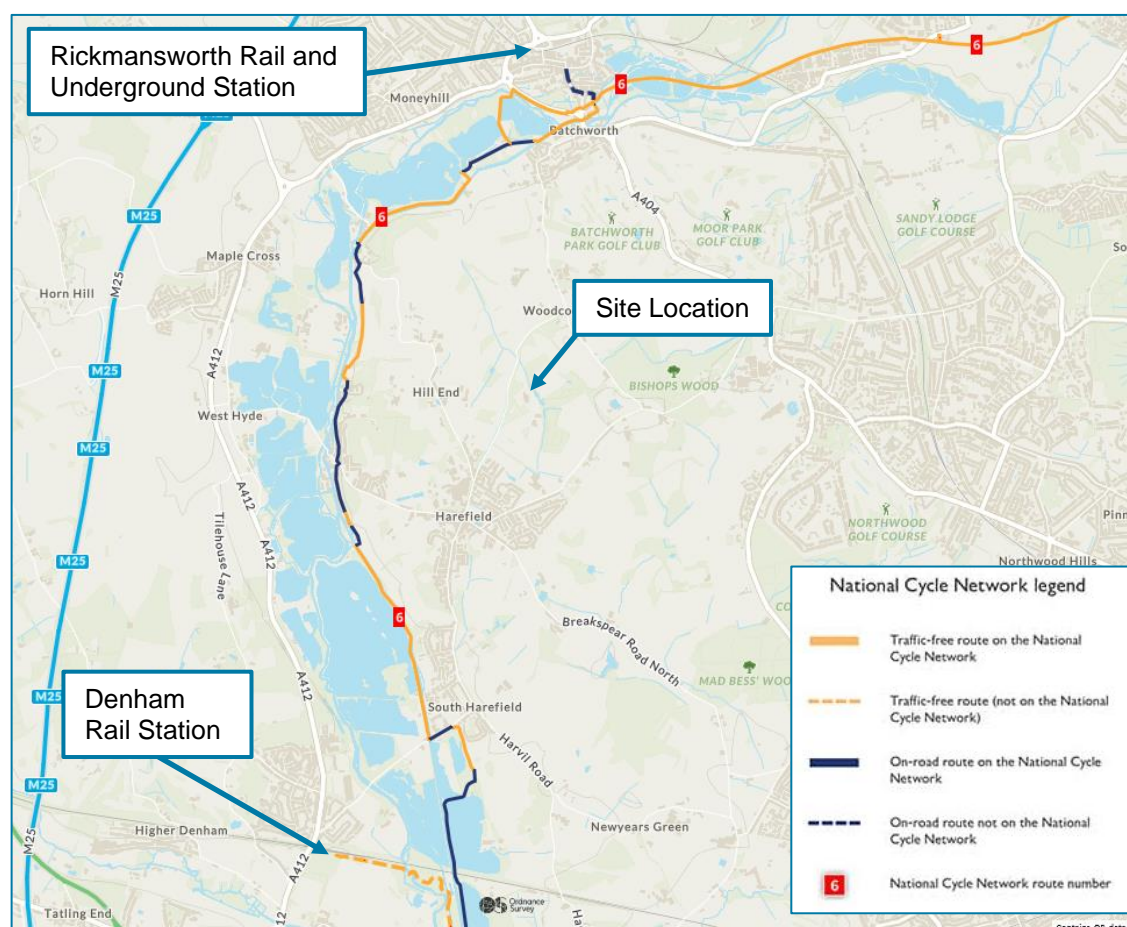


**Figure 4.1: Existing Site Plan**

- 4.2 These footways provide attractive routes around the site grounds, which are of a high rural aesthetic quality.
- 4.3 Whilst not established public rights of way, Pearsons Wood to the east of the site has a number of paths through it, ideal for recreational ambling.
- 4.4 While no formalised pedestrian facilities are provided, the distance between the site access junction and the point where footways start in Harefield is just 430m (or a circa 5-minute walk).



- 4.5 Cycling poses an attractive method of transport from the site, as the local centre of Harefield is located just 865m from the site access, or a circa 3-minute cycle (assuming an average cycle speed of 260m/min).
- 4.6 Rickmansworth Station to the north and Denham Station to the south are also both accessible within a circa 17-minute cycle. Access to the stations by cycle is aided by the National Cycle Network route 6, which is located in the local area, as indicated in the extract from the Sustrans map in Figure 4.2 below:



**Figure 4.2: Sustrans National Cycle Network Map**

- 4.7 Harefield village itself is residential and easily walkable, encouraging active travel trips within the village.
- 4.8 The following table presents a list of accessible facilities and their distance in relation to the site access. Typical walking and cycling times to the sites are also provided. From these times, it can be seen that many key facilities are accessible from the site:



| Location  | Distance      | Walk time (80m/min) | Cycle time (260m/min) |
|---|---------------|---------------------|-----------------------|
| Harefield Baptist Church  | 515m          | 6.4 mins            | 2 mins                |
| Harefield Hospital  | 640m          | 8 mins              | 2.5 mins              |
| New Park Road Bus Stops   | 700m          | 8.8 mins            | 2.7 mins              |
| Harefield Village Green   | 770m          | 9.6 mins            | 3 mins                |
| Co-op Convenience Store   | 885m          | 11.1 mins           | 3.4 mins              |
| The Kings Arms Pub  | 890m          | 11.1 mins           | 3.4 mins              |
| Harefield Village Centre (including cafes, takeaways, off license, fishing shop, opticians, etc.) | 895m – 1,100m | 11.2 - 13.8 mins    | 3.4 - 4.2 mins        |
| Harefield Pharmacy  | 935m          | 11.7 mins           | 3.6 mins              |
| Malthouse Pharmacy  | 945m          | 11.8 mins           | 3.6 mins              |
| Harefield Day Nursery   | 970m          | 12.1 mins           | 3.7 mins              |
| Harefield Library   | 1,000m        | 12.5 mins           | 3.8 mins              |
| Harefield Post Office   | 1,040m        | 13 mins             | 4 mins                |
| Harefield Junior School   | 1,050m        | 13.1 mins           | 4 mins                |
| Harefield Infant School and Children's Centre   | 1,180m        | 14.8 mins           | 4.5 mins              |
| The Rose and Crown Pub  | 1,200m        | 15 mins             | 4.6 mins              |
| Rose & Crown PH Bus Stops   | 1,200m        | 15 mins             | 4.6 mins              |

**Table 4.1: Accessible Facilities**

- 4.9 It can be seen that the site's proximity to Harefield provides it with numerous facilities within cycling distance.

#### Bus Accessibility

- 4.10 The New Park Road bus stops on Rickmansworth Road are the closest bus stops to the site, 700m south of the site access, and provide access to the R1, R2 and U9 bus services. The 331 is also accessible from bus stops adjacent to The Green in the centre of Harefield.
- 4.11 Table 4.2 below provides details on these bus services:

| Bus | Route  | Weekday Peak Frequency   |    | Weekend Peak Frequency |     |
|-----|--|--|----|------------------------|-----|
|     |  | AM   | PM | Sat                    | Sun |
| R1  | Northwood Mount Vernon Hospital - Harefield The Green - Harefield Hospital - The Grove, Tesco - Rickmansworth High Street - Rickmansworth Railway Station - Berry Lane Estate, The Queens Drive - Rickmansworth, Hall Close - Maple Cross, The Cross - Maple Cross, Downings Wood Terminus | 1 service per day<br>Mon, Weds and Thurs only<br><br>Serves New Park Road stops at 13:42 northbound only |    | -                      | -   |
| R2  | Northwood Mount Vernon Hospital - Harefield The Green - Harefield Hospital - The Grove, Tesco - Rickmansworth High Street - Rickmansworth Railway  | 2 services per day (per direction)<br><br>Serves New Park Road stops at 09:43 and 11:43 northbound       |    | -                      | -   |

|     |  |   |            |            |            |
|-----|--|---|------------|------------|------------|
|     | Station - Berry Lane Estate The Queens Drive - Rickmansworth, Hall Close - Maple Cross, The Cross - Maple Cross Downings Wood Terminus - Maple Cross, Tichborne - Maple Cross, The Cross - Heronsgate, Stockport Road - The Swillett, The Stag - Chorleywood Furze View - Chorleywood, Haddon Road | Serves New Park Road stops at 10:51* and 13:01 southbound<br><br><i>*except on Tues and Fri</i> |            |            |            |
| U9  | Uxbridge Station - Uxbridge Colnedale Road - Harefield Harvil Road - Harefield Dovedale Close - Harefield West / Belfry Avenue - Harefield Hospital  | 3 per hour  | 3 per hour | 3 per hour | 1 per hour |
| 331 | Uxbridge Station - New Denham, Oakside - Denham, Southlands Road - Denham, Station Parade - Harefield, Truesdale Drive - The Green, Harefield - Northwood Mount Vernon Hospital - Northwood Station – Northwood, Jackets Lane - Ruislip Common, Leaholme Way - Ruislip Station                     | 3 per hour  | 3 per hour | 3 per hour | 2 per hour |

**Table 4.2: Accessible Bus Services**

- 4.12 The R1 and R2 buses are operated by Red Eagle, whilst the U9 is a TfL service operated by Abellio, and the 331 is a TfL service operated by Metroline Travel. While the R1 and R2 services provide access to Rickmansworth, the U9 and 331 provide direct frequent access to Uxbridge, from where travellers can change for the London Underground Piccadilly and Metropolitan lines.
- 4.13 Bus timetables will be provided to residents through travel packs as part of the measures outlined in the accompanying Travel Plan.

### Rail Accessibility

- 4.14 Rickmansworth is the closest rail station to access from the site, a circa 8-minute drive away. Denham Rail Station is also within driving and cycling distance, and Uxbridge London Underground station can be reached via the U9 and 331 bus services.
- 4.15 Rickmansworth Rail Station is served by Chiltern Railways (London to Aylesbury Line) and the London Underground Metropolitan line, Denham Rail Station by Chiltern Railways (Chiltern Main Line), and Uxbridge London Underground station by the London Underground Piccadilly and Metropolitan lines.
- 4.16 Figure 4.1 below provides an extract from National Rail's full network map indicating the rail routes in the region:



**Figure 4.1: National Rail Network Map**

- 4.17 Both Chiltern Railways branches accessible from the site provide access to London via Marylebone Station, whilst both branches of the London Underground Metropolitan Line serve nearby Baker Street Underground Station.
- 4.18 Table 4.3 below sets out the frequency of rail services available from the stations near the site:

| Station       | Route   | Weekday Frequency | Saturday Frequency | Sunday Frequency |
|---------------|---|-------------------|--------------------|------------------|
| Rickmansworth | <i>Chiltern Railways</i><br>Aylesbury Vale Parkway* -<br>Aylesbury - Stoke Mandeville -<br>Wendover - Great Missenden -<br>Amersham - Chalfont & Latimer<br>- Chorleywood -<br><b>Rickmansworth</b> - Harrow-on-the-Hill – London Marylebone                                | 2 per hour        | 2 per hour         | 2 per hour       |
|               | <i>London Underground Metropolitan Line</i><br>Amersham / Chesham -Chalfont & Latimer - Chorleywood -<br><b>Rickmansworth</b> - Moor Park –<br>Northwood** - Northwood Hills**<br>- Pinner** - North Harrow** -<br>Harrow-on-the-Hill - Northwick Park** - Preston Road** - | 4 per hour        | 4 per hour         | 4 per hour       |

|  |   |            |               |               |
|--|---|------------|---------------|---------------|
|  | Wembley Park** - Willesden Green** - Finchley Road - Baker Street - Great Portland Street - Euston Square - King's Cross St. Pancras - Farringdon - Barbican - Moorgate - Liverpool Street - Aldgate  |            |               |               |
| Denham   | <i>Chiltern Railways</i><br>Gerrards Cross - <b>Denham</b> Golf Club – Denham - West Ruislip - Northolt Park - Sudbury Hill Harrow - Wembley Stadium - London Marylebone  | 1 per hour | 2 per hour*** | 2 per hour*** |
| Uxbridge   | <i>London Underground Metropolitan Line</i><br><b>Uxbridge</b> – Hillingdon – Ickenham – Ruislip – Ruislip Manor – Eastcote – Rayners Lane – West Harrow - Harrow-on-the-Hill - Northwick Park** - Preston Road** - Wembley Park - Willesden Green - Finchley Road - Baker Street - Great Portland Street - Euston Square - King's Cross St. Pancras - Farringdon - Barbican - Moorgate - Liverpool Street - Aldgate  | 8 per hour | 8 per hour    | 8 per hour    |
|  | <i>London Underground Piccadilly Line</i><br><b>Uxbridge</b> - Hillingdon - Ickenham - Ruislip - Ruislip Manor - Eastcote - Rayners Lane - South Harrow - Sudbury Hill - Sudbury Town - Alperton - Park Royal - North Ealing - Ealing Common - Acton Town - Turnham Green - Hammersmith - Barons Court - Earl's Court - Gloucester Road - South Kensington - Knightsbridge - Hyde Park Corner - Green Park - Piccadilly Circus - Leicester Square - Covent Garden - Holborn - Russell Square - King's Cross St. Pancras - Caledonian Road - Holloway Road - Arsenal - Finsbury Park - Manor House - Turnpike Lane - Wood Green - Bounds Green - Arnos Grove - Southgate - Oakwood - Cockfosters | 3 per hour | 3 per hour    | 3 per hour    |
| <p><i>*this station served by circa 50% of services on this route on weekdays</i><br/> <i>**this station not served by fast/semi-fast services during peak hours</i><br/> <i>***1 per hour is a fast service from Oxford, serving only Wembley Stadium and London Marylebone</i></p> |   |            |               |               |

**Table 4.3: Accessible Rail Services**

### Accessibility Summary

- 4.19 Local facilities and amenities are located within Harefield, a short distance from the site. The residential character of Harefield is conducive to encouraging trips by active travel modes once in the village.
- 4.20 Bus services accessible from Harefield provide access across the wider area, especially towards Uxbridge where connections can be made to London Underground services.
- 4.21 The site is well-located for access to a number of rail stations, providing frequent services across North West London and into Central London via the London Underground services.

## 5 Development Proposals

- 5.1 The existing mansion house building is to be restored and subdivided into six apartments (1x one-bedroom, 3x two-bedroom and 2x three-bedroom), and the existing office and stable blocks are to be demolished and replaced with a new courtyard stable block.
- 5.2 The proposed stable block will provide a total of 29 apartments (10x one-bedroom, 12x two-bedroom and 7x three-bedroom).
- 5.3 The existing 3-bedroom Cottage House on the site will be restored, and three new detached houses will be constructed within the grounds; Garden House (3-bedroom), Orchard House (4-bedroom) and Lake View House (3-bedroom).
- 5.4 Therefore, in total, the proposed development will provide 39 dwellings comprising 11x one-bedroom units, 15x two-bedroom units, 12x three-bedroom units and a four-bedroom unit. A plan of the proposed development is provided in Figure 5.1 below:



**Figure 5.1: Proposed Development**



### Vehicle and Pedestrian Access

- 5.5 The existing site access off Rickmansworth Road will be retained. As set out in Section 3, the existing site access operates safely and provides suitable visibility splays.
- 5.6 A shared surface driveway will connect the site access to the proposed dwellings and internal footways.
- 5.7 The track plot drawings provided at Appendix A of this report demonstrate that the site access and proposed internal access arrangements can be safely used by refuse vehicles and emergency vehicles. The drawings also demonstrate that refuse and emergency vehicles can circulate within the site to allow them to exit the site in a forward gear.
- 5.8 Refuse vehicles will be able to get within an easy carry distance of all the proposed refuse stores and dwelling houses.

### Parking Provision

- 5.9 A total of 60 car parking spaces will be provided within the site.
- 5.10 The site is located in a PTAL 1 area, for which the 2021 London Plan states a maximum car parking standard of 1.5 spaces per dwelling for residential developments in Outer London PTAL 1 areas. This standard therefore indicates a parking provision of 59 car parking spaces at the development.
- 5.11 The proposed provision of 60 car parking spaces closely reflects these London Plan car parking standards. This marginal increase over the standards is considered reasonable given the low PTAL rating of the site and its location in a rural area on the fringe of Outer London.
- 5.12 Three covered and secure cycle stores will provide parking space for 70 bicycles.
- 5.13 The 2021 London Plan states a minimum cycle parking standard of 1.5 spaces/1-bed unit and 2 spaces/all other units. For the proposed apartments, this standard therefore results in a minimum cycle parking provision of 65 cycle parking spaces and 2 visitor cycle spaces. Cycle parking will be provided within garden sheds at Cottage House, Garden House, Orchard House and Lake View House. It is therefore evident that the proposed cycle parking provision accords with the London Plan cycle parking standards.
- 5.14 Regarding electric vehicle charging, in accordance with 2021 London Plan guidance, 20% of the proposed car parking spaces will have access to active EV charging provision, and all other car spaces be provided with passive provision.



## 6 Traffic Impact

### Consented Traffic Attraction

- 6.1 The Transport Assessment submitted with the consented application for 24 dwellings on the site (based on the now discontinued TRAVL database) predicted the following peak hour traffic movements at the site:

| Consented Development | 24 Dwellings |      |      |
|-----------------------|--------------|------|------|
|                       | Arr.         | Dep. | Tot. |
| AM (0800-0900)        | 3            | 17   | 20   |
| PM (1700-1800)        | 12           | 9    | 21   |

**Table 6.1: TRICS Assessment Results – Consented Traffic Attraction**

### Proposed Traffic Attraction

- 6.2 The weekday peak hour traffic attraction impact of the proposed 39 dwelling development (plus the two consented dwellings that have already been constructed) has been assessed by reference to the most up to date TRICS database, which contains the results of numerous traffic surveys of different land uses throughout the UK and is a well-established and recognised method of establishing a development's trip rate values.
- 6.3 The TRICS database selection used has been based on the robust 'Residential – Houses Privately Owned' category of the TRICS database.
- 6.4 The full outputs of the TRICS assessment are included as Appendix B, and the resulting proposed traffic attraction values have been summarised in the following table:
- 6.5 The projected peak hour movements of the development are laid out in a table below:

| Proposed Development | 41 Dwellings |      |      |
|----------------------|--------------|------|------|
|                      | Arr.         | Dep. | Tot. |
| AM (0800-0900)       | 7            | 13   | 20   |
| PM (1700-1800)       | 12           | 6    | 18   |

**Table 6.2: TRICS Assessment Results – Proposed Traffic Attraction**

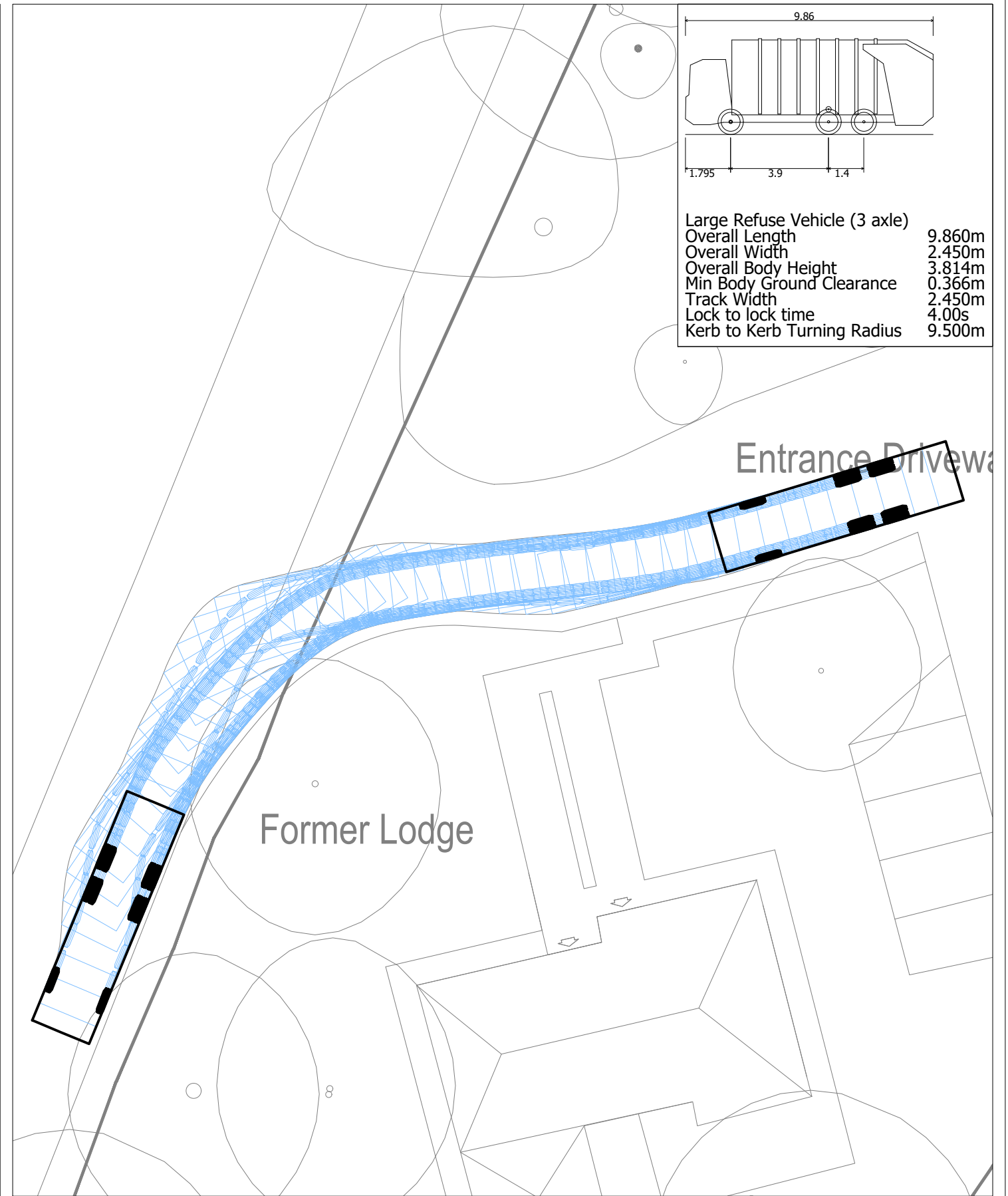
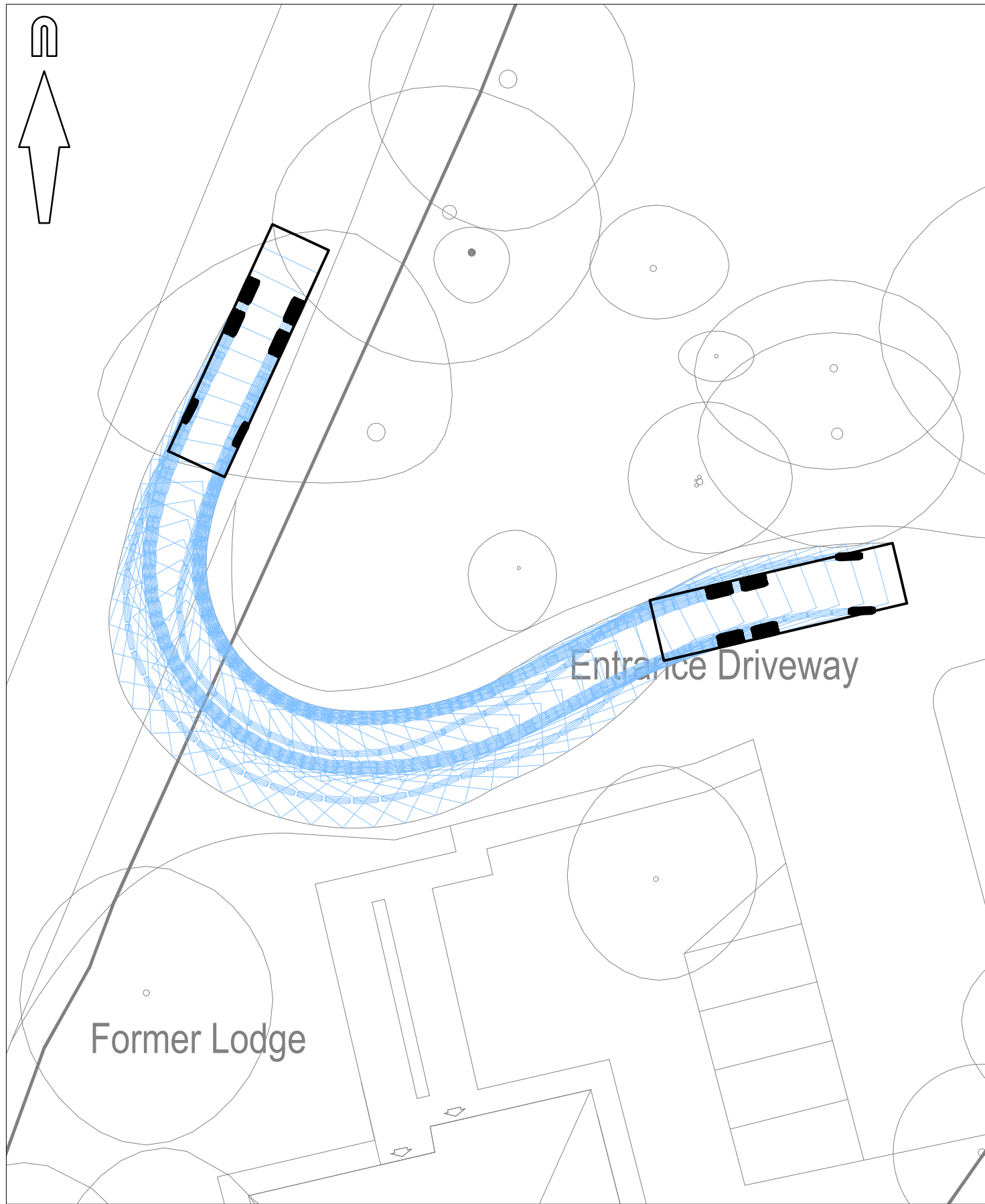
- 6.6 As set out in Table 6.1 above, it is evident that the proposed development is likely to generate similar levels of traffic movements during typical weekday peak periods as the previously consented residential development on the site.
- 6.7 This level of development traffic attraction equates to approximately one traffic movement to or from the site every three minutes during peak hour periods on the local highway network.

- 6.8 This is clearly a minimal impact and is within the 30 two-way peak hour vehicle trip threshold of the 2007 Department for Transport Guidance on Transport Assessment document (a vehicle trip is defined by the guidance as “a one-way journey by a single privately-operated vehicle” and thus 30 two-way trips equates to a total of 60 trips). This DfT guidance has officially been withdrawn but still acts as a useful indicator to determine the highways impact of a development.
- 6.9 Considering the above, it is concluded that the proposed development will not have any significant material impacts on the existing operation of the local highway network.

## 7 Summary and Conclusions

- 7.1 Mayer Brown has been appointed by Comer Homes Group to prepare this report in support of a planning application for the development of a parcel of land on the outskirts of the village of Harefield in the London Borough of Hillingdon (LBH), known as 'Harefield Grove', to provide 39 residential units.
- 7.2 This assessment has been set out in the format of a Transport Statement providing:
- the transport policy background associated with this planning application
  - a detailed sustainability and accessibility assessment of the site
  - a detailed examination of the development proposals
  - an assessment of the net highways and transportation impacts of the proposed scheme
- 7.3 This report concludes that the proposed development:
- adheres to local and national planning policies
  - is located within walking/cycling distance of key services in the area
  - will provide suitable access, parking and servicing arrangements
  - will have no material impact on the existing operation of the local highway network
- 7.4 It is therefore concluded that there are no reasons why the proposed development should not be permitted on highways or transportation grounds.

## **APPENDIX A: Vehicle Tracking Drawings**



|                               |        |
|-------------------------------|--------|
| 9.86                          |        |
|                               |        |
| 1.795 3.9 1.4                 |        |
| Large Refuse Vehicle (3 axle) |        |
| Overall Length                | 9.860m |
| Overall Width                 | 2.450m |
| Overall Body Height           | 3.814m |
| Min Body Ground Clearance     | 0.366m |
| Track Width                   | 2.450m |
| Lock to lock time             | 4.00s  |
| Kerb to Kerb Turning Radius   | 9.500m |

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client

COMER HOMES GROUP

project

HAREFIELD GROVE

title

SWEPT PATH ANALYSIS  
LARGE REFUSE VEHICLE  
ENTERING/EXITING ACCESS

scale

1:200 @ A3

drawn by

JB

checked by

JG

date

DECEMBER 2021

cad file

MBSK211209

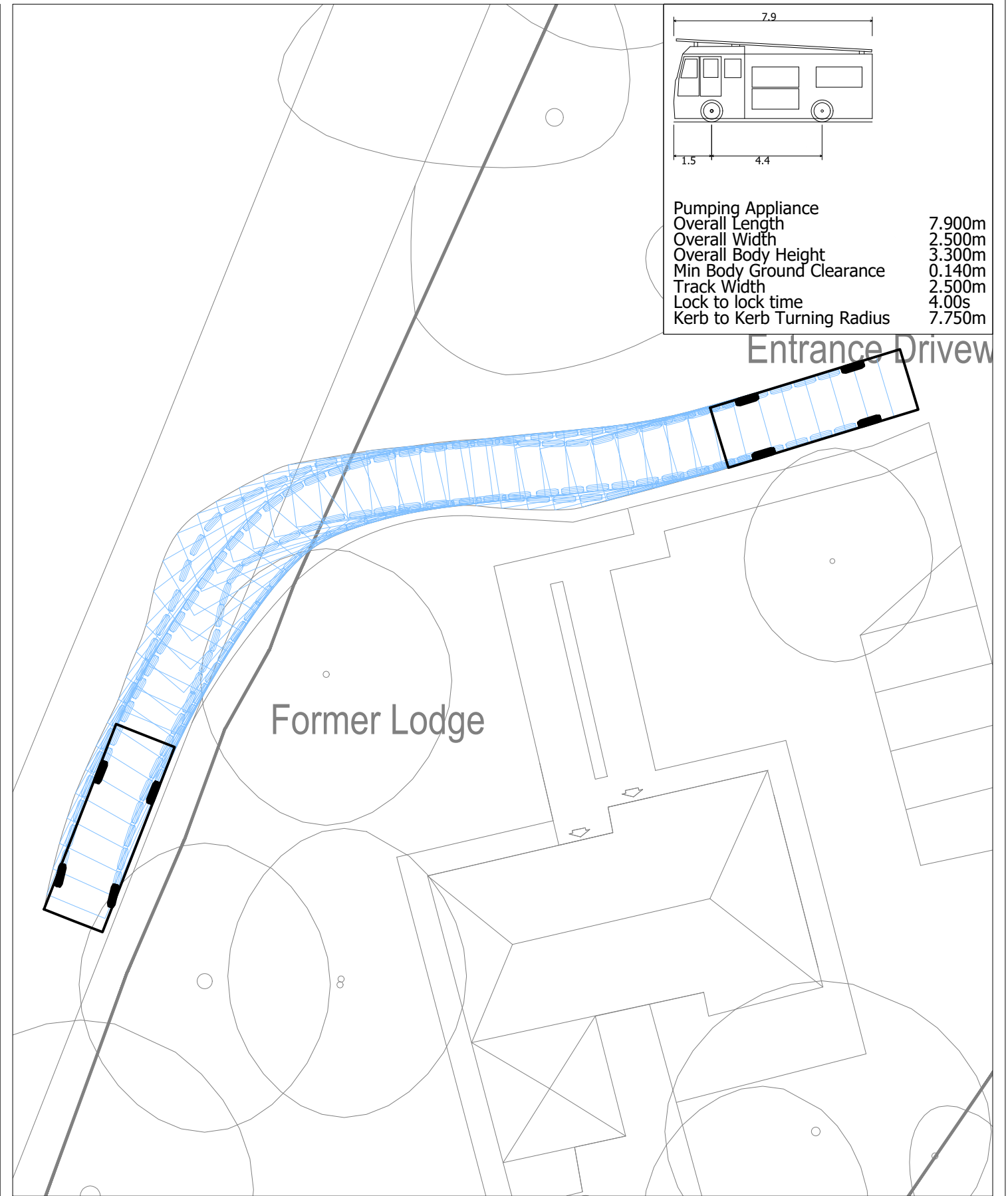
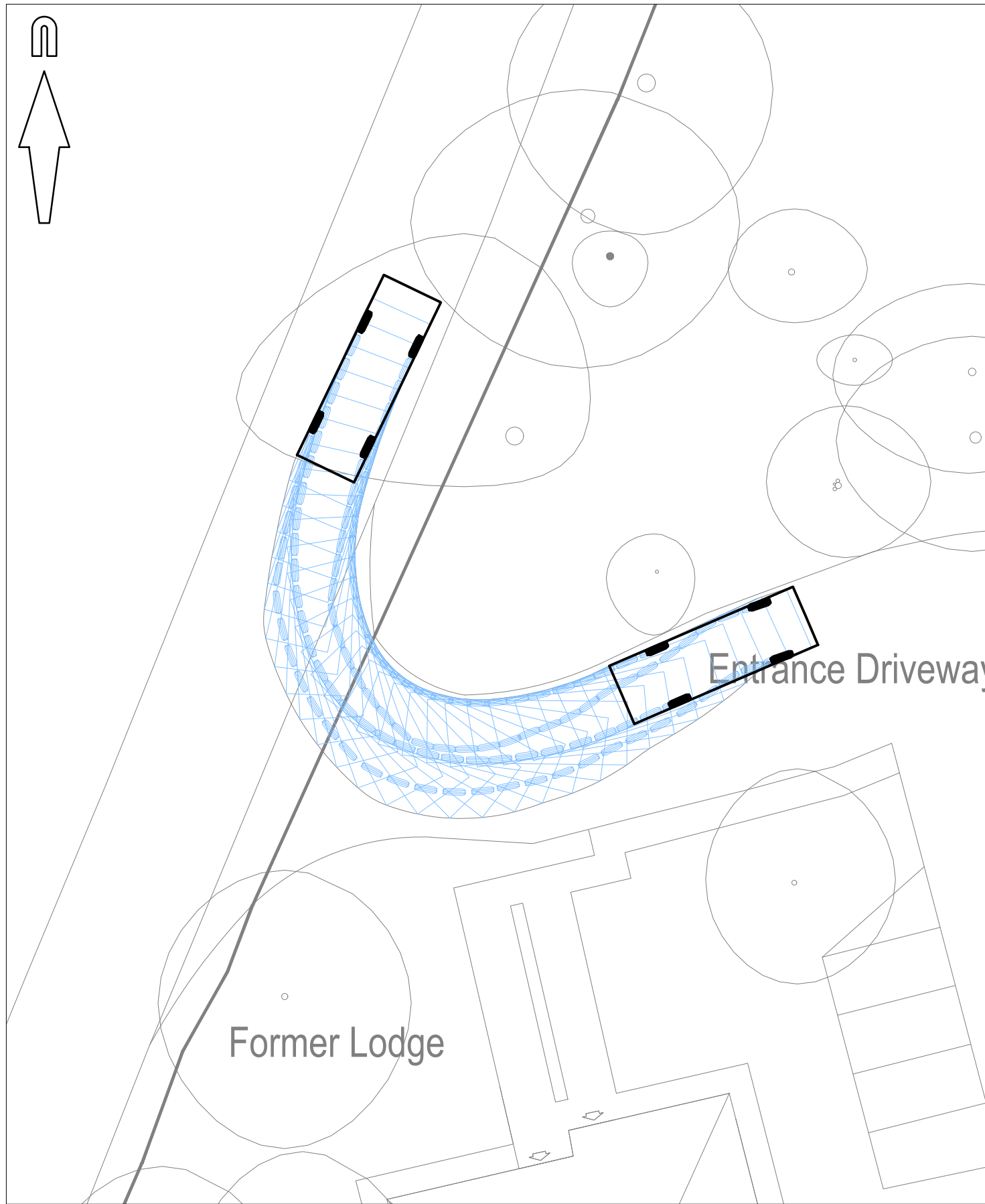
suitability

rev.

P1

drawing number

MBSK211209-01



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

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client

COMER HOMES GROUP

project

HAREFIELD GROVE

title

SWEPT PATH ANALYSIS  
SMALL FIRE ENGINE  
ENTERING/EXITING ACCESS

scale

1:200 @ A3

drawn by

JB

checked by

JG

date

DECEMBER 2021

cad file

MBSK211209

suitability

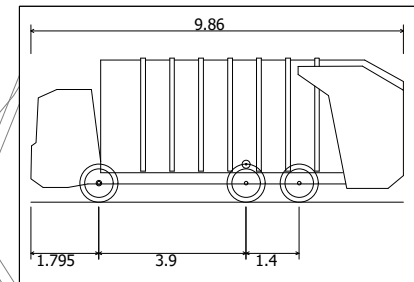
rev.

P1

drawing number

MBSK211209-02





|                               |        |
|-------------------------------|--------|
| Large Refuse Vehicle (3 axle) |        |
| Overall Length                | 9.860m |
| Overall Width                 | 2.450m |
| Overall Body Height           | 3.814m |
| Min Body Ground Clearance     | 0.366m |
| Track Width                   | 2.450m |
| Lock to lock time             | 4.00s  |
| Kerb to Kerb Turning Radius   | 9.500m |

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client

COMER HOMES GROUP

project

HAREFIELD GROVE

title

SWEPT PATH ANALYSIS  
LARGE REFUSE VEHICLE  
MANEUVERING CAR PARK

scale

1:250 @ A3

drawn by

JB

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JG

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DECEMBER 2021

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suitability

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P1

drawing number

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COMER HOMES GROUP

project

HAREFIELD GROVE

title

SWEPT PATH ANALYSIS  
SMALL FIRE ENGINE USING LOOP  
TO TURN AROUND

scale

1:500 @ A3

drawn by

JB

checked by

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date

DECEMBER 2021

cad file

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suitability

rev.

P1

drawing number

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client

COMER HOMES GROUP

project

HAREFIELD GROVE

title

SWEPT PATH ANALYSIS  
LARGE REFUSE VEHICLE  
USING LOOP TO TURN AROUND

scale

1:500 @ A3

drawn by

JB

checked by

JG

date

DECEMBER 2021

cad file

MBSK211209

suitability

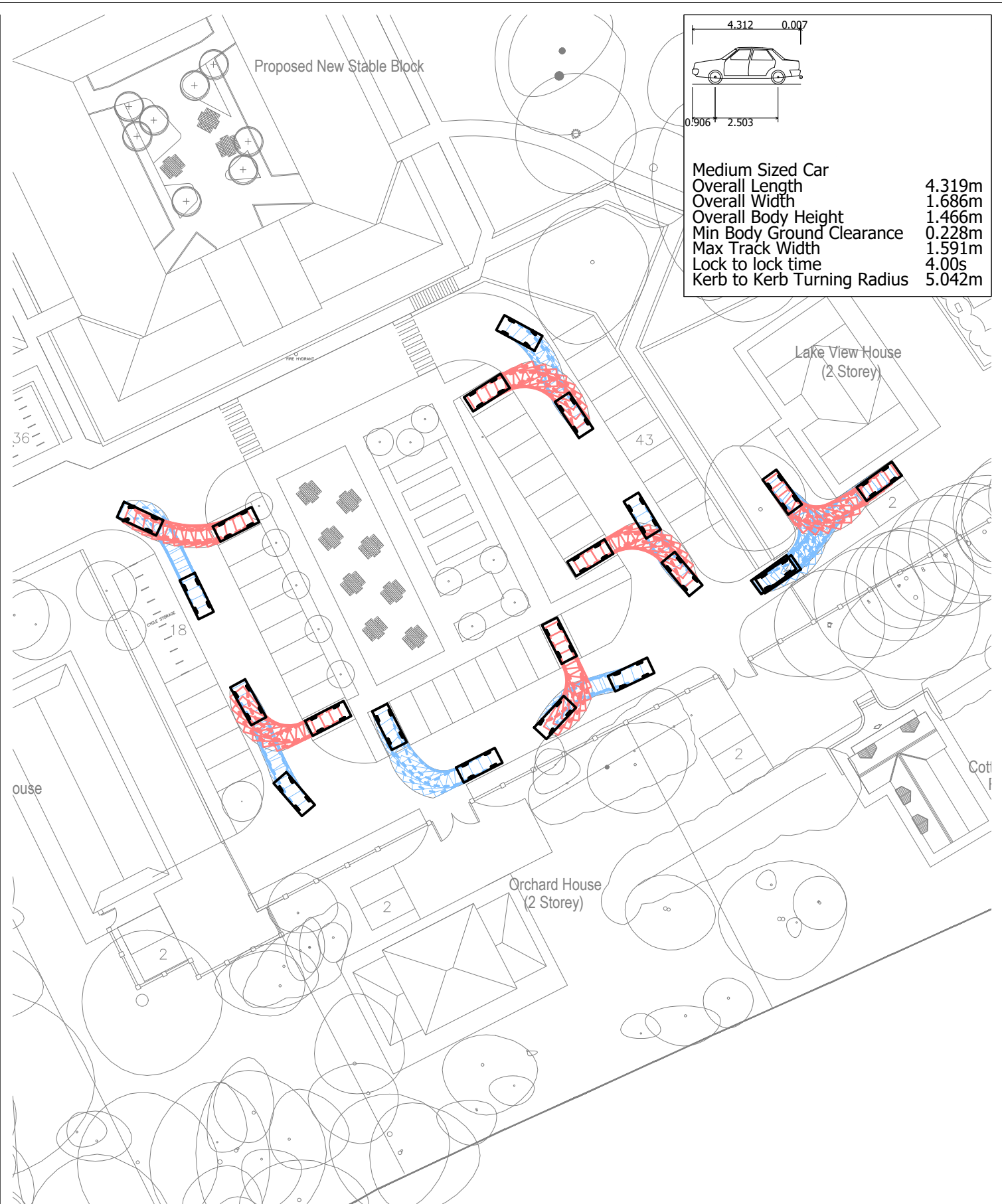
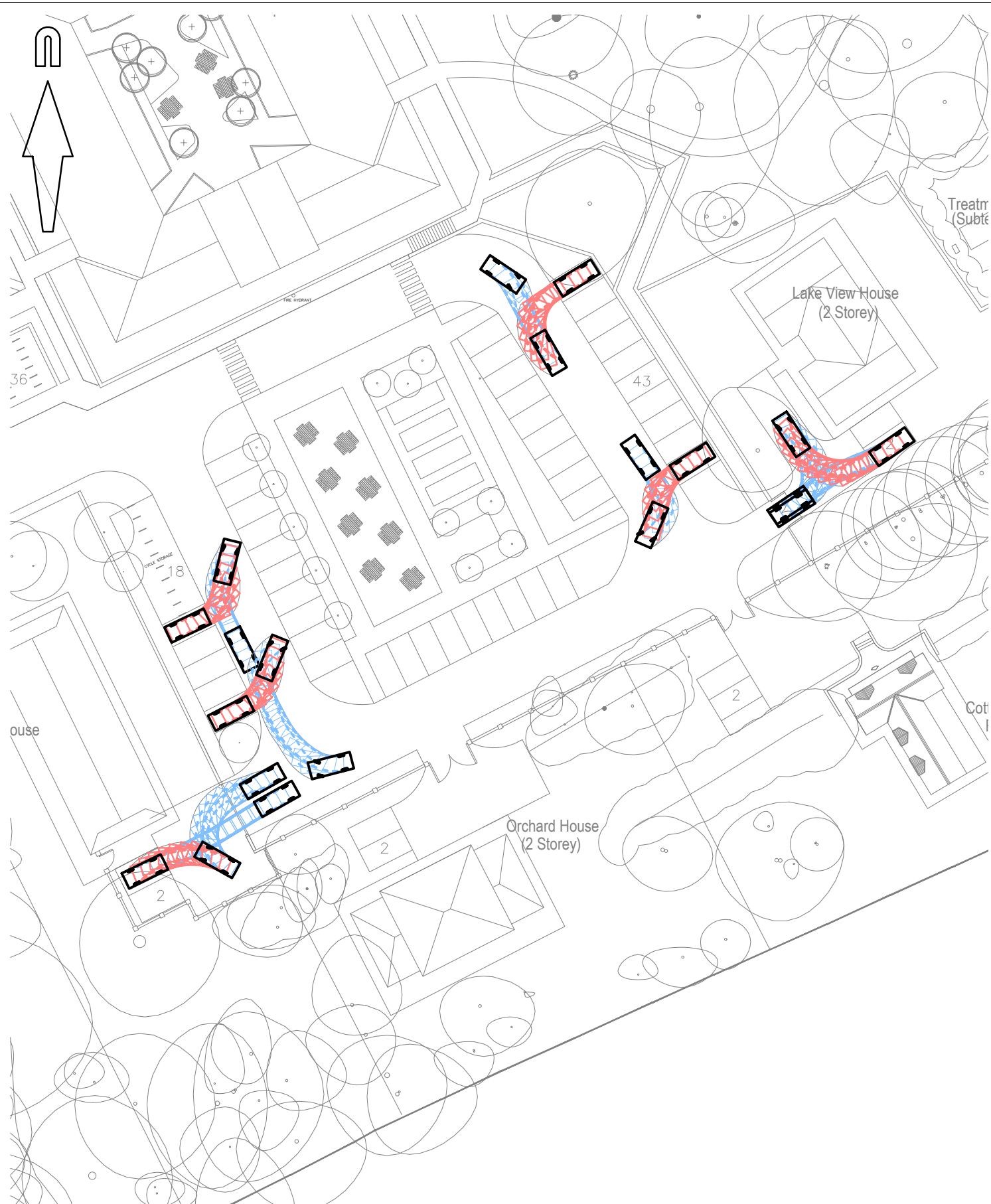
rev.

P1

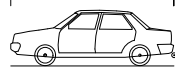
drawing number

MBSK211209-05





4.3120.007



0.9062.503

Medium Sized Car

Overall Length4.319m

Overall Width1.686m

Overall Body Height1.466m

Min Body Ground Clearance0.228m

Max Track Width1.591m

Lock to lock time4.00s

Kerb to Kerb Turning Radius5.042m

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project

HAREFIELD GROVE

title

SWEPT PATH ANALYSIS  
MEDIUM CAR USING PARKING BAYS

scale

1:250 @ A3

drawn by

JB

checked by

JG

date

DECEMBER 2021

cad file

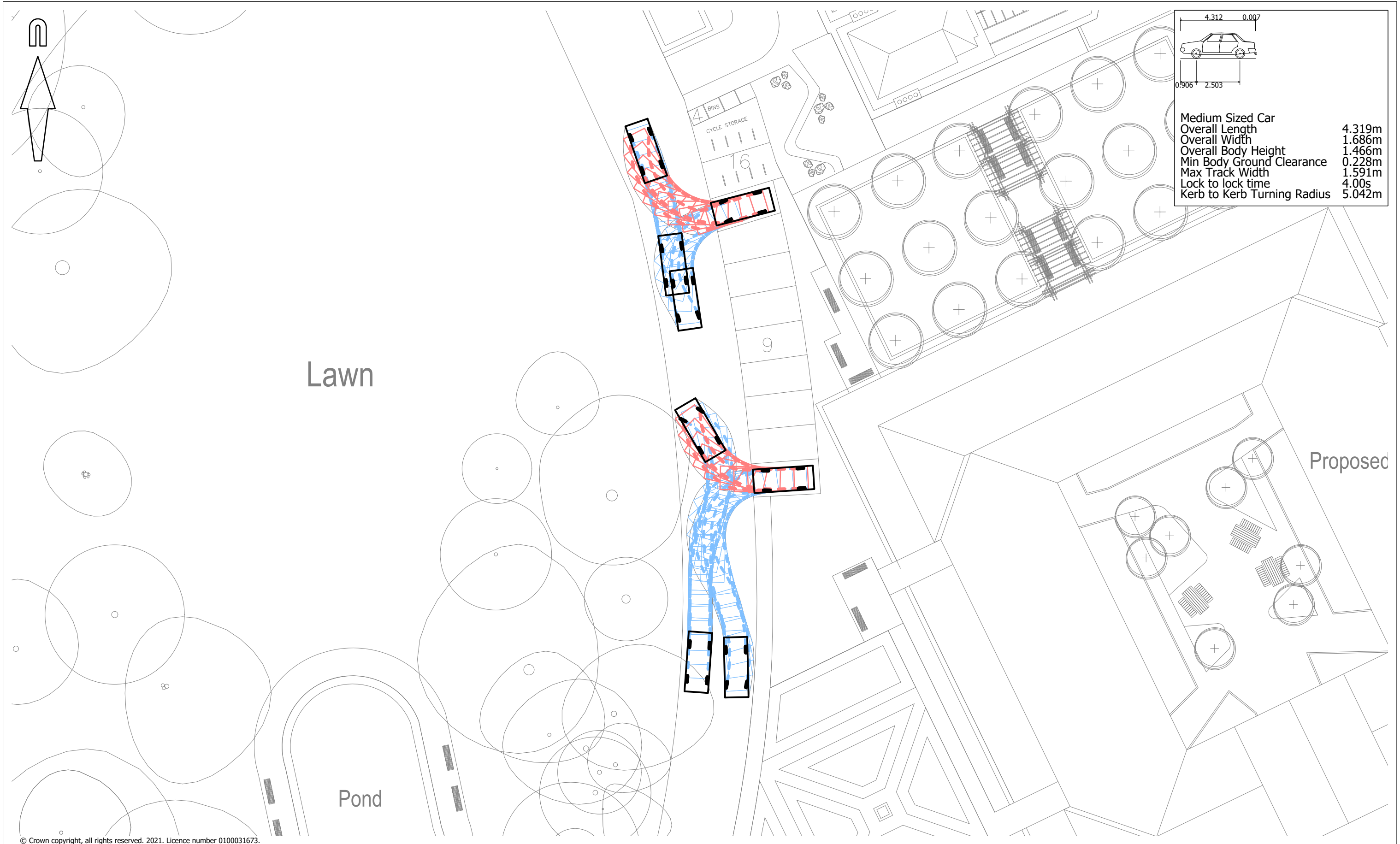
MBSK211209

suitability

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drawing number

MBSK211209-06



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project

HAREFIELD GROVE

title

SWEPT PATH ANALYSIS  
MEDIUM CAR USING PARKING BAYS

scale

1:500 @ A3

drawn by

JB

checked by

JG

date

DECEMBER 2021

cad file

MBSK211209

suitability

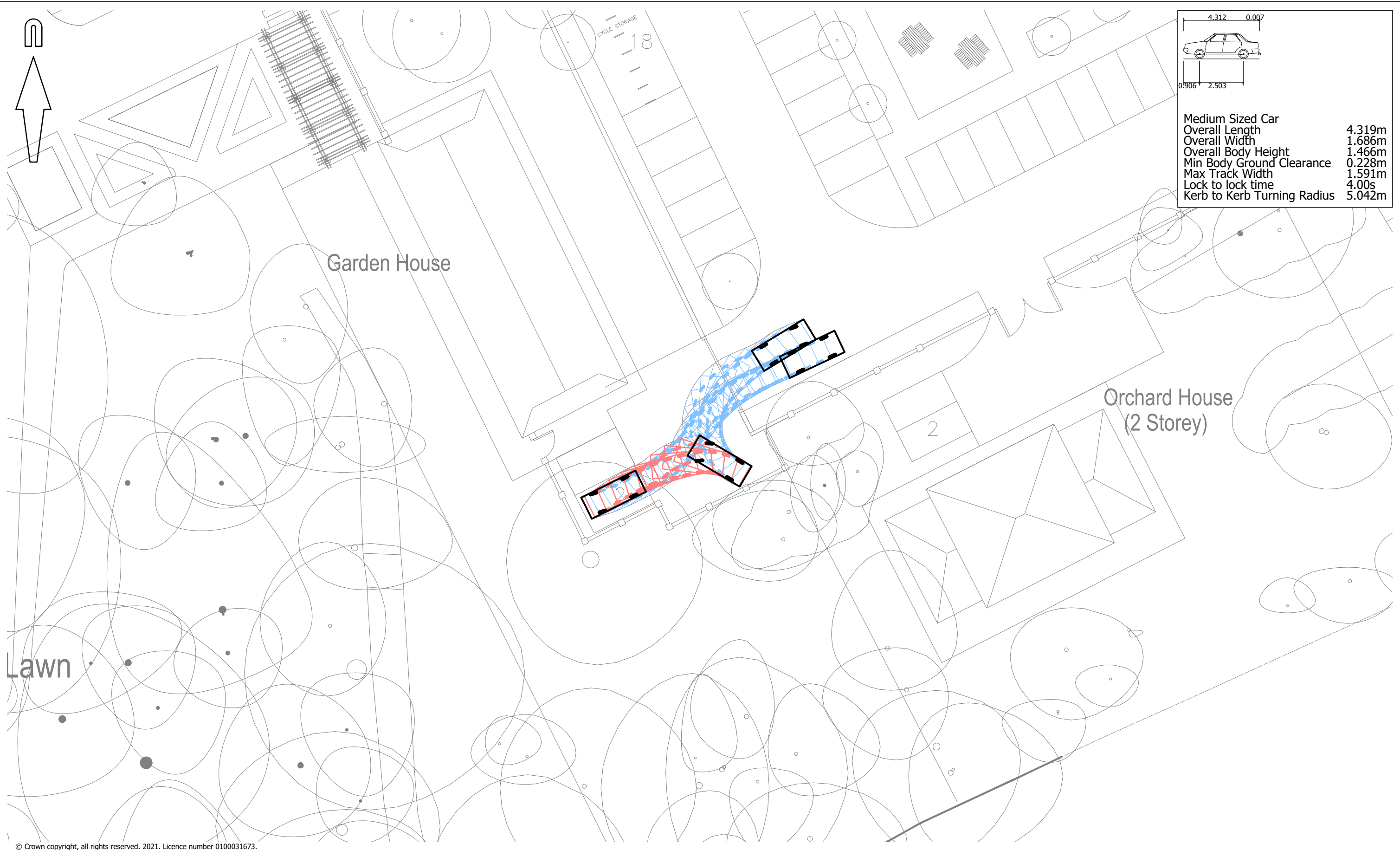
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drawing number

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project

HAREFIELD GROVE

title

SWEPT PATH ANALYSIS  
MEDIUM CAR USING PARKING BAYS

scale

1:500 @ A3

drawn by

JB

checked by

JG

date

DECEMBER 2021

cad file

MBSK211209

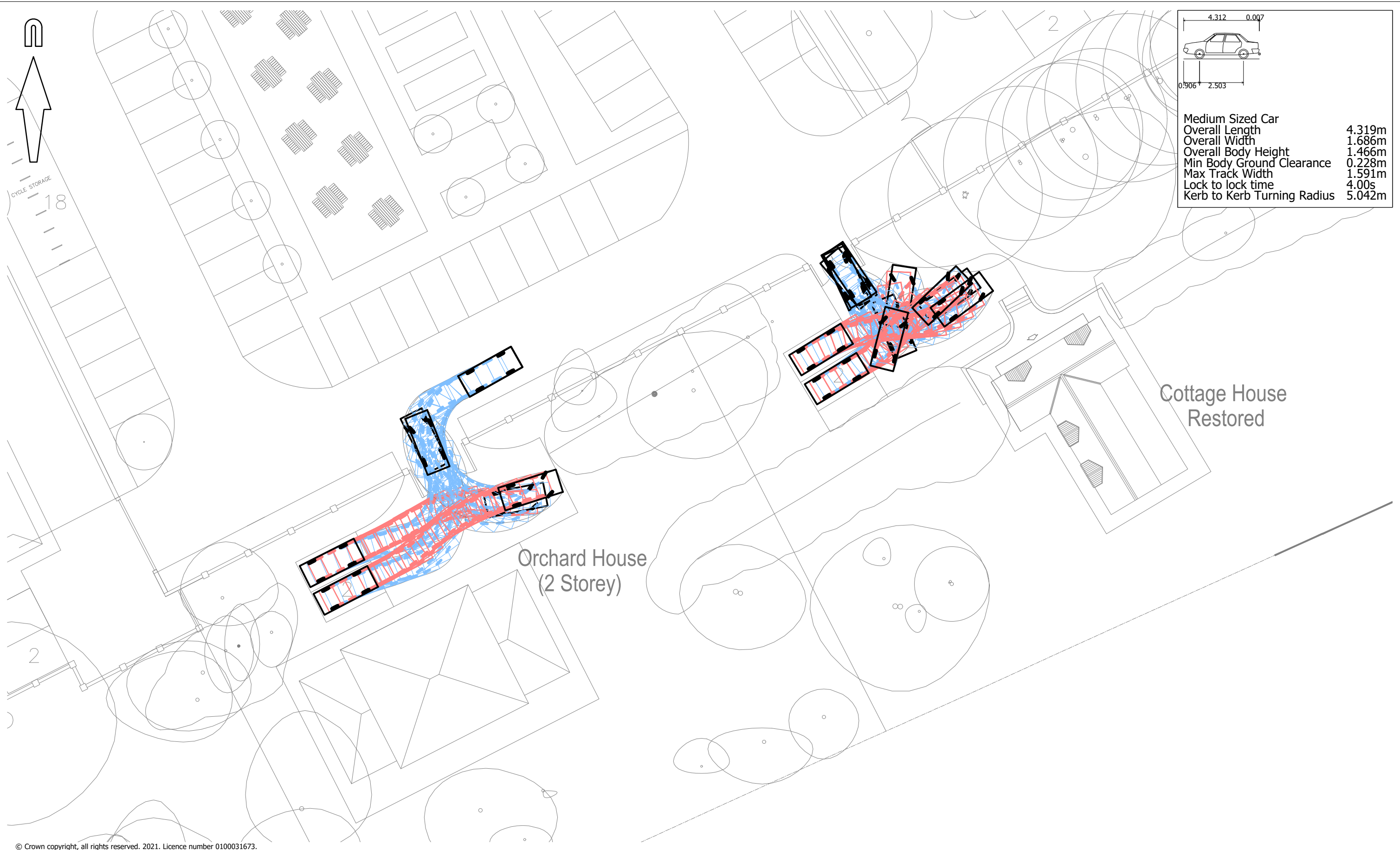
suitability

rev.

P1

drawing number

MBSK211209-08



|                             |        |
|-----------------------------|--------|
| 4.312                       | 0.007  |
|                             |        |
| 0.906                       | 2.503  |
| Medium Sized Car            |        |
| Overall Length              | 4.319m |
| Overall Width               | 1.686m |
| Overall Body Height         | 1.466m |
| Min Body Ground Clearance   | 0.228m |
| Max Track Width             | 1.591m |
| Lock to lock time           | 4.00s  |
| Kerb to Kerb Turning Radius | 5.042m |

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|         |                   |
|---------|-------------------|
| client  | COMER HOMES GROUP |
| project | HAREFIELD GROVE   |

|       |  |
|-------|--|
| title | SWEPT PATH ANALYSIS<br>MEDIUM CAR USING PARKING BAYS |
|-------|--|

|                |               |          |            |             |         |
|----------------|---------------|----------|------------|-------------|---------|
| scale          | 1:500 @ A3    | drawn by | JB         | checked by  | JG      |
| date           | DECEMBER 2021 | cad file | MBSK211209 | suitability | rev. P1 |
| drawing number | MBSK211209-09 |          |            |             |         |

## **APPENDIX B: TRICS Outputs**



Calculation Reference: AUDIT-807401-210927-0907

## TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL  
 Category : A - HOUSES PRIVATELY OWNED  
 TOTAL VEHICLES

Selected regions and areas:

|    |                                |        |
|----|--------------------------------|--------|
| 02 | SOUTH EAST                     |        |
|    | HC HAMPSHIRE                   | 1 days |
|    | SC SURREY                      | 1 days |
|    | WS WEST SUSSEX                 | 2 days |
| 03 | SOUTH WEST                     |        |
|    | SM SOMERSET                    | 2 days |
| 04 | EAST ANGLIA                    |        |
|    | NF NORFOLK                     | 2 days |
| 05 | EAST MIDLANDS                  |        |
|    | LE LEICESTERSHIRE              | 1 days |
|    | NR NORTHAMPTONSHIRE            | 2 days |
| 06 | WEST MIDLANDS                  |        |
|    | SH SHROPSHIRE                  | 1 days |
|    | WK WARWICKSHIRE                | 1 days |
|    | WO WORCESTERSHIRE              | 1 days |
| 07 | YORKSHIRE & NORTH LINCOLNSHIRE |        |
|    | NY NORTH YORKSHIRE             | 1 days |
|    | WY WEST YORKSHIRE              | 1 days |
| 08 | NORTH WEST                     |        |
|    | CH CHESHIRE                    | 1 days |
| 09 | NORTH                          |        |
|    | DH DURHAM                      | 1 days |

*This section displays the number of survey days per TRICS® sub-region in the selected set*

## Primary Filtering selection:

*This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.*

Parameter: No of Dwellings  
 Actual Range: 40 to 85 (units: )  
 Range Selected by User: 40 to 90 (units: )

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 20/10/20

*This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.*

Selected survey days:

|           |        |
|-----------|--------|
| Tuesday   | 6 days |
| Wednesday | 4 days |
| Thursday  | 6 days |
| Friday    | 2 days |

*This data displays the number of selected surveys by day of the week.*

Selected survey types:

|                       |         |
|-----------------------|---------|
| Manual count          | 18 days |
| Directional ATC Count | 0 days  |

*This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.*

Selected Locations:

Edge of Town

*This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.*

Selected Location Sub Categories:

|                  |    |
|------------------|----|
| Residential Zone | 11 |
| Village          | 6  |
| No Sub Category  | 1  |

*This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.*

Secondary Filtering selection:

Use Class:

|    |         |
|----|---------|
| C3 | 18 days |
|----|---------|

*This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS@.*

Population within 500m Range:

All Surveys Included

Population within 1 mile:

|                  |        |
|------------------|--------|
| 1,000 or Less    | 1 days |
| 1,001 to 5,000   | 5 days |
| 5,001 to 10,000  | 6 days |
| 10,001 to 15,000 | 2 days |
| 15,001 to 20,000 | 2 days |
| 25,001 to 50,000 | 2 days |

*This data displays the number of selected surveys within stated 1-mile radii of population.*

Population within 5 miles:

|                    |        |
|--------------------|--------|
| 5,001 to 25,000    | 1 days |
| 25,001 to 50,000   | 3 days |
| 50,001 to 75,000   | 2 days |
| 75,001 to 100,000  | 5 days |
| 100,001 to 125,000 | 1 days |
| 125,001 to 250,000 | 5 days |
| 250,001 to 500,000 | 1 days |

*This data displays the number of selected surveys within stated 5-mile radii of population.*

Car ownership within 5 miles:

|            |         |
|------------|---------|
| 0.6 to 1.0 | 2 days  |
| 1.1 to 1.5 | 14 days |
| 1.6 to 2.0 | 2 days  |

*This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.*

Travel Plan:

|     |         |
|-----|---------|
| Yes | 5 days  |
| No  | 13 days |

*This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.*

PTAL Rating:

|                 |         |
|-----------------|---------|
| No PTAL Present | 18 days |
|-----------------|---------|

*This data displays the number of selected surveys with PTAL Ratings.*

|                       |     |  |
|-----------------------|-----|--|
| Covid-19 Restrictions | Yes | At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions |
|-----------------------|-----|--|

LIST OF SITES relevant to selection parameters

|   |  |                           |                  |                            |
|---|--|---------------------------|------------------|----------------------------|
| 1 | CH-03-A-10<br>MEADOW DRIVE<br>NORTHWICH<br>BARNTON<br>Edge of Town<br>Residential Zone<br>Total No of Dwellings: 40<br><i>Survey date: TUESDAY 04/06/19</i>                                      | SEMI -DETACHED & TERRACED | CHESHIRE         | <i>Survey Type: MANUAL</i> |
| 2 | DH-03-A-03<br>PILGRIMS WAY<br>DURHAM<br><br>Edge of Town<br>Residential Zone<br>Total No of Dwellings: 57<br><i>Survey date: FRIDAY 19/10/18</i>   | SEMI -DETACHED & TERRACED | DURHAM           | <i>Survey Type: MANUAL</i> |
| 3 | HC-03-A-22<br>BOW LAKE GARDENS<br>NEAR EASTLEIGH<br>BISHOPSTOKE<br>Edge of Town<br>Residential Zone<br>Total No of Dwellings: 40<br><i>Survey date: WEDNESDAY 31/10/18</i>                       | MIXED HOUSES              | HAMPSHIRE        | <i>Survey Type: MANUAL</i> |
| 4 | LE-03-A-02<br>MELBOURNE ROAD<br>IBSTOCK<br><br>Neighbourhood Centre (PPS6 Local Centre)<br>Village<br>Total No of Dwellings: 85<br><i>Survey date: THURSDAY 28/06/18</i>                         | DETACHED & OTHERS         | LEICESTERSHIRE   | <i>Survey Type: MANUAL</i> |
| 5 | NF-03-A-04<br>NORTH WALSHAM ROAD<br>NORTH WALSHAM<br><br>Edge of Town<br>Residential Zone<br>Total No of Dwellings: 70<br><i>Survey date: WEDNESDAY 18/09/19</i>                                 | MIXED HOUSES              | NORFOLK          | <i>Survey Type: MANUAL</i> |
| 6 | NF-03-A-05<br>HEATH DRIVE<br>HOLT<br><br>Edge of Town<br>Residential Zone<br>Total No of Dwellings: 40<br><i>Survey date: THURSDAY 19/09/19</i>  | MIXED HOUSES              | NORFOLK          | <i>Survey Type: MANUAL</i> |
| 7 | NR-03-A-02<br>HARLESTONE ROAD<br>NEAR NORTHAMPTON<br>CHAPEL BRAMPTON<br>Neighbourhood Centre (PPS6 Local Centre)<br>Village<br>Total No of Dwellings: 47<br><i>Survey date: TUESDAY 20/10/20</i> | DETACHED & SEMI -DETACHED | NORTHAMPTONSHIRE | <i>Survey Type: MANUAL</i> |
| 8 | NR-03-A-03<br>MAIN STREET<br>NEAR WELLINGBOROUGH<br>LITTLE HARROWDEN<br>Neighbourhood Centre (PPS6 Local Centre)<br>Village<br>Total No of Dwellings: 44<br><i>Survey date: TUESDAY 20/10/20</i> | MIXED HOUSES & FLATS      | NORTHAMPTONSHIRE | <i>Survey Type: MANUAL</i> |

LIST OF SITES relevant to selection parameters (Cont.)

|    |  |                        |                     |
|----|--|------------------------|---------------------|
| 9  | NY-03-A-10                               | HOUSES AND FLATS       | NORTH YORKSHIRE     |
|    | BOROUGHBRIDGE ROAD                       |                        |                     |
|    | RIPON                                    |                        |                     |
|    | Edge of Town                             |                        |                     |
|    | No Sub Category                          |                        |                     |
|    | Total No of Dwellings:                   | 71                     |                     |
|    | Survey date: TUESDAY                     | 17/09/13               | Survey Type: MANUAL |
| 10 | SC-03-A-04                               | DETACHED & TERRACED    | SURREY              |
|    | HIGH ROAD                                |                        |                     |
|    | BYFLEET                                  |                        |                     |
|    | Edge of Town                             |                        |                     |
|    | Residential Zone                         |                        |                     |
|    | Total No of Dwellings:                   | 71                     |                     |
|    | Survey date: THURSDAY                    | 23/01/14               | Survey Type: MANUAL |
| 11 | SH-03-A-05                               | SEMI-DETACHED/TERRACED | SHROPSHIRE          |
|    | SANDCROFT                                |                        |                     |
|    | TELFORD                                  |                        |                     |
|    | SUTTON HILL                              |                        |                     |
|    | Edge of Town                             |                        |                     |
|    | Residential Zone                         |                        |                     |
|    | Total No of Dwellings:                   | 54                     |                     |
|    | Survey date: THURSDAY                    | 24/10/13               | Survey Type: MANUAL |
| 12 | SM-03-A-02                               | MIXED HOUSES           | SOMERSET            |
|    | HYDE LANE                                |                        |                     |
|    | NEAR TAUNTON                             |                        |                     |
|    | CREECH SAINT MICHAEL                     |                        |                     |
|    | Neighbourhood Centre (PPS6 Local Centre) |                        |                     |
|    | Village                                  |                        |                     |
|    | Total No of Dwellings:                   | 42                     |                     |
|    | Survey date: TUESDAY                     | 25/09/18               | Survey Type: MANUAL |
| 13 | SM-03-A-03                               | MIXED HOUSES           | SOMERSET            |
|    | HYDE LANE                                |                        |                     |
|    | NEAR TAUNTON                             |                        |                     |
|    | CREECH ST MICHAEL                        |                        |                     |
|    | Neighbourhood Centre (PPS6 Local Centre) |                        |                     |
|    | Village                                  |                        |                     |
|    | Total No of Dwellings:                   | 41                     |                     |
|    | Survey date: TUESDAY                     | 25/09/18               | Survey Type: MANUAL |
| 14 | WK-03-A-04                               | DETACHED HOUSES        | WARWICKSHIRE        |
|    | DALEHOUSE LANE                           |                        |                     |
|    | KENILWORTH                               |                        |                     |
|    | Edge of Town                             |                        |                     |
|    | Residential Zone                         |                        |                     |
|    | Total No of Dwellings:                   | 49                     |                     |
|    | Survey date: FRIDAY                      | 27/09/19               | Survey Type: MANUAL |
| 15 | WO-03-A-07                               | MIXED HOUSES & FLATS   | WORCESTERSHIRE      |
|    | RYE GRASS LANE                           |                        |                     |
|    | REDDITCH                                 |                        |                     |
|    | Edge of Town                             |                        |                     |
|    | Residential Zone                         |                        |                     |
|    | Total No of Dwellings:                   | 47                     |                     |
|    | Survey date: THURSDAY                    | 01/10/20               | Survey Type: MANUAL |
| 16 | WS-03-A-07                               | BUNGALOWS              | WEST SUSSEX         |
|    | EMMS LANE                                |                        |                     |
|    | NEAR HORSHAM                             |                        |                     |
|    | BROOKS GREEN                             |                        |                     |
|    | Neighbourhood Centre (PPS6 Local Centre) |                        |                     |
|    | Village                                  |                        |                     |
|    | Total No of Dwellings:                   | 57                     |                     |
|    | Survey date: THURSDAY                    | 19/10/17               | Survey Type: MANUAL |

LIST OF SITES relevant to selection parameters (Cont.)

|    |  |               |                     |
|----|--|---------------|---------------------|
| 17 | WS-03-A-10                               | MIXED HOUSES  | WEST SUSSEX         |
|    | TODDINGTON LANE                          |               |                     |
|    | LITTLEHAMPTON                            |               |                     |
|    | WICK                                     |               |                     |
|    | Edge of Town                             |               |                     |
|    | Residential Zone                         |               |                     |
|    | Total No of Dwellings:                   | 79            |                     |
|    | Survey date: WEDNESDAY                   | 07/11/18      | Survey Type: MANUAL |
| 18 | WY-03-A-01                               | MIXED HOUSING | WEST YORKSHIRE      |
|    | SPRING VALLEY CRESCENT                   |               |                     |
|    | LEEDS                                    |               |                     |
|    | BRAMLEY                                  |               |                     |
|    | Neighbourhood Centre (PPS6 Local Centre) |               |                     |
|    | Residential Zone                         |               |                     |
|    | Total No of Dwellings:                   | 46            |                     |
|    | Survey date: WEDNESDAY                   | 21/09/16      | Survey Type: MANUAL |

*This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.*

Mayer Brown Oriental Road Woking

Licence No: 807401

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

TOTAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

| Time Range    | ARRIVALS |             |           | DEPARTURES |             |           | TOTALS   |             |           |
|---------------|----------|-------------|-----------|------------|-------------|-----------|----------|-------------|-----------|
|               | No. Days | Ave. DWELLS | Trip Rate | No. Days   | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 |          |             |           |            |             |           |          |             |           |
| 01:00 - 02:00 |          |             |           |            |             |           |          |             |           |
| 02:00 - 03:00 |          |             |           |            |             |           |          |             |           |
| 03:00 - 04:00 |          |             |           |            |             |           |          |             |           |
| 04:00 - 05:00 |          |             |           |            |             |           |          |             |           |
| 05:00 - 06:00 |          |             |           |            |             |           |          |             |           |
| 06:00 - 07:00 |          |             |           |            |             |           |          |             |           |
| 07:00 - 08:00 | 18       | 54          | 0.074     | 18         | 54          | 0.298     | 18       | 54          | 0.372     |
| 08:00 - 09:00 | 18       | 54          | 0.159     | 18         | 54          | 0.320     | 18       | 54          | 0.479     |
| 09:00 - 10:00 | 18       | 54          | 0.157     | 18         | 54          | 0.196     | 18       | 54          | 0.353     |
| 10:00 - 11:00 | 18       | 54          | 0.138     | 18         | 54          | 0.170     | 18       | 54          | 0.308     |
| 11:00 - 12:00 | 18       | 54          | 0.158     | 18         | 54          | 0.196     | 18       | 54          | 0.354     |
| 12:00 - 13:00 | 18       | 54          | 0.152     | 18         | 54          | 0.162     | 18       | 54          | 0.314     |
| 13:00 - 14:00 | 18       | 54          | 0.179     | 18         | 54          | 0.167     | 18       | 54          | 0.346     |
| 14:00 - 15:00 | 18       | 54          | 0.173     | 18         | 54          | 0.186     | 18       | 54          | 0.359     |
| 15:00 - 16:00 | 18       | 54          | 0.265     | 18         | 54          | 0.172     | 18       | 54          | 0.437     |
| 16:00 - 17:00 | 18       | 54          | 0.284     | 18         | 54          | 0.163     | 18       | 54          | 0.447     |
| 17:00 - 18:00 | 18       | 54          | 0.297     | 18         | 54          | 0.146     | 18       | 54          | 0.443     |
| 18:00 - 19:00 | 18       | 54          | 0.242     | 18         | 54          | 0.138     | 18       | 54          | 0.380     |
| 19:00 - 20:00 |          |             |           |            |             |           |          |             |           |
| 20:00 - 21:00 |          |             |           |            |             |           |          |             |           |
| 21:00 - 22:00 |          |             |           |            |             |           |          |             |           |
| 22:00 - 23:00 |          |             |           |            |             |           |          |             |           |
| 23:00 - 24:00 |          |             |           |            |             |           |          |             |           |
| Total Rates:  |          |             | 2.278     |            |             | 2.314     |          |             | 4.592     |

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is:  $COUNT/TRP*FACT$ . Trip rates are then rounded to 3 decimal places.

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#### Parameter summary

|   |                     |
|---|---------------------|
| Trip rate parameter range selected:           | 40 - 85 (units: )   |
| Survey date range:                            | 01/01/13 - 20/10/20 |
| Number of weekdays (Monday-Friday):           | 18                  |
| Number of Saturdays:                          | 0                   |
| Number of Sundays:                            | 0                   |
| Surveys automatically removed from selection: | 0                   |
| Surveys manually removed from selection:      | 0                   |

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.