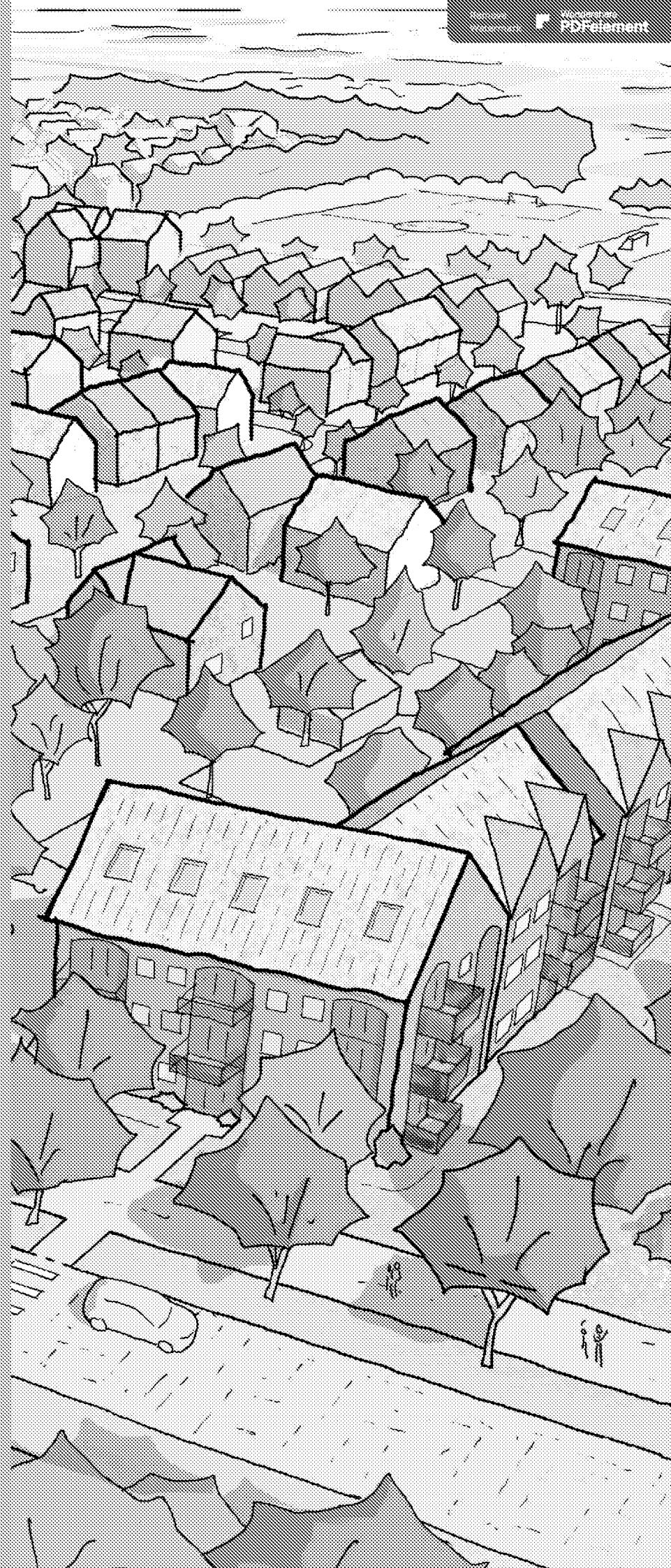


The Landings, Ford Airfield

Phase RM1(North)

Transport Technical Note
RM1_03.B
December 2024



Vistry Group



AN EMPLOYEE OWNED COMPANY

VISTRY HOMES LIMITED

THE LANDINGS, LAND AT FORD AIRFIELD, FORD

RML (North) Transport Technical Note

REPORT REF.
2205771-R12C

December 2024

Email: enquiries@ardent-ce.co.uk

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Ardent Drawing 2205771 - D061B Site Location

Ardent Drawing 2205771 - D002C Tracking and Visibility (Sheet 1 of 2)

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Appendices

Appendix A Proposed Site Layout

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Document Control Sheet

REV	ISSUE PURPOSE	AUTHOR	REVIEWED	APPROVED	DATE
-	Final	SG	JS	DH	09/08/2024
A	Final	SG	JS	KM	16/08/2024
B	Final	SG	SG	SAF	21/08/2024
C	Final	SG	SS	SAF	30/08/2024
D	Final	SG	[REDACTED]		17/12/2024

Distribution

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1. Introduction

- 1.1. Ardent Consulting Engineers (ACE) has been appointed by Vistry Homes Limited to advise on the Highways & Transportation aspects of the proposals for a residential-led mixed-use development on Land at Ford Airfield, Ford.
- 1.2. Outline (all matters reserved except access) permission (ref F/4/20/OUT) was granted in July 2023 for:

“...the development of up to 1,500 dwellings (Use Class C3), 60-bed care home (Use Class C2), up to 9,000 sqm of employment floorspace (Use Classes B1), local centre of up to 2,350 sqm including up to 900 sqm retail / commercial (Use Classes A1-A5) and 1,450 sqm community / leisure floorspace (Use Classes D1-D2), land for a two-form entry primary school (Use Class D1), public open space, allotments, new sports pitches and associated facilities, drainage, parking and associated access, infrastructure, landscape, ancillary and site preparation works, including demolition of existing buildings and part removal of existing runway hardstanding”

- 1.3. The development will be brought forward via a number of reserved matters applications. This Transport Technical Note (TTN) considers the Reserved Matter 1 (North) application, which consists of:

Approval of Reserved Matters pursuant to condition 1 (Reserved Matters Details) following outline consent F/4/20/OUT for phase RM1 (North), for the erection of 340 no. residential dwellings plus associated roads, infrastructure, parking, landscaping, open space & play areas, and associated works.

- 1.4. The location of the site within the context of the wider development is shown on **Ardent Drawing 2205571-D061**, and the proposed site layout for RM1 (North) is included at **Appendix A**.
- 1.5. The Local Planning Authority (LPA) is Arun District Council (ADC) and the Local Highways Authority is West Sussex County Council (WSCC).

Report Revision Updates

- 1.6. The report updates undertaken as part of this revision as part of the following consultation responses
 - WSCC Highways

- Sussex Police
- Ford Parish Council
- Active Travel England
- Ford Community Land Trust

1.7. Of note, the updates provided within this Transport Technical Note are:

- The design of the spine road, including the crossings, speed calming and alignment have been subject to a Stage 1 Road Safety Audit. The report and designer's response is provided at **Appendix B**.
- Additional linkages between the shared cycle route on the eastern side of the site and the adjacent residential parcels are provided
- Increased connections to the east of the scheme are provided to the secondary road.
- Visitor parking spaces have been reallocated throughout the site;
- Vehicle tracking plans are provided with detailed labels demonstrating each manoeuvre ;
- Vehicle tracking is also shown on the secondary street;
- Lighting design will be assessed at the relevant stage of the approval process, with sufficient lighting provided for safety and amenity. Final extent of proposed light to be in keeping with that shown in the RM.

1.8. In terms of parking quantum, a total of 768 vehicle parking spaces are to be provided, consisting of 678 allocated residential spaces, 87 visitor spaces and three for the substation. The level of residential spaces is within a 10% variation of the standards specified within the Arun standards, and visitor spaces in excess of standards.

1.9. Any and all off site improvement works will be designed at the appropriate stage, and subject to the Road Safety Audits to ensure the form and design is appropriate for the environment.

2. Access and Movement Strategy

Access and Movement Strategy

2.1. This section of the note provides a brief outline of the access and movement strategy for the proposed development as set out in Transport Assessment submitted with the outline application. The approved strategy as set out below has been retained in developing the proposals subject to this RM application, incorporating the consultation feedback from ADC/WSCC that has taken place to date.

2.2. The wider site connectivity is shown in **Plate 2.1**.

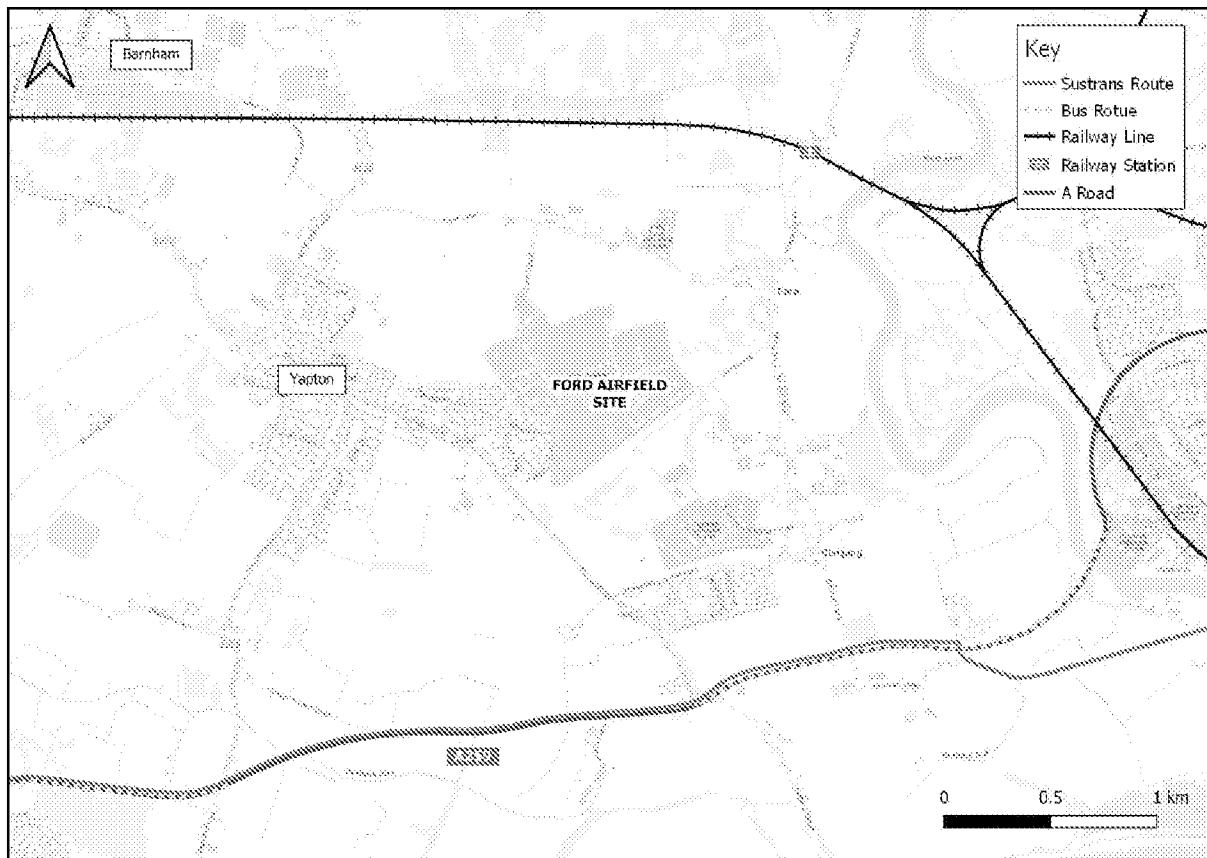


Plate 2.1 – Wider Site Connectivity

Private Vehicle Access and Movement Strategy

2.3. Vehicular access to the site is provided at three points: a new southern access from Yapton Road; a new northern access from Ford Lane; and an existing eastern access on to Ford Road to serve the employment zone.

2.4. The RM1 (North) site will have a hierarchy of road networks throughout the site from Primary through to Mews, as shown in **Section 3**.

Public Transport Access and Movement Strategy

- 2.5. The main spine road through the site, as well as the access junctions onto Ford Lane and Yapton Road, have been designed to accommodate bus services. The scheme will provide a service connecting Littlehampton Town Centre and Barnham Railway Station. There will be the possibility of routing the Stagecoach Coastliner 700 service through the site, dependent on discussions with Stagecoach. Off-site improvements will be made to Ford Road to provide pedestrian / cycle connections to Ford Station.
- 2.6. The frequency of bus service will be incorporated at a later date, in conjunction with a suitable operator, however the location of bus stops has been considered and incorporated into the main spine road at a distribution that ensures all residents are within a reasonable walk distance to bus stops. This will help maximise connectivity to and take up of bus services.

Active Travel Access and Movement Strategy

- 2.7. There are a number of inbuilt onsite infrastructure measures which will encourage and promote active travel within the site, including:
 - a permeable site layout which provides multiple and convenient opportunities for the site to link into local facilities, particularly the foot and cycleway network surrounding the site;
 - Services and facilities such as education, retail, leisure and community are provided on site, minimising journey distances and promoting sustainable travel;
 - The layout of the site will emphasise sustainable access to the local centre. The central location of facilities will minimise journey distances for all residents, and the parking strategy for these buildings will discourage the use of cars for short journeys;
 - The highway network within the site will encourage low speed streets, suitable for movement by all modes of travel, particularly walking and cycling; and
 - Good quality cycle parking will be provided for each residence, in accordance with standards.
- 2.8. Access to the overall masterplan site by active travel modes (including walking and cycling) will be provided at:
 - The provision of an uncontrolled pedestrian crossing with tactile paving and dropped kerbs on the Johnson Way / Rollaston Park junction;

- The provision of an uncontrolled pedestrian crossing with tactile paving and dropped kerbs on Rollaston Park;
- The provision of an uncontrolled pedestrian crossing with tactile paving on existing dropped kerbs on Yapton Road next to the bus shelter;
- A proposed new footway extension immediately north of the bus shelter on Yapton Road, to tie into the proposed uncontrolled pedestrian crossing;
- Provision of vehicle crossovers and narrowing of pedestrian crossing distance at both junctions leading into Drave Grove from the 2233 / Burndell Road;
- The provision of tactile paving at the existing dropped kerb on the Fordwater Gardens and Burndell Road Junctions;
- The provision of tactile paving at the existing dropped kerb on the Goodhew close and Burndell road junction;
- Provision of on-carriageway cycle lane demarcation extending from Rollaston Park (and forming an onward connection to cycle/pedestrian facilities routing through the development site from Rollaston Park through to Horsemere Green Lane and to the A259 in the south) through to Burndell Road / Bilsham Road Junction;
- Hatched green markings across junctions along the length of the route to denote the presence of cyclists and cyclist priority;
- Connection to Yapton Village Hall, to the east of Bilsham Road / Burndell Road junction;
- Onward connection, shown indicatively, to the potential Yapton-Barnham cycle route associated with planning consent Y/91/17 and Y/92/17;
- Widening of the existing footway to provide a 2.5m – 3.0m wide pedestrian/cycleway on the eastern side of Church Lane, to connect with Horsemere Green Lane;
- Widening of the carriageway at Church Lane / Horsemere Green Lane junction to accommodate a 3.0m wide path on the approach to a dropped kerb and tactile paving crossing;
- A tie in to the existing/diverted NCN Route 2 pedestrian /cycleway to the north of the A259 carriageway;
- Provision of an uncontrolled crossing, formed of dropped kerbs and tactile paving at the Ford Lane / Ford Road junction;
- The realignment of Station Road to enable a shared pedestrian / cycleway to be provided between the junction of Ford Lane and Ford Railway Station on the western side of the Station Road carriageway; and

- To the east of the site, a new 3m wide connection to Footpath 206 is to be provided, along with minor widening on Ford Road, to provide a refuge island.

2.9. The above will help integrate the site with the surrounding area and promote connectivity to Ford Station, which also includes provision of an enhanced pedestrian/cycleway along Ford Road that will provide a high quality connection to Ford Station.

2.10. In addition, the outline consent secured a comprehensive package of Section 106 Agreement contributions to further enhance the local area to the benefit of existing residents in the area but also for prospective residents of the scheme, which included:

- Strategic Highways contribution of £1.227 million;
- Cycle Parking (at Ford Station) contribution of £37,500;
- Bus service improvements contribution of £15,000; and
- A27 roundabout enhancements contribution of £301,000.

2.11. To make best use of the above wider improvements, the site will have an interconnecting network of footways, footpaths, cycleways and cycle paths. These will all give priority of movement to the active travel user, over the private vehicle user, promoting non-car travel through the site, connecting the individual parcels.

2.12. Details of the pedestrian and cycle infrastructure proposed, including details of widths and locations, are provided in **Section 3**.

Surrounding Mode Share and Travel Plan Target

2.13. The Nomis 2021 Travel to Work data has been extrapolated for Output Area Arun 006, which covers the site area, Yapton and Ford. The output area is shown below in **Plate 2.2**.

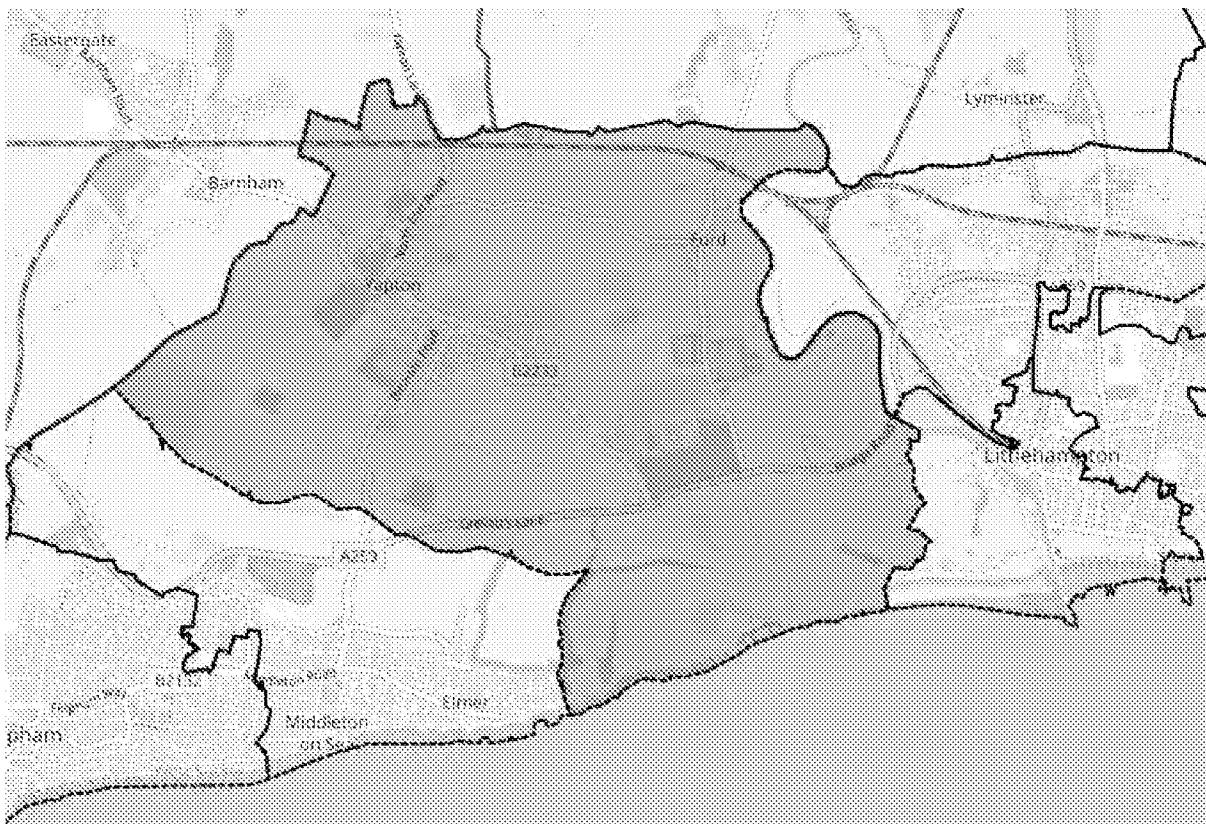


Plate 2.2 – Output Area Arun 006

2.14. **Table 2.1** shows the extrapolated Travel to Work data for Output Area Arun 006. Working from home has been discounted.

Mode	Mode Share
Train	2%
Bus, minibus or coach	2%
Taxi	0%
Motorcycle, scooter or moped	1%
Driving a car or van	78%
Passenger in a car or van	5%
Bicycle	4%
On foot	6%
Other method of travel to work	2%

Table 2.1: Arun 006 Mode Share

2.15. With an assumed passenger rate of one passenger per vehicle, this gives a Single Occupancy Vehicle mode share of 73% (78% - 5%).

2.16. The RM1 Northern parcel of the site will be subject to an accompanying Travel Plan (Ardent document reference **2205771-R13B**), which outlines a series of aims and objectives, all promoting sustainable travel, and minimising the reliance of future residents on the private car.

2.17. As such, over a five year period, a 10% reduction in the peak hour single occupancy vehicle mode share is proposed, from 73% to 66%. It is anticipated that the decrease in single occupancy vehicle mode share will result in a corresponding increase in sustainable travel means.

3. Street Geometries

Street Makeup

- 3.1. The overarching design framework for the consented site has been set out within the Design Code for the overall site masterplan, prepared by Tor & Co Architects, and this strategy has been retained in consideration of RM1 (North) which is the focus of this TTN.
- 3.2. The geometric requirements for the various streets within the development is based upon a hierarchy of four street-types. The street-type hierarchy is as follows:
 1. Primary Street (spine road);
 2. Secondary Street;
 3. Tertiary Street; and
 4. Shared Surface (Mews Streets).
- 3.3. A limited length of transition street is also proposed providing a link between the main spine road and some Mews Streets, comprising a 5m carriageway and 2m footway provided on both sides.
- 3.4. Local Transport Note (LTN) 1/20 – Cycle Infrastructure Design places the emphasis on the consistency of routes, as well as on the level of infrastructure within new strategic development. The guidance sets out the principle that the standard of provision should reflect the expected number of users.
- 3.5. As such, carriageway widths, verges and segregated foot/cycleways are based on Arun District Design Guide SPD (February 2024) which has been updated to take into account LTN 1/20 and WSCC guidance, as well as Manual for Streets / Manual for Streets 2.
- 3.6. The shared footway / cycleway widths are based on the guidance contained in LTN 1/20 and Arun Design Guide (2024) (extract below) and tie in with the consented off site shared routes. This promotes the consistency and coherence emphasised by LTN 1/20 guidance.
- 3.7. The proposed RM1 (North) site layout is attached at **Appendix A**.

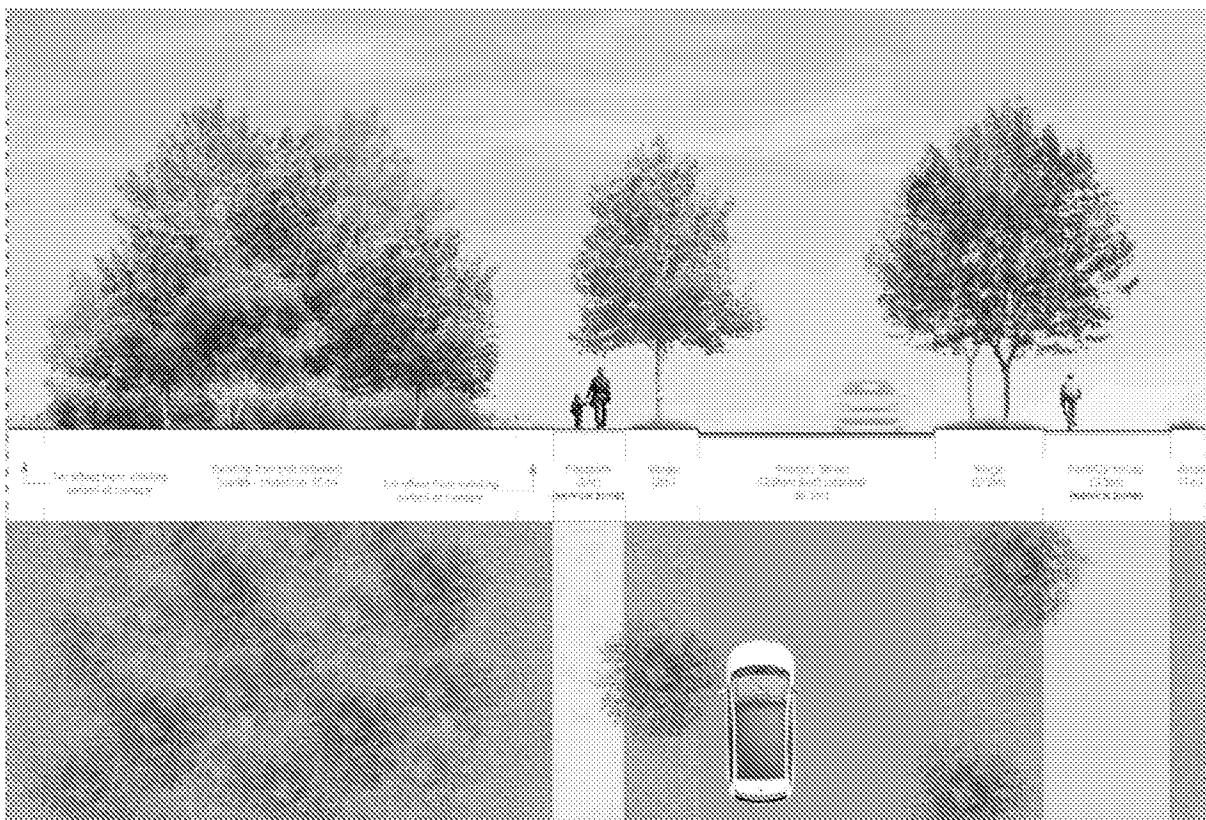
Primary Streets (spine road)

3.8. The configuration of the central route within the site will allow for a continuous Bus Route to be delivered, connecting the two residential vehicular site accesses, and providing wider permeability/connectivity beyond the site.

3.9. The design of the spine road is divided into North and South designs to accommodate the ecological and drainage strategies, respectively. As RM1 (North) is located within the northern portion of the overall masterplan site, the primary street through RM1 (North) will follow the Primary Street (North) design.

3.10. The parameters for Primary Street (North) are proposed as follows:

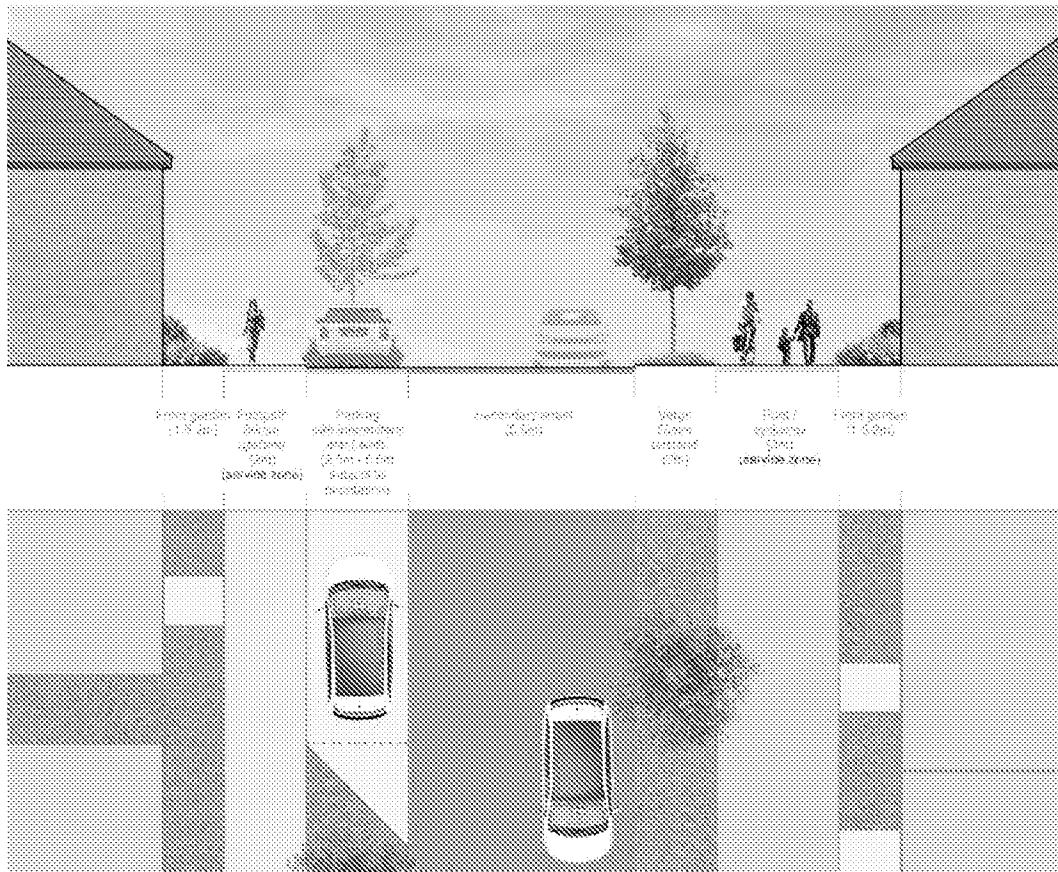
- Carriageway Width = 6.5m;
- Verge Width = 2m/3m (both sides of the carriageway);
- Shared Footway / Cycleway = 3.5m (One side of the carriageway);
- Footway = 2m (One side of the carriageway);
- Additional verge 1m to adjacent tertiary/mews street



Secondary Streets

3.11. The parameters for secondary street will be as follows:

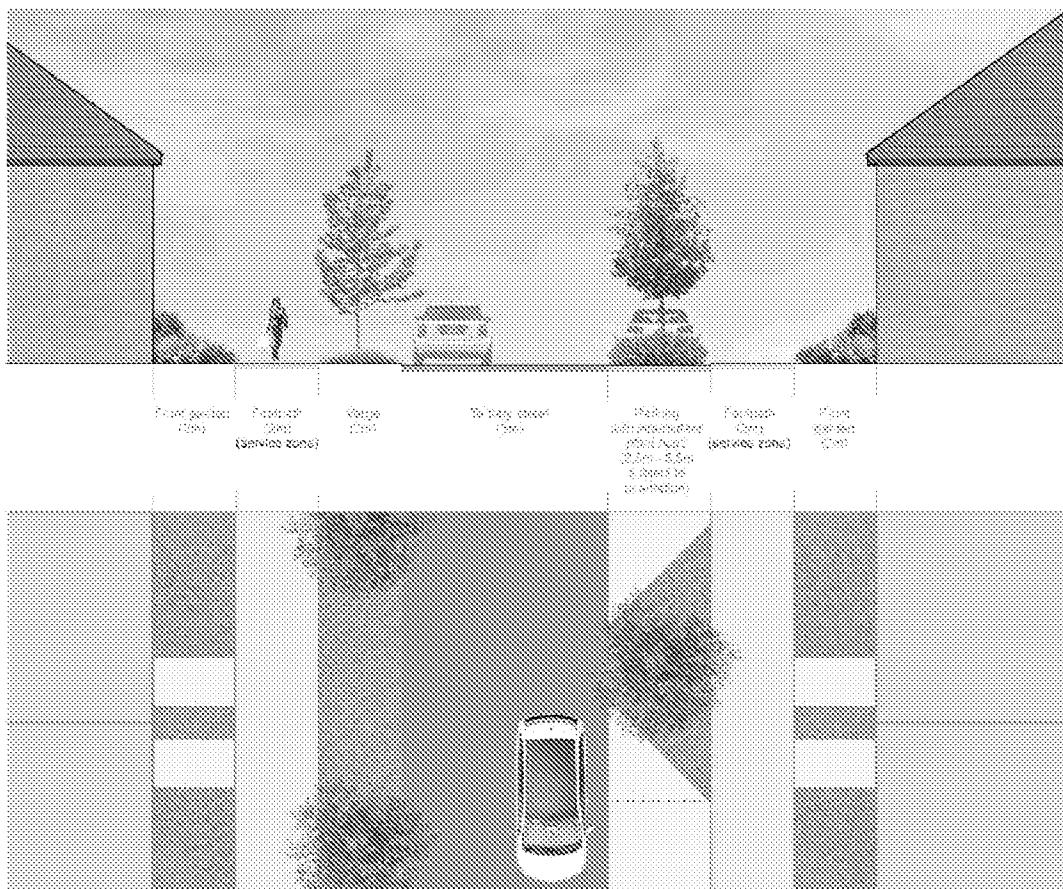
- Carriageway Width = 5.5m;
- Verge Width = 2m (one side of the carriageway);
- Shared Footway / Cycleway = 3m (One side of the carriageway);
- Footway = 2m (One side of the carriageway);
- Parallel parking with intermittent plant beds = 2.5m (one side of carriageway).



3.12. To maintain a cohesive and direct cycle route throughout the site, cyclists are intended to travel on the carriageway on the tertiary streets before joining the main cycle route, and so no off-carriageway cycle route is provided for tertiary streets.

3.13. The parameters for a tertiary street will be as follows:

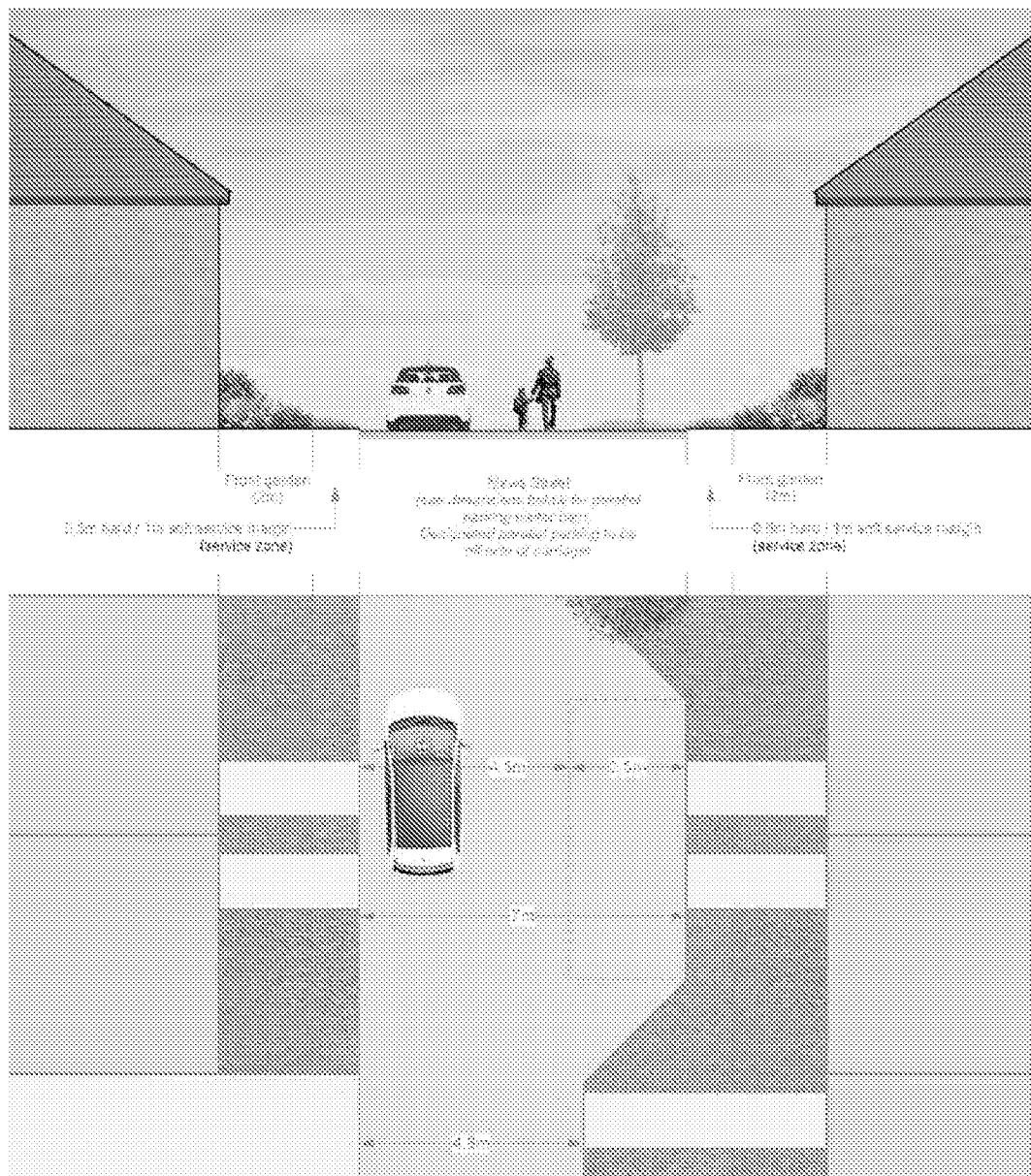
- Carriageway Width = 5m;
- Verge Width = 2m (one side of carriageway);
- Footway = 2m (both sides of carriageway);
- Parallel parking with intermittent plant beds = 2.5m (one side of carriageway).



Mews Streets

3.14. Connections to cul-de-sacs, mews or individual dwellings will be via shared surface streets that will generally measure 4.8m in width, down to 4.5m wide at pinch points. A 0.5m hard or 1m soft service margin will be provided for utilities as needed.

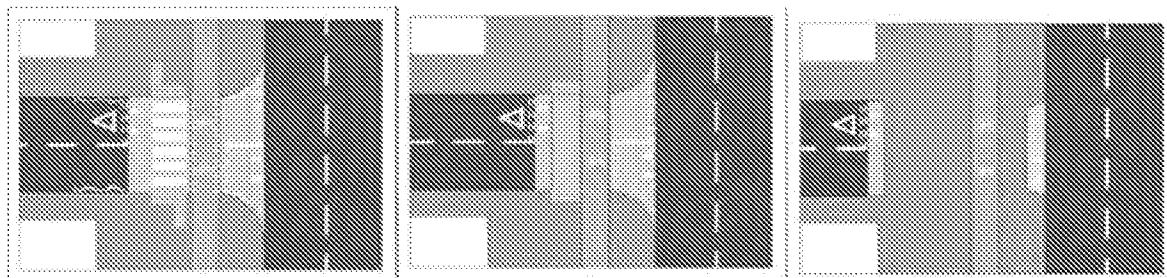
3.15. Pedestrians, cyclists and vehicles will share the carriageway, with a change in surface finish of the carriageway denoting the transition from separated traffic to a shared surface arrangement.



Design Principles

Cycle Crossings

3.16. In accordance with LTN 1/20, partial setbacks as shown below are proposed due to the expected low speeds and low flows on minor arms. LTN 1/20 specifies that partial setbacks are appropriate for side roads with a flow less than 2000 PCU's per day on side roads with a speed of less than 30mph.



Junction Stagger and deviation

3.17. Following initial discussions with WSCC, occasional crossroads are proposed however generally junction stagger of 2 x Stopping Sight Distance (SSD) for side roads on the same side of the road and 1 x SSD for side roads on opposite sides are provided throughout. A maximum deviation of 20 degrees from an ideal 90-degree approach angle will be provided for minor arms off the primary spine street.

Highways Plans

3.18. This section outlines the proposed highways plans, including access, parking, tracking and visibility splays.

3.19. The following drawings show the proposed highways plans, including access, parking, tracking and visibility splays:

- Ardent Drawing 2205771 - D002C Tracking and Visibility (Sheet 1 of 1)
- Ardent Drawing 2205771 - D003C Tracking and Visibility (Sheet 2 of 2)

4. Parking Principles

4.1. Parking standards for residential developments in ADC are detailed in the *Arun Parking Standards Supplementary Planning Document (January 2020)* and the more recently published *West Sussex County Council Guidance on Parking at New Developments*.

Residential Cycle Parking

4.2. The residential cycle parking standards are also provided within the ADC guidance and these are replicated in **Table 4.1** below.

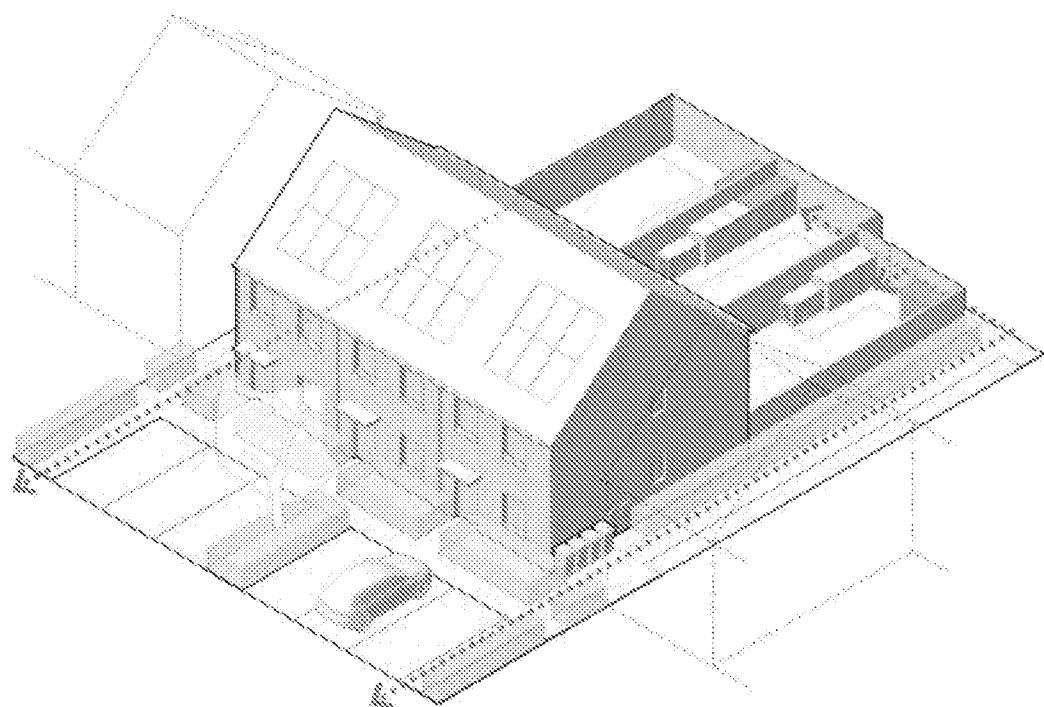
Type	Dwelling Size	Cycle Parking Spaces per Unit
Houses	Up to 4 rooms (1 and 2 Bed)	1 space
Houses	5+ Rooms (3+ Bed)	2 spaces
Flats	Up to 3 rooms (1 and 2 Bed)	1 space (if communal, otherwise same as 1 & 2 bed house)
Flats	4 + rooms (3 + Bed)	1 space

Table 4.1: Arun Residential Cycle Parking Standards

4.3. Cycle parking within the development is provided in line with the above Arun standards.

4.4. The principle of cycle parking for all developments is to provide secure, covered and accessible parking for all future residents. To accommodate the varying dwelling designs, a series of cycle parking solutions have been devised.

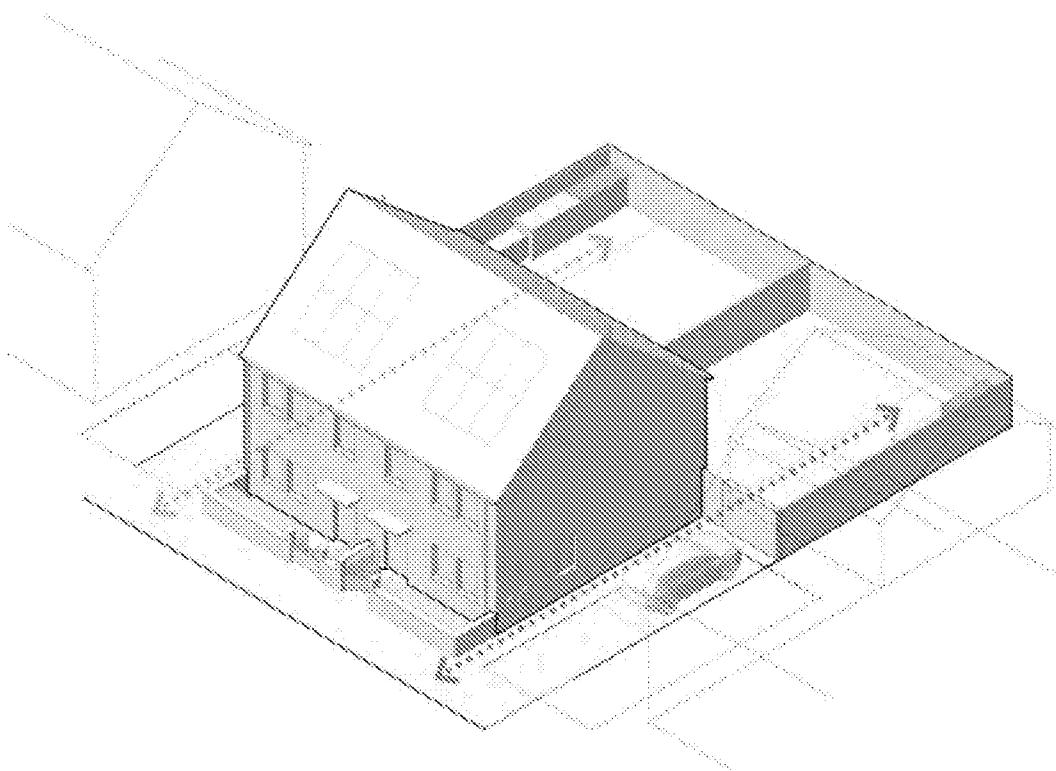
4.5. For terraced parking, cycle parking will be provided within the rear garden of the dwelling, with a rear alleyway providing external access such that residents will not need to go through the dwelling.



Terraces housing

- * Rear alleyways to provide access to cycle storage in rear gardens
- * Alleyways to serve no more than five dwellings

4.6. For Semi-Detached and Detached Housing, including corner plots, cycle parking will be provided either within the rear gardens of the dwellings or within the dwelling garage, with a 0.8m wide access path between the storage location and the street to allow cycles to be moved out to the street without needing to go through the dwelling or to move a parked car.



Semi-detached and detached housing

- * Cycle storage to be provided within rear gardens
- * 0.8m wide access path to be incorporated down the side of the house to allow cycles to be wheeled out to the street without moving a car

4.7. For Semi-Detached and Detached Housing without a garage, cycle parking will be provided within the rear gardens of the dwellings, with a 0.8m wide access path allowing cycles to be moved out to the street without needing to go through the dwelling or to move a parked car.

Residential Car Parking

4.8. The ADC standards outline a series of principles that form recommendations for car parking at new development, which are taken from previous West Sussex County Council parking guidance (though is similar to more recent guidance). Principle 2 considers accommodating parking demand and notes that:

"Expected levels of vehicle ownership should be determined taking account of dwelling size (rooms); unit type (houses or flats); unit tenure (private/affordable), parking provision (allocated or unallocated), control/enforcement (charges etc.). Calculation of expected levels of vehicle ownership should normally be based on local or comparable data which may include Census data and local Household Surveys of

new development carried out by the Local Authority where these exist, taking account of forecast changes in demand for the Local Plan period."

4.9. The above approach seeks to provide sufficient car parking to meet the likely demand for development without, however, over-providing it to an extent that it could encourage greater car ownership.

4.10. Taking this further, Principle 4 considers the impact of sustainable transport and its impact upon parking demand/car ownership, outlining that:

"... in some locations, limiting parking provision will form part of a strategy to exploit the potential for sustainable transport."

4.11. It goes on to outline that, in order to promote lower car ownership levels, this can be supported by travel plan measures, high levels of accessibility to non-car modes of travel and amenities/facilities and comprehensive parking controls. A Framework Travel Plan was submitted as part of the outline application to support the sustainability credentials of the site and encourage non-car modes of travel. Detailed Travel Plans will be submitted with each reserved matters application setting out details to encourage travel by sustainable modes in accordance with the principles established in the aforementioned Framework Travel Plan.

4.12. It should be noted that the design parameters set out within Principle 6 will be given due regard when the detailed layouts for each reserved matters application is brought forward, and has been considered in the design of this application.

Parking Standards

4.13. The WSCC guidance splits West Sussex into 5 Parking Behaviour Zones (PBZs) based on proximity to alternative transport modes and local amenities, of which only three PBZ's are applicable within Arun district.

4.14. The car parking ratios guiding development in the different PBZs are outlined below in **Table 4.2.**

Number of Bedrooms	Number of Habitable Rooms	Car Parking Spaces per Unit		
		PBZ1	PBZ2	PBZ4
1	1 to 3	2	2	1
2	4	2	2	1
3	5 to 6	2	2	2
4+	7 or more	3	3	2

Table 4.2: Arun Residential Car Parking Standards

4.15. The development is currently situated within PBZ 1, as indicated by the red star in **Figure 4.1** below, however with the implementation of the outline consent it will be akin to PBZ4 (see below).

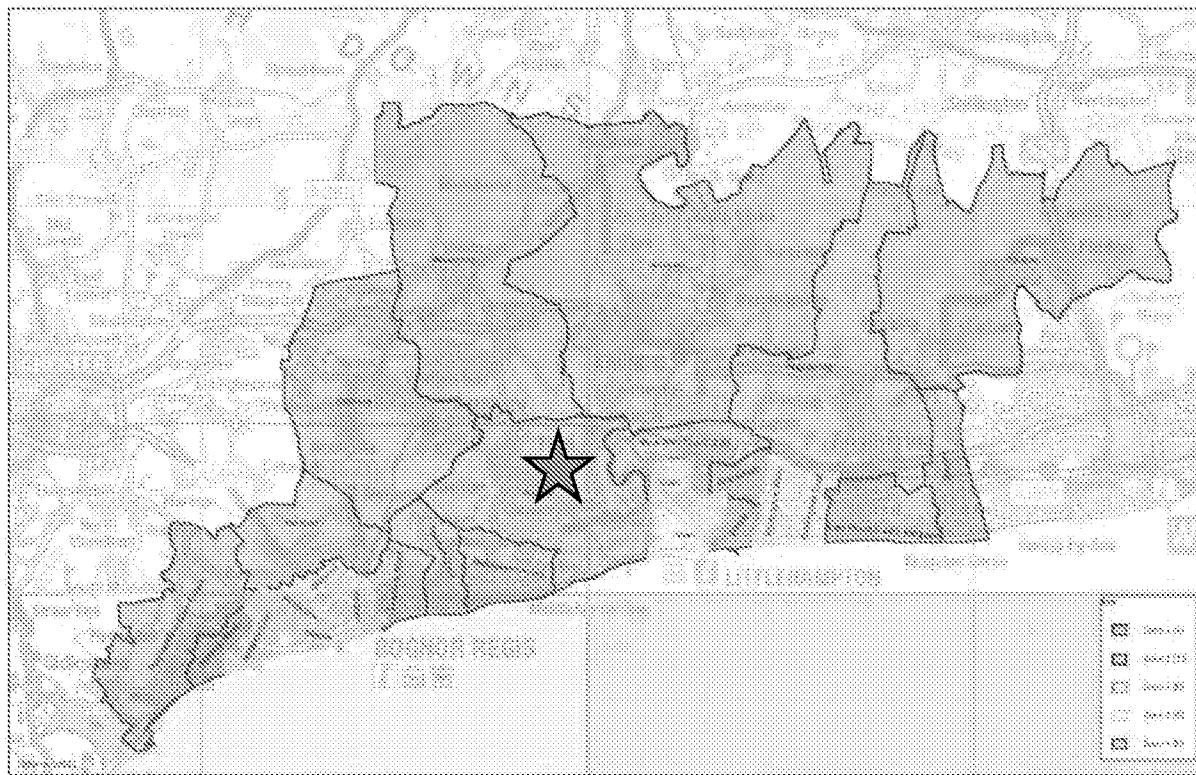


Figure 4.1: WSCC Parking Behaviour Zones – Arun District

4.16. As can be seen in **Figure 4.1**, PBZ 1 covers predominantly rural areas with minimal public or active transport infrastructure. A small number of apartments (less than 22% of total dwellings) are also proposed on site which are located in close proximity to the local centre and the bus stops and active travel options on the spine road.

4.17. As agreed with WSCC highways during pre-application discussions, the scale, land uses and betterments to public transport, walking and cycling infrastructure included

within the consented development means that it is more appropriate to apply the Arun parking standards for PBZ 4 to the apartments specifically. The flats are located adjacent to the spine road, which is the proposed bus link throughout the site (which also connects through to the railway station), as well as providing continuous foot- and cycle- ways through the site, and to the wider area. The flats are part of a wider development, which includes the provision of a range of complimentary land uses within easy walking and cycling distance, further reducing the requirement for future residents to require a car.

4.18. This results in a standard of 1 space for 1 and 2 bed apartments, which concurs with data from the 2021 census which indicates that car ownership for all existing flats in Yapton is at a rate of 0.88 vehicles per dwelling.

4.19. This would mirror the standards applied to other service areas within the county which will be more analogous with the fully delivered development. As mentioned previously, Principle 4 of the Arun guidance sets out how *in some locations, limiting parking provision will form part of a strategy to exploit the potential for sustainable transport.*

Car Parking Provision

4.20. Based on the above standards and the proposed mix of the development, the standards would expect a total of 756 residential car parking spaces for parcel RM1 (North).

4.21. Paragraph 3.2 of the Arun standards states "*To satisfy the promotion of sustainable travel modes and choices it is considered that a 10% variation below the parking demand value be allowed where appropriate travel option provision is provided including travel plans, public transport contributions (e.g. through section 106 contributions involving Strategic Allocations and Community Infrastructure Levy once adopted, for other non-strategic sized developments for offsite infrastructure of a strategic nature) and other sustainable travel initiatives.*"

4.22. In line with the above paragraph, as well as the principles of parking outlined above, the proposed development provides 92.3% of the total car parking expected at a total of 678 residential car parking spaces. As stated previously, the RM1 Northern parcel will be subject to a Travel Plan, which has the target of reducing single occupancy vehicle trips by 10%. Given the extensive array of sustainable travel

measures and incentives, as outlined within the Travel Plan, the proposed provision of vehicle parking throughout the site is appropriate.

4.23. The standards would also expect a total of 68 visitor parking spaces based on applying the Arun rate of 0.2 visitor spaces per dwelling for the proposed 340 dwellings ($340 \times 0.2 = 68$). To further assist with the reduced residential parking provision, a total of 87 visitor parking spaces, representing a dwelling to visitor space rate of 0.255 visitor spaces per dwelling, will be located conveniently within the development as on-street parking or as inset parking within street verges.

4.24. The above strategy has been agreed with WSCC during pre-application discussions, with the following parking provision incorporated into the layout:

- Total allocated residential parking spaces – 678.
- Total visitor spaces – 87; and
- Total disabled parking spaces – 23.

4.25. A plan showing car parking provision for the development, including residential and visitor parking, is provided at **Appendix C**.

Parking Typologies

4.26. To accommodate the variety of dwelling types as well as provide solutions appropriate to the character area, street hierarchy and context within the overall masterplan, a variety of parking typologies have been developed, which include:

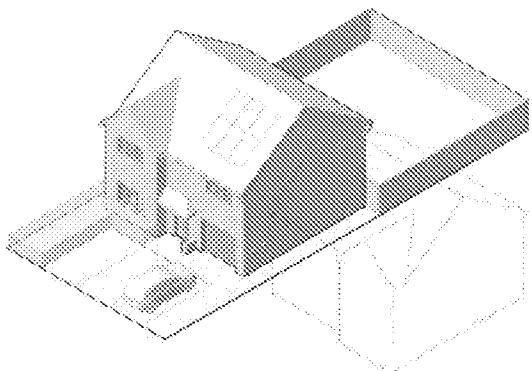
- Integrated Garage;
- Detached Garage or Car Port;
- In-curtilage parking alongside the property;
- In-curtilage parking to the front of the property;
- On-street parking, either parallel or perpendicular to the street; and
- Front or rear parking courts.

4.27. All parking bays will be 5m x 2.5m in dimensions, with a minimum 6m reversing zone. All garages will be 6m x 3m in dimensions, therefore counting as 0.5 parking spaces per the Arun parking standards.

4.28. The various parking typologies are set out below. It should be noted that while all parking typologies are outlined below, the sections of the development within the "Ford Lane" character area will only utilise parking typologies 2-4 and 6, the sections

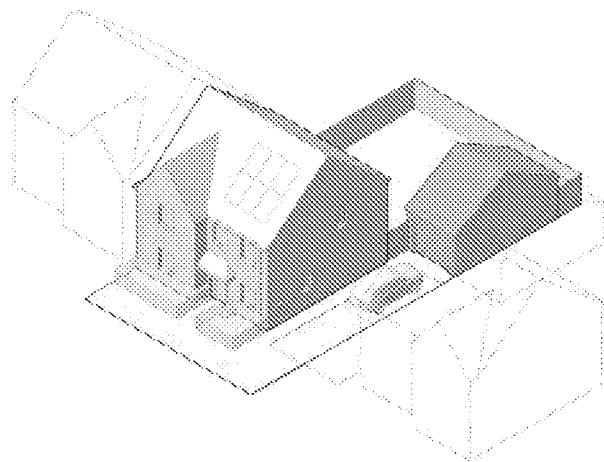
of the development within the "Arun Way and Landings Green" area will only utilise parking typologies 2-6 and the sections of the development in the "St Mary's Meadow" area will utilise parking typologies 1-4 and 6.

Parking typology 1: integrated garage



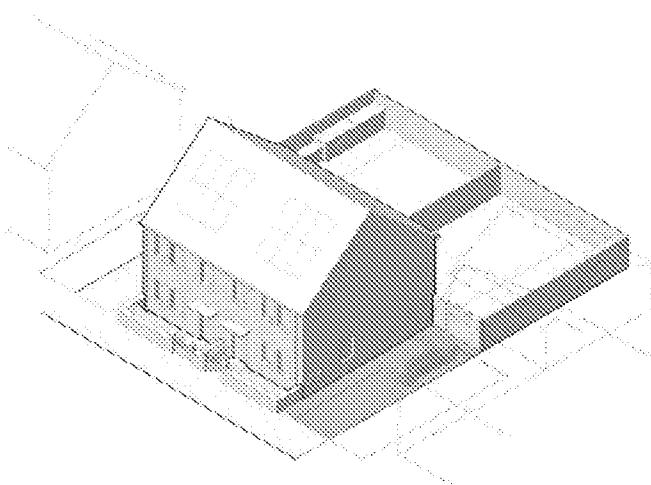
- Garage to be incorporated within the building footprint.
- Clear internal dimensions to be minimum 3.6m by 3.6m to count as 1/2 of a car parking space.
- Min. 1m required in front of the garage doors to the head of a parking space in front.
- Min. 0.9m clear width private footpath required to the front door of the property adjacent to parking spaces.

Parking typology 2: separate detached / attached garage or car port



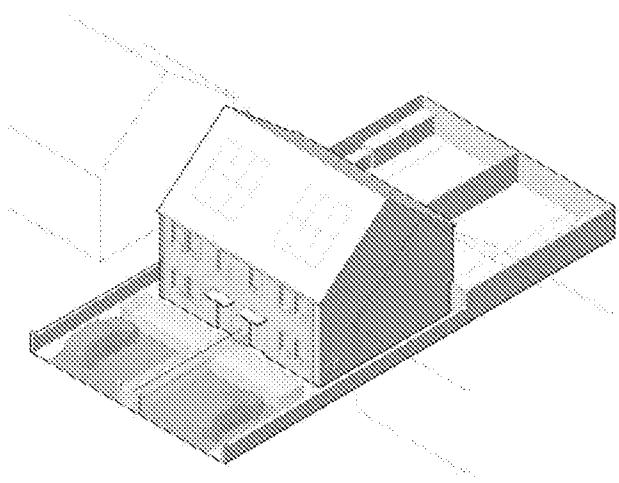
- Clear internal dimensions to be min. 3m by 3m to count as 1/2 of a space for a garage or 1 space for a car port.
- Detached garages to be min. 3m by 3m clear internal.
- Garage/car port structure to be located behind the front building line.
- 1.8m min required in front of the garage doors to the head of a parking space.
- Driveway to be min. 2.3m wide to allow for 0.6m path to access garage.
- Garages are inactive and must not be used in prominent locations.
- Detached garages must not be placed to avoid large gaps of inactive frontage.
- Architectural style / materials to complement the main dwelling.

Parking typology 3: in-curtailage alongside the property



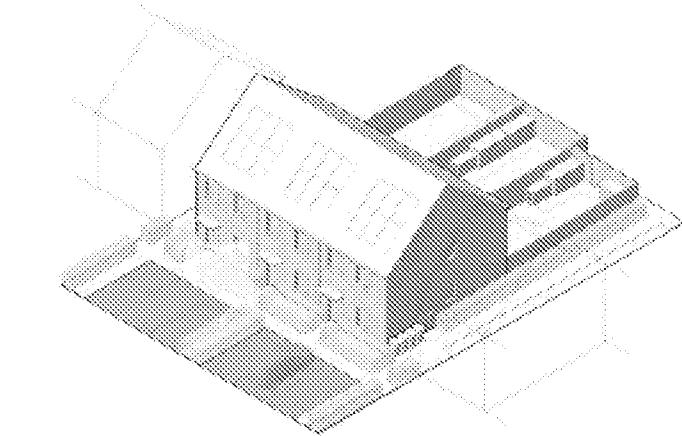
- On plot tandem or side by side spaces to the side of the dwelling (or rear where a corner plot)
- Parking spaces should be located behind the front boundary line, and avoid crossing footpaths
- Driveway to be min. 3m wide
- Where M403 dwelling and / or access required to rear garden for bins and / or bikes, driveway to be min. 3.3m wide allowing for a space + 0.8m path to one side
- Additional 0.5m required to head of a space where against a physical boundary (fence / wall)

Parking typology 4: in-curtailage to the front of the property



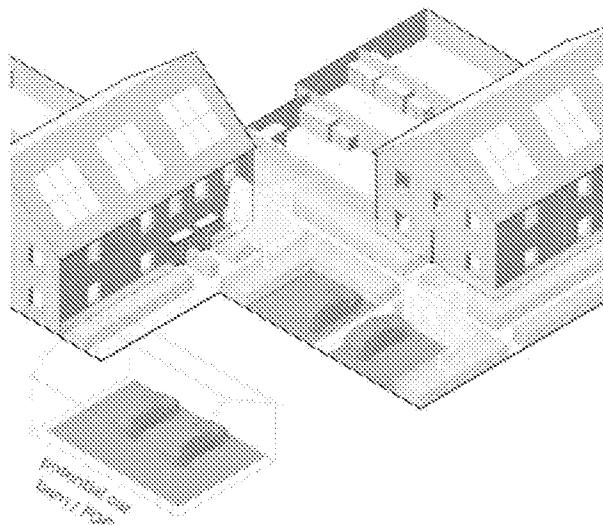
- On plot side by side spaces to the front of the dwelling
- Min. 0.9m clear cycle/pedestrian footpath required to the front door adjacent to parking spaces
- Fared driveways to allow for min. 1.5m wide block planting in between to visually break up the parking and soften the street scene
- Note depth of parking space excluded from front garden depth in built form Matrix in Table 71 on page 60

Parking typology 5: on street parking



- On plot side by side spaces to the front
- Typically no more than 1.5m deep to accommodate access to a rear parking bay, front door, block planting / cycle parking
- Layout to be designed to squeeze a bay of maximum 1.5m (allowing for access to rear parking bay)
- Min. 1.5m clear distance between the parking bay, rear door, garden to allow access to the driveway
- Min. 1.2m width for bays, minimum access to rear parking bay to be present (e.g. 1.2m x 1.2m or 1.2m x 1.5m)

Parking typology 6: parking courts / courtyards



- Parking courts / courtyards should be designed and used effectively
- Parking courts and driveways should be designed to be as safe as possible
- Parking courts should be clearly defined for the people they serve
- Parking / bays should be incorporated within the courtyard to reduce the visual impact of the car parking
- Changes in road alignment and layout should indicate areas to be used for disabled access by non-residents
- Consideration should be given to the parking needs of visitors to these spaces
- Where possible car bays are recommended within residential courts to assist with accessibility and visual impact, without impacting the security of the residential properties.

Residential Disabled Car Parking Provision

4.29. In terms of disabled parking provision, the Arun standards state that Manual for streets should be followed. Manual for streets states that *it is recommended that 5% of residential car-parking spaces are designated for use by disabled people.* This standard is also mirrored in WSCC guidance.

4.30. Disabled parking will be provided in accordance with the above standards within the curtilage of houses and as part of the allocated parking for the apartments. Disabled bays will be provided with 1.2m access zone on two sides of the parking spaces, resulting in a disabled parking bays measuring a total of 6m x 3m minimum.

Residential Electric Vehicle Charging Provision

4.31. Electric vehicle charging provision will be provided in line with *Building Regulations Approved Document S: Infrastructure for the charging of electric vehicles* and the Arun parking standards.

4.32. Approved Document S requires the following minimum provision:

The erection of new residential buildings	
51.	(1) A new residential building with associated parking must have access to electric vehicle charge points as provided for in paragraph (2).
	(2) The number of associated parking spaces which have access to electric vehicle charge points must be— (a) the total number of associated parking spaces, where there are fewer associated parking spaces than there are dwellings contained in the residential building; or (b) the number of associated parking spaces that is equal to the total number of dwellings contained in the residential building, where there are the same number of associated parking spaces as, or more associated parking spaces than, there are dwellings.
	(3) Cable routes for electric vehicle charge points must be installed in any associated parking spaces which do not, in accordance with paragraph (2), have an electric vehicle charge point where— (a) a new residential building has more than 10 associated parking spaces; and (b) there are more associated parking spaces than there are dwellings contained in the residential building.

Figure 4.2: Building Regulations Extract

4.33. In addition to the above, the Arun guidance specifies the below standards with regards to EVCP provision:

Year	% of Parking Spaces with Active EV Charging Points	% of Parking Spaces with Active EV Charging Points
	Houses with a driveway or garage	All other developments
2018	100	20
2023	100	30
2028	100	50
2033	100	100

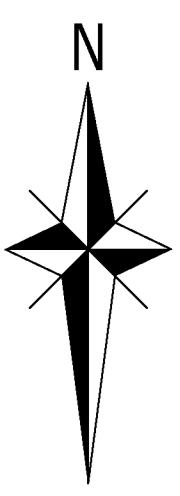
Figure 4.3: Arun Guidance Extract

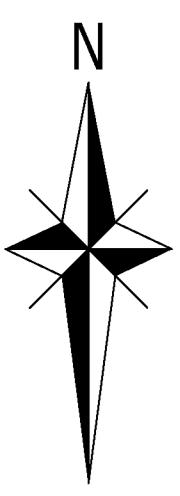
4.34. In accordance with the above guidance, all dwellings with an on-plot parking space will be provided with an active charging point. For apartments with parking courts, or on street parking electric vehicle charging points will be provided at a rate of one space per dwelling.

5. Summary and Conclusion

- 5.1. Ardent Consulting Engineers (ACE) has been appointed by Vistry Homes Limited to advise on the Highways & Transportation aspects of a residential-led mixed-use development on Land at Ford Airfield, Ford that benefits from outline consent.
- 5.2. The development will be brought forward via a number of reserved matters applications. This Transport Technical Note (TTN) considers the RM1 (North) application.
- 5.3. The Local Planning Authority (LPA) is Arun District Council (ADC) and the Local Highways Authority is West Sussex County Council (WSCC).
- 5.4. This note provides a brief outline of the access and movement strategy for the site as set out in Transport Assessment submitted with the approved outline application. The approved strategy as set out has been retained in developing the proposals subject to this RM application, incorporating the consultation feedback from ADC/WSCC that has taken place to date.
- 5.5. This TTN covers the enabling infrastructure with road types from Primary Streets Secondary Streets, Tertiary Streets and Mews.
- 5.6. This TTN also provides justification for the parking provision within RM1 (North).
- 5.7. This TTN shows the Infrastructure Reserved Matters application has been designed in accordance with the Design Code, dated July 2024, which was developed in liaison with WSCC and ADC. Thereby, this TTN enables the discharge of the Infrastructure Reserved Matters Application.

Drawing





Appendix A



Appendix B

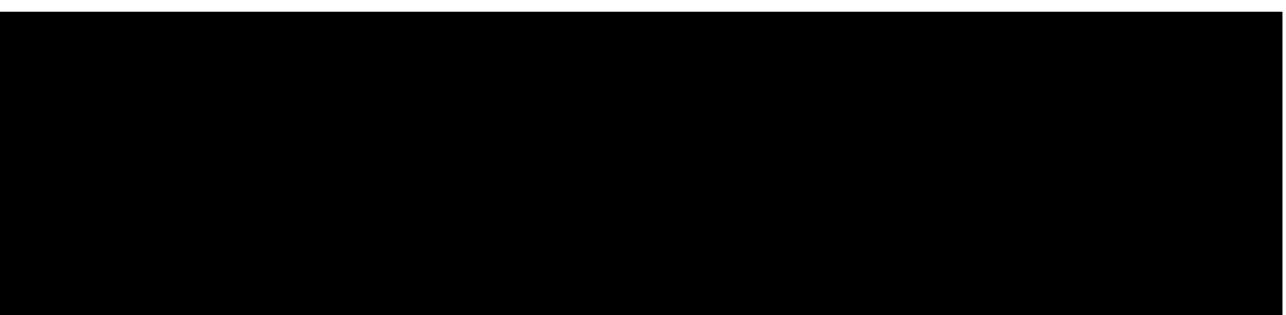
VISTRY HOMES LIMITED

THE LANDINGS, LAND AT FORD AIRFIELD, FORD

**IRM STAGE 1 ROAD SAFETY AUDIT DESIGNER'S
RESPONSE**

**REPORT REF.
2205771-R27**

December 2024



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- 2205771-012C IRM - VEHICLE TRACKING AND VISIBILITY PLAN (3 OF 7)
- 2205771-013C IRM - VEHICLE TRACKING AND VISIBILITY PLAN (4 OF 7)
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Appendices

- Appendix A - RSA 1 (prepared by M + S Traffic)

Document Control Sheet

REF	ISSUE PURPOSE	ASSISTANT	CHIEF/SE	REVISIONS	ISSUED
-	Draft	BS/ AD	DH	DRAFT	21/11/2024

Distribution

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1. INTRODUCTION

- 1.1. Ardent Consulting Engineers has been appointed by Vistry Homes Limited to advise on the transport aspects of the proposed residential-led mixed-use development on Land at Ford Airfield, Ford.
- 1.2. This report addresses matters raised in the Stage 1 Road Safety Audit (RSA) undertaken by M & S Traffic (M&S), dated 4th November 2024.
- 1.3. The audit was undertaken on the proposed spine road that connects Yapton Road and Ford Road and serves the entire site.
- 1.4. The following drawings have been prepared to incorporate the findings of the RSA1:
 - » 2205771-010C IRM ~ VEHICLE TRACKING AND VISIBILITY PLAN (1 OF 7)
 - » 2205771-011C IRM ~ VEHICLE TRACKING AND VISIBILITY PLAN (2 OF 7)
 - » 2205771-012C IRM ~ VEHICLE TRACKING AND VISIBILITY PLAN (3 OF 7)
 - » 2205771-013C IRM ~ VEHICLE TRACKING AND VISIBILITY PLAN (4 OF 7)
 - » 2205771-014C IRM ~ VEHICLE TRACKING AND VISIBILITY PLAN (5 OF 7)
 - » 2205771-015C IRM ~ VEHICLE TRACKING AND VISIBILITY PLAN (6 OF 7)
 - » 2205771-016C IRM ~ VEHICLE TRACKING AND VISIBILITY PLAN (7 OF 7)
 - » 2205771-D100P12 ~ ENABLING INFRASTRUCTURE GENERAL ARRANGEMENT

2. DESIGNERS RESPONSE TO STAGE 1 ROAD SAFETY AUDIT

Table 2.1 Project Details

Report title:	Stage 1 Designers Response - IRM
Date:	November 2024
Document reference and revision:	2205771-R27
Prepared by:	Ardent Consulting Engineers
On behalf of:	Vistry Homes Limited

Table 2.2 Authorisation Sheet

Project:	Ford Airfield
Report title:	Designers Response to Stage 1 Road Safety Audit
Prepared by	
Name:	Bill Springett
Position:	Principal Transport Planner
Signed:	
Organisation:	Ardent Consulting Engineers
Date:	14/11/2024
Approved by	

Name:	Andrew Dennis
Position:	Associate
Signed:	
Organisation:	Ardent Consulting Engineers
Date:	14/11/2024

Table 2.3 Key Personnel

Overseeing Organisation:	Mr S. Gee
RSA team:	Mr B. Shawyer & Mr M Morris
Design organisation:	Mr B Springett & Mr A. Dennis

Table 2.4 Road Safety Audit Decision Log

RSA problem	RSA recommendation	Design organisation response	Overseeing Organisation response	Agreed RSA action
3.1.1 – Proposed sections of new carriageway Ponding of surface water could lead to loss of control accidents.	It is recommended that drainage details should be provided at Safety Audit Stage 2, or that the carriageway should be shaped so that the highway drains.	Agreed - drainage details will be provided at Safety Audit Stage 2		
The carriageway is being amended with new sections of carriageway, and new kerblines are being introduced. No details				

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<p>of carriageway drainage or carriageway vertical profiles and horizontal profiles have been provided for assessment. Ponding on the carriageway or water moving across the carriageway at junctions could lead to loss of control accidents.</p>				
<p>3.1.2 - The Scheme Insufficient construction details could compromise road safety. No construction details were provided for assessment, in particular, details of tie-ins and new road construction and carriageway width. Inappropriate tie-ins or inadequate Polished Stone Values could lead to differential braking, particularly under severe braking conditions.</p>	<p>It is recommended that that tie-ins and carriageway construction, including road widths, should be provided for assessment at Stage 2 Safety Audit.</p>	<p>Agreed - Tie in and carriageway construction will be provided at Stage 2 Audit.</p>		
<p>3.1.3 - Proposed Scheme Insufficient construction detail on raised tables could lead to loss of control collisions. Raised tables are proposed; however, no details of the ramp profiles or height of the humps have been provided for assessment. There is concern that if the height is outside normal ranges, this could lead to loss of control collisions.</p>	<p>It is recommended that ramp profiles should be within normal accepted ranges, and ramps should be perpendicular to traffic flow.</p>	<p>Agreed - Ramp profiles will be designed within normal accepted range, perpendicular to traffic flow in accordance with West Sussex Highway Design Specification and will be presented for Stage 2 Audit.</p>		

3.1.4 – Proposed raised tables Insufficient construction details could lead to vehicle to pedestrian / cyclist collisions. No construction details were provided for assessment; however, these did not include details of the Polished Paver Test Value (PPTV) of the concrete block paving for the raised tables. Inappropriate carriageway construction with low PPTV values could lead to vehicle to pedestrian / cyclist collisions.	It is recommended that PPTV details should be checked to ensure they provide adequate grip resistance for the speed of road.	PPTV will be designed to provide adequate grip resistance for speed of road in accordance with West Sussex Highway Design Specification and presented for stage 2 audit.		
3.1.5 – Spine Road Ironwork covers could lead to loss of control collisions. There are ironwork covers proposed on the bends of the spine road, which could lead to loss of control collisions for cyclists or powered two wheeled vehicles that may be banked over, particularly in wet or icy conditions.	It is recommended that chambers and associated covers should be relocated out of the bend or that the covers should have an anti-skid surfacing, matching the polished stone value of the surrounding surface.	Chambers and associated covers will be relocated outside of bend, or where not possible, covers will be designed with anti-skid surfacing, matching PSV of surrounding surface and presented for stage 2 audit		
3.1.6 – Proposed shared use footway / cycleway link Insufficient construction details could lead to overshoot at junctions or cyclist loss of control collisions. The Polished Stone Value (PSV) of the shared route surface was not supplied.	It is recommended that the PSV of the footway / cycleway link surface material should be a minimum of 50PSV.	PSV of footway / Cycleway designed to minimum of 50PSV and will be specified at detailed design stage and presented for stage 2 audit		

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Surfacing with an insufficient Polished Stone Value (PSV) could lead to overshoot at junctions or cyclist loss of control collisions in the event of sudden braking manoeuvres.				
<p>3.1.7 - Spine road proposed shared use footways at junctions</p> <p>Inconsistent surfacing could increase the risk of vehicle to pedestrian / cyclist collisions.</p> <p>Crossings are proposed on raised tables that give priority to pedestrians and cyclists using the shared path. However, it is unknown whether a different surface type will be used to distinguish the continuous footway crossing from the raised table. A lack of distinction could lead to drivers being unaware that they should give priority to pedestrian / cyclists increasing the risk of vehicle to pedestrian collisions. However, as the continuous footways are on regularly spaced raised tables it is recognised that vehicle speeds are likely to be low.</p>	<p>It is recommended that a different surface material should be applied to the continuous footways at the raised tables to enhance the footway conspicuity.</p>	<p>Different surface material applied to continuous footways at raised tables to be specified at detailed design stage and presented for stage 2 audit</p>		

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<p>3.1.8 – Proposed Chicane Ineffective traffic calming could lead sudden braking and rear end shunt collisions or head on collisions.</p> <p>There is a chicane proposed at the southern bend, where the buildouts and therefore give way markings will also need to be some distance apart. This could lead to traffic not giving way to opposing flows, and traffic could accelerate to beat the opposing traffic through the single buildout arrangement. Further, there is a bus stop proposed very close to the southernmost buildout. This could lead to sudden braking and rear end shunt collisions or head on collisions.</p>	<p>It is recommended that either:</p> <ul style="list-style-type: none"> • Chicane are replaced with other traffic calming features. • Chicane should be double spaced closer together. • The southern bus stop is relocated. 	<p>Single chicane with bollards to highlight and move the give way lines closer to it to avoid 'beating' opposition traffic.</p> <p>The southern bus stop will be maintained as priority will be to northbound traffic and there is suitable visibility from southbound traffic to stop if a vehicle pulls around the bus</p>	
<p>3.1.9 – Proposed Tables Ineffective traffic calming could lead sudden braking and rear end shunt collisions or head on collisions.</p> <p>There are tables proposed as annotated in Appendix B, where the length of the tables could lead to vehicle speeds increasing on the tables, negating the traffic calming features effectiveness. This could also lead to vehicle suspension bottoming out when exiting the table which could cause injury to bus passengers.</p>	<p>It is recommended that tables should be of a shorter length.</p>	<p>These longer table locations are in isolated areas where two crossings are in close proximity and as such would cause safety issues with the multiple level changes in close proximity</p>	

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3.1.10 - Proposed chicane/traffic calming feature Ineffective traffic calming could lead sudden braking and rear end shunt collisions or head on collisions. There is a chicane/traffic calming feature proposed with no details provided. Auditors are unable to comment further on this without further details on the traffic calming feature, which could compromise road safety.	It is recommended that details of the traffic calming feature should be supplied for assessment.	Details of traffic calming feature will be provided at Safety Audit Stage 2		
3.1.11 - Proposed chicane/traffic calming feature Ineffective traffic calming could lead sudden braking and rear end shunt collisions or head on collisions. There is a chicane/traffic calming feature proposed with no details provided. Auditors are unable to comment further on this without further details on the traffic calming feature, which could compromise road safety.	It is recommended that details of the traffic calming feature should be supplied for assessment.	Details of traffic calming feature will be provided at Safety Audit Stage 2		

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<p>3.1.12 - Proposed chicane/traffic calming feature</p> <p>Ineffective traffic calming could lead sudden braking and rear end shunt collisions or head on collisions.</p> <p>There is a chicane/traffic calming feature proposed with no details provided. Auditors are unable to comment further on this without further details on the traffic calming feature, which could compromise road safety.</p>	<p>It is recommended that details of the traffic calming feature should be supplied for assessment.</p>	<p>Details of traffic calming feature will be provided at Safety Audit Stage 2</p>		
<p>3.2.1 - Bend on the Spine Road</p> <p>Lack of visibility could lead to side impact collisions or rear end shunts.</p> <p>No forward visibility splays have been provided; planting is proposed within the forward visibility splay. There is concern that landscaping exceeding 600mm in height within the visibility splays could adversely affect visibility, which could lead to side impact collisions or rear end shunts.</p>	<p>It is recommended that the associated landscaping within the visibility splays should not exceed 600mm in height and that a regular maintenance programme should be employed.</p>	<p>Landscaping within visibility splay designed to not exceed 600mm, with regular maintenance programme instigated</p>		

3.2.2 – Double bend on the spine road Inadequate bend radii could lead to loss of control collisions or vehicles entering the opposing carriageway leading to head on collisions. There is a double bend on the spine road where no bend radii information is provided. Bends with inadequate radii could lead to loss of control collisions or vehicles entering the opposing carriageway leading to head on collisions.	It is recommended that bend radii and carriageway widths are provided for assessment.	Carriageway widths and bend radii suitable for grade of road. Tracking provided in updated drawings demonstrates that two buses can pass on spine road.		
3.2.3 – Proposed Spine Road Insufficient carriageway space may lead to side swipe collisions. Vehicle swept paths have not been provided for assessment for two-way HGV flow on bends on the main Spine Road. This may lead to conflict and sudden braking leading to rear end shunt or swipe collisions.	It is recommended that the carriageway should be sufficiently wide to accommodate all expected movements, further that swept paths should be provided for assessment.	Carriageway will be designed to accommodate expected movements. SPA will be provided at Safety Audit Stage 2		

<p>3.3.1 - Proposed junctions as annotated in Appendix B</p> <p>Restricted visibility could lead to side impact collisions or sudden braking and rear end shunt collisions.</p> <p>At junctions the proposed bus stops could be positioned in the visibility splays of the junctions. A bus servicing the stops could be stationary and within the visibility splay of the access road, thereby restricting visibility for egressing vehicles. Restricted visibility for egressing vehicles could lead to side impact collisions or sudden braking and rear end shunt collisions</p>	<p>It is recommended that the bus stop should be relocated so that buses servicing the stop do not obstruct visibility for egressing vehicles from the adjacent junction.</p>	<p>As set out in MfS2, parked vehicles in visibility splays do not appear to create significant problems in practice.</p>		
<p>3.3.2 - Proposed accesses with the spine road</p> <p>Lack of visibility could lead to side impact collisions or rear end shunts.</p> <p>Visibility splays at the accesses have been provided; however, planting is proposed within visibility splays. There is concern that landscaping exceeding 600mm in height within the visibility splays could adversely affect visibility, which could lead to side impact collisions or rear end shunts.</p>	<p>It is recommended that the associated landscaping within the visibility splays should not exceed 600mm in height and that a regular maintenance programme should be employed.</p>	<p>Landscaping within visibility splay designed to not exceed 600mm, with regular maintenance programme instigated</p>		

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3.5.1 – Proposed development No signage or road markings could compromise road safety. No details of the speed limit of the estate have been provided, where visibility splays for 20mph and 30mph have been provided. Whilst it is not possible for the Audit Team to ascertain if any specific safety issues will arise, there is concern that a lack of, signage of raised features and an inappropriate speed limit could compromise road safety and lead to possible collisions.	It is recommended that the development should have appropriate road signage that signage details should be provided for assessment at Stage 2 safety Audit.	Agreed - Road signage will be provided at Safety Audit Stage 2		
3.5.2 – The scheme Insufficient street lighting could lead to vehicle to pedestrian / cyclist collisions or side impact collisions. No details of street lighting have been provided for assessment. Insufficient street lighting could compromise road safety and may reduce the visibility of pedestrians and cyclists during the hours of darkness, particularly at junctions. This could lead to vehicle to pedestrian / cyclist collisions or side impact collisions.	It is recommended that a plan showing the light distribution should be provided for assessment at Stage 2 Safety Audit.	Agreed - Light distribution will be provided at Safety Audit Stage 2		

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IRM STAGE 1 ROAD SAFETY AUDIT DESIGNER'S RESPONSE
Table 2.6 Design Organisation Statement

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On behalf of the design organisation I certify that:

1) the RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the Overseeing Organisation.

Name:	Bill Springett
Signed	
Position:	Principal Transport Planner
Organisation:	Ardent Consulting Engineers
Date:	18/11/2024

THE LANDINGS, LAND AT FORD AIRFIELD, FORD
IRM STAGE 1 ROAD SAFETY AUDIT DESIGNER'S RESPONSE
Table 2.6 Overseeing Organisation Statement

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On behalf of the Overseeing Organisation I certify that:

- 1) the RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the design organisation; and
- 2) the agreed RSA actions will be progressed.

Name:	
Signed:	
Position:	
Organisation:	
Date:	

Response to designers response Ford Airfield Spine Road RSA 1

3.1.1 Noted and accepted.

3.1.2 Noted and accepted.

3.1.3 Noted and accepted.

3.1.4 Noted and accepted.

3.1.5 Noted and accepted.

3.1.6 Noted and accepted.

3.1.7 Noted and accepted.

3.1.8 Noted, however, this item still remains a cause for concern.

3.1.9 Noted, however, this item still remains a cause for concern.

3.1.0 Noted and accepted.

3.1.1 Noted and accepted.

3.1.2 Noted and accepted.

3.2.1 Noted and accepted.

3.2.2 Noted, however the swept paths and carriageway widths show a lack of clearance between opposing traffic movements, and often swept path tracking does not take into account mirrors on large vehicles. It is suggested that this is assessed further at RSA 2.

3.2.3 Noted, however the swept paths and carriageway widths show a lack of clearance between opposing traffic movements, and often swept path tracking does not take into account mirrors on large vehicles. It is suggested that this is assessed further at RSA 2.

3.3.1 Noted, however, this item still remains a cause for concern.

3.3.2 Noted and accepted.

3.5.1 Noted and accepted.

3.5.2 Noted and accepted.

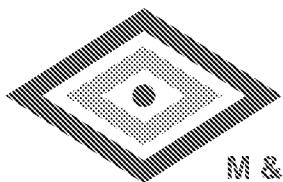
Kind regards

Martin

Martin Morris
Managing Director
M&S Traffic Ltd
Aeolus House, 32 Hamelin Road, Gillingham, Kent ME7 3EX



Appendix A



M & S Traffic

Road Safety Audit Stage 1

Spine Road

Ford Airfield

West Sussex

Date: 4th November 2024

Report produced for: Ardent Consulting Engineers

Report produced by: M & S Traffic

Registered Office: 32 Hamelin Road, Gillingham, Kent ME7 3EX Registered in Cardiff No:06730905

DOCUMENT CONTROL SHEET

M&S Traffic has prepared this report in accordance with the instructions from Ardent Consulting Engineers. M&S Traffic shall not be liable for the use of any information contained herein for any purpose other than the sole and specific use for which it was prepared.

Report Title:	Ford Airfield, Arun (Spine Road) Road Safety Audit Stage 1
Document reference:	ARD/24/03/2205771/1/MM
Prepared by:	M & S Traffic
On behalf of:	West Sussex County Council

Revision Status	Prepared by (Name)	Checked by (Name)	Approved by (Signature)	Date Approved
Final	Martin Morris	Bryan Shawyer		4 th November 2024

Distribution

Organisation	Contact	Copies
Ardent Consulting Engineers	David Howson	-
Ardent Consulting Engineers	Bill Springett	-

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1 INTRODUCTION

1.1 This report describes a Stage 1 Road Safety Audit carried out on a proposed Section 38 Spine Road, associated with a mixed-use development of the Ford Airfield to provide circa 1,500 dwellings, a 60-bed care home, up to 9,000sq.m of employment floorspace, a local centre and a primary school as well as amenities and facilities.

The Audit was requested by the design organisation, Ardent Consulting Engineers, Suffolk Enterprise Centre, Felaw Maltings, 44 Felaw Street, Ipswich IP2 8SJPO16 8UT on behalf of West Sussex County Council, as the Overseeing Organisation.

1.2 The Audit Team membership was as follows:

Martin Morris, PGD, MCIHT, MSoRSA – Audit Team Leader
National Highways Approved RSA Certificate of Competency

Bryan Shawyer B.Eng. (Hons), MSc, MCIHT, MSoRSA – Audit Team Member
National Highways Approved RSA Certificate of Competency

1.3 The audit was undertaken following the principles of GG 119, The Design Manual for Roads and Bridges. The documents available at the time the report was compiled are detailed in Appendix A.

1.4 The Audit took place at the Gillingham offices of M&S Traffic during October 2024 and comprised an examination of the documents provided as listed in Appendix A. A joint site visit and inspection was undertaken on the 22nd October 2024 between 08:00 and 15:00 hours. Weather conditions at the time varied between fine overcast with occasional precipitation, and the road surfaces varied between dry and was damp, where the site was closed off to traffic.

1.5 The report has been compiled, only with regards to the safety implications for road users of the layout presented in the supplied drawings. It has not been examined or verified for compliance with any other standards or criteria. This safety audit does not perform any “Technical Check” function on these proposals. It is assumed that the Project Sponsor is satisfied that such a “Technical Check” has been successfully completed prior to requesting this safety audit.

1.6 Auditors have not been informed of any Departures from Standards in this scheme construction.

1.7 All comments and recommendations are referenced to the detailed drawings and the locations have been detailed relating to the plans supplied with the audit brief, Appendix B.

2 SAFETY ISSUES RAISED AT PREVIOUS AUDITS

2.1 No previous Audits were supplied for assessment.

3 ITEMS RAISED AT THE STAGE 1 AUDIT

3.1 General

3.1.1 PROBLEM

Location: Proposed sections of new carriageway.

Summary: Ponding of surface water could lead to loss of control accidents.

The carriageway is being amended with new sections of carriageway, and new kerblines are being introduced. No details of carriageway drainage or carriageway vertical profiles and horizontal profiles have been provided for assessment. Ponding on the carriageway or water moving across the carriageway at junctions could lead to loss of control accidents.

RECOMMENDATION

It is recommended that drainage details should be provided at Safety Audit Stage 2, or that the carriageway should be shaped so that the highway drains.

3.1.2 PROBLEM

Location: The scheme.

Summary: Insufficient construction details could compromise road safety.

No construction details were provided for assessment, in particular, details of tie-ins and new road construction and carriageway width. Inappropriate tie-ins or inadequate Polished Stone Values could lead to differential braking, particularly under severe braking conditions.

RECOMMENDATION

It is recommended that that tie-ins and carriageway construction, including road widths, should be provided for assessment at Stage 2 Safety Audit.

3.1.3 PROBLEM

Location: Proposed scheme.

Summary: Insufficient construction detail on raised tables could lead to loss of control collisions.

Raised tables are proposed; however, no details of the ramp profiles or height of the humps have been provided for assessment. There is concern that if the height is outside normal ranges, this could lead to loss of control collisions.

RECOMMENDATION

It is recommended that ramp profiles should be within normal accepted ranges, and ramps should be perpendicular to traffic flow.

3.1.4 PROBLEM

Location: Proposed raised tables.

Summary: Insufficient construction details could lead to vehicle to pedestrian / cyclist collisions.

No construction details were provided for assessment; however, these did not include details of the Polished Paver Test Value (PPTV) of the concrete block paving for the raised tables. Inappropriate carriageway construction with low PPTV values could lead to vehicle to pedestrian / cyclist collisions.

RECOMMENDATION

It is recommended that PPTV details should be checked to ensure they provide adequate grip resistance for the speed of road.

3.1.5 PROBLEM

Location: Spine Road.

Summary: Ironwork covers could lead to loss of control collisions.

There are ironwork covers proposed on the bends of the spine road, which could lead to loss of control collisions for cyclists or powered two wheeled vehicles that may be banked over, particularly in wet or icy conditions.

RECOMMENDATION

It is recommended that chambers and associated covers should be relocated out of the bend or that the covers should have an anti-skid surfacing, matching the polished stone value of the surrounding surface.

3.1.6 PROBLEM

Location: Proposed shared use footway / cycleway link.

Summary: Insufficient construction details could lead to overshoot at junctions or cyclist loss of control collisions.

The Polished Stone Value (PSV) of the shared route surface was not supplied. Surfacing with an insufficient Polished Stone Value (PSV) could lead to overshoot at junctions or cyclist loss of control collisions in the event of sudden braking manoeuvres.

RECOMMENDATION

It is recommended that the PSV of the footway / cycleway link surface material should be a minimum of 50PSV.

3.1.7 PROBLEM

Location: Spine road proposed shared use footways at junctions.

Summary: Inconsistent surfacing could increase the risk of vehicle to pedestrian / cyclist collisions.

Crossings are proposed on raised tables that give priority to pedestrians and cyclists using the shared path. However, it is unknown whether a different surface type will be used to distinguish the continuous footway crossing from the raised table. A lack of distinction could lead to drivers being unaware that they should give priority to pedestrian / cyclists increasing the risk of vehicle to pedestrian collisions. However, as the continuous footways are on regularly spaced raised tables it is recognised that vehicle speeds are likely to be low.

RECOMMENDATION

It is recommended that a different surface material should be applied to the continuous footways at the raised tables to enhance the footway conspicuity.

3.1.8 PROBLEM

Location: Proposed chicane.

Summary: Ineffective traffic calming could lead sudden braking and rear end shunt collisions or head on collisions.

There is a chicane proposed at the southern bend, where the buildouts and therefore give way markings will also need to be some distance apart. This could lead to traffic not giving way to opposing flows, and traffic could accelerate to beat the opposing traffic through the single buildout arrangement. Further, there is a bus stop proposed very close to the southernmost buildout. This could lead to sudden braking and rear end shunt collisions or head on collisions.

RECOMMENDATION

It is recommended that either:

- Chicanes are replaced with other traffic calming features.
- Chicanes should be double chicanes spaced closer together.
- The southern bus stop is relocated.

3.1.9 PROBLEM

Location: Proposed tables.

Summary: Ineffective traffic calming could lead sudden braking and rear end shunt collisions or head on collisions.

There are tables proposed as annotated in Appendix B, where the length of the tables could lead to vehicle speeds increasing on the tables, negating the traffic calming features effectiveness. This could also lead to vehicle suspension bottoming out when exiting the table which could cause injury to bus passengers.

RECOMMENDATION

It is recommended that tables should be of a shorter length.

3.1.10 PROBLEM

Location: Proposed chicane/traffic calming feature.

Summary: Ineffective traffic calming could lead sudden braking and rear end shunt collisions or head on collisions.

There is a chicane/traffic calming feature proposed with no details provided. Auditors are unable to comment further on this without further details on the traffic calming feature, which could compromise road safety.

RECOMMENDATION

It is recommended that details of the traffic calming feature should be supplied for assessment.

3.1.11 PROBLEM

Location: Proposed chicane/traffic calming feature.

Summary: Ineffective traffic calming could lead sudden braking and rear end shunt collisions or head on collisions.

There is a chicane/traffic calming feature proposed with no details provided. Auditors are unable to comment further on this without further details on the traffic calming feature, which could compromise road safety.

RECOMMENDATION

It is recommended that details of the traffic calming feature should be supplied for assessment.

3.1.12 PROBLEM

Location: Proposed chicane/traffic calming feature.

Summary: Ineffective traffic calming could lead sudden braking and rear end shunt collisions or head on collisions.

There is a chicane/traffic calming feature proposed with no details provided. Auditors are unable to comment further on this without further details on the traffic calming feature, which could compromise road safety.

RECOMMENDATION

It is recommended that details of the traffic calming feature should be supplied for assessment.

3.2 Local Alignment

3.2.1 PROBLEM

Location: Bend on the Spine Road.

Summary: Lack of visibility could lead to side impact collisions or rear end shunts.

No forward visibility splays have been provided; planting is proposed within the forward visibility splay. There is concern that landscaping exceeding 600mm in height within the visibility splays could adversely affect visibility, which could lead to side impact collisions or rear end shunts.

RECOMMENDATION

It is recommended that the associated landscaping within the visibility splays should not exceed 600mm in height and that a regular maintenance programme should be employed.

3.2.2 PROBLEM

Location: Double bend on the Spine Road.

Summary: Inadequate bend radii could lead to loss of control collisions or vehicles entering the opposing carriageway leading to head on collisions.

There is a double bend on the spine road where no bend radii information is provided. Bends with inadequate radii could lead to loss of control collisions or vehicles entering the opposing carriageway leading to head on collisions.

RECOMMENDATION

It is recommended that bend radii and carriageway widths are provided for assessment.

3.2.3 PROBLEM

Location: Proposed Spine Road.

Summary: Insufficient carriageway space may lead to side swipe collisions.

Vehicle swept paths have not been provided for assessment for two-way HGV flow on bends on the main Spine Road. This may lead to conflict and sudden braking leading to rear end shunt or swipe collisions.

RECOMMENDATION

It is recommended that the carriageway should be sufficiently wide to accommodate all expected movements, further that swept paths should be provided for assessment.

3.3 Junctions

3.3.1 PROBLEM

Location: Proposed junctions as annotated in Appendix B:

Summary: Restricted visibility could lead to side impact collisions or sudden braking and rear end shunt collisions.

At junctions the proposed bus stops could be positioned in the visibility splays of the junctions. A bus servicing the stops could be stationary and within the visibility splay of the access road, thereby restricting visibility for egressing vehicles. Restricted visibility for egressing vehicles could lead to side impact collisions or sudden braking and rear end shunt collisions.

RECOMMENDATION

It is recommended that the bus stop should be relocated so that buses servicing the stop do not obstruct visibility for egressing vehicles from the adjacent junction.

3.3.2 PROBLEM

Location: Proposed accesses with the Spine Road.:

Summary: Lack of visibility could lead to side impact collisions or rear end shunts.

Visibility splays at the accesses have been provided; however, planting is proposed within visibility splays. There is concern that landscaping exceeding 600mm in height within the visibility splays could adversely affect visibility, which could lead to side impact collisions or rear end shunts.

RECOMMENDATION

It is recommended that the associated landscaping within the visibility splays should not exceed 600mm in height and that a regular maintenance programme should be employed.

3.4 Non-Motorised User (NMU) Provision

3.4.1 No comments were raised in this section.

3.5 Road Signs, Carriageway Markings and Lighting

3.5.1 PROBLEM

Location: Proposed development.

Summary: No signage or road markings could compromise road safety.

No details of the speed limit of the estate have been provided, where visibility splays for 20mph and 30mph have been provided. Whilst it is not possible for the Audit Team to ascertain if any specific safety issues will arise, there is concern that a lack of, signage of raised features and an inappropriate speed limit could compromise road safety and lead to possible collisions.

RECOMMENDATION

It is recommended that the development should have appropriate road signage that signage details should be provided for assessment at Stage 2 safety Audit.

3.5.2 PROBLEM

Location: The scheme.

Summary: Insufficient street lighting could lead to vehicle to pedestrian / cyclist collisions or side impact collisions.

No details of street lighting have been provided for assessment. Insufficient street lighting could compromise road safety and may reduce the visibility of pedestrians and cyclists during the hours of darkness, particularly at junctions. This could lead to vehicle to pedestrian / cyclist collisions or side impact collisions.

RECOMMENDATION

It is recommended that a plan showing the light distribution should be provided for assessment at Stage 2 Safety Audit.

4 ISSUES IDENTIFIED DURING THE ROAD SAFETY AUDIT THAT ARE OUTSIDE THE TERMS OF REFERENCE

- 4.1 Safety issues identified during the audit and site inspection that are outside the Terms of Reference, but which the Audit Team wishes to draw to the attention of the Client Organisation, are set out in this section. It is to be understood that, in raising these issues, the Audit Team in no way warrant that a full review of the highway environment has been undertaken beyond that necessary to undertake the Audit as commissioned.
- 4.2 The Audit Team had no issues to raise within this section.

5 AUDITOR TEAM STATEMENT

5.1 We certify that this audit has been carried out following the principles of GG 119.

Audit Team Leader

Martin Morris
PGD, MCIHT, MSoRSA
National Highways Approved RSA Certificate of Competency

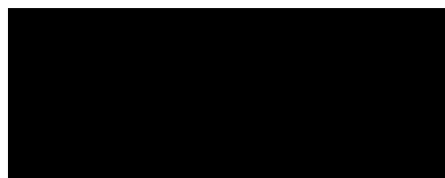
Signed: [REDACTED] Date: 04/11/2024

Audit Team Member

Bryan Shawyer
BEng (Hons), MSc, MCIHT, MSoRSA
National Highways Approved RSA Certificate of Competency

Signed: [REDACTED] Date: 04/11/2024

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APPENDIX A

List of Drawings and other information submitted for auditing:

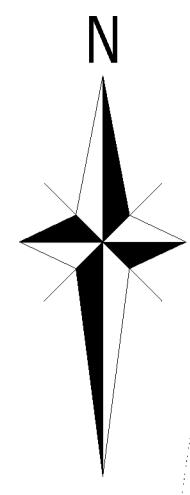
Drawing Number	Title
2205771-100 P12	Enabling Infrastructure GA
2205771-010B	IRM-Vehicle Tracking and Visibility Plan (Sheet 1 of 7)
2205771-010B	IRM-Vehicle Tracking and Visibility Plan (Sheet 2 of 7)
2205771-010B	IRM-Vehicle Tracking and Visibility Plan (Sheet 3 of 7)
2205771-010B	IRM-Vehicle Tracking and Visibility Plan (Sheet 4 of 7)
2205771-010B	IRM-Vehicle Tracking and Visibility Plan (Sheet 5 of 7)
2205771-010B	IRM-Vehicle Tracking and Visibility Plan (Sheet 6 of 7)
2205771-010B	IRM-Vehicle Tracking and Visibility Plan (Sheet 7 of 7)

Supporting documentation:


- None supplied

APPENDIX B

Plan attached showing the locations of the problems identified as part of this audit (location numbers refer to paragraph numbers in the report).



GENERAL NOTES:
 1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH
 ALL OTHER DRAWINGS ISSUED BY THE
 ENGINEER.
 2. DO NOT SCALE FROM THIS DRAWING. WORK FROM
 FIGURED DIMENSIONS ONLY.



P2	PRELIMINARY ISSUE	HP	IK	AD	15.08.24
P1	ACOUSTIC SCREENING ADJUSTED TO SUIT UPDATED LANDSCAPE PLAN RECEIVED ON 14.08.2024	IK	IK	MR	14.08.24
P0	INFRASTRUCTURE ASSESSMENT MATTERS BOUNDARY DRAFT ISSUED. ACOUSTIC SCREENING AND EXTENT OF ASSOCIATED LANDSCAPE SCREEN	IK	IK	MR	15.08.24
P2	PRELIMINARY ISSUE	IK	IK	MR	08.08.24
P8	PRELIMINARY ISSUE	IK	IK	MR	06.08.24
P7	PRELIMINARY ISSUE	IK	IK	MR	21.07.24
P6	PRELIMINARY ISSUE	IK	IK	MR	03.07.24
P5	PRELIMINARY ISSUE	IK	IK	MR	27.06.24
P4	PRELIMINARY ISSUE	IK	IK	MR	24.05.24
P3	PRELIMINARY ISSUE	IK	IK	MR	03.05.24
P2	PRELIMINARY ISSUE	IK	IK	MR	02.05.24
P1	PRELIMINARY ISSUE	IK	IK	MR	29.04.24
- DRAFT ISSUE	IK	IK	MR	29.04.24	

Rev. Description	Drn	Chk	App.	Date
P2				15.08.24
P1				14.08.24
P0				15.08.24
P2				08.08.24
P8				06.08.24
P7				21.07.24
P6				03.07.24
P5				27.06.24
P4				24.05.24
P3				03.05.24
P2				02.05.24
P1				29.04.24
- DRAFT ISSUE				29.04.24

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VISTRY SOUTH EAST				
Project Title				
FORD AIRFIELD, ARUN				
Drawing Title				
ENABLING INFRASTRUCTURE				
GENERAL ARRANGEMENT				
AO Scale	1:1500	Date	14-02-24	Designed by
Drawn by	IK	Checked by	IK	Approved by
Drawn Number	2205771-D100	MR		
Rev	P12			

Appendix C

