Pulsar
TRANSPORT PLANNING

Client:

Leap 24 UK

Project:

Electric Vehicle Charging Station
Dunkirk Roundabout
Cheshire

Transport Note

October 2023

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Appendices

1 INTRODUCTION

1.1 Pulsar has been instructed by Leap 24 UK to provide transport advice in support of a planning application for an electric vehicle charging facility at land adjacent to Dunkirk Roundabout, CH1 6LX (the "Site").

Background

1.2 The Local Unitary Authority is Cheshire West and Chester (CWAC), and they are responsible for local planning and highway matters in the area. However, the adjacent road network is maintained by National Highways.

1.3 The site is a former Driver and Vehicle Standards Agency (DVSA) enforcement site that included a weighbridge to check vehicle loads. As such, it had been designed to allow a variety of vehicles including heavy goods vehicles (HGVs) to enter and exit the site.

Proposed Development

1.4 The Applicant seeks to submit a planning application for the implementation of an electric vehicle charging station comprising 20no. charging bays. A further two spaces without charging facilities are also included. The proposed layout is shown on the architect's plans in Appendix A.

1.5 As noted above, the site was previously used for HGVs to be checked. Therefore, it is proposed to retain the same access and egress arrangements, with a one-way route through the site. Access is proposed from the A5117 approximately 100m west of the Dunkirk Roundabout (junction of the A5117 with eastbound slips of the A494/M56). The egress is proposed from the existing entry on to the Dunkirk Roundabout.

1.6 The Transport Statement is structured as follows:

Section 2: Existing Conditions – A review of travel and transport conditions at the site and surrounding area.
Section 3: Policy Review – A review of relevant national, regional and local transport and land use planning policy.
Section 4: The Proposed Development – A description of the proposed development with an emphasis on proposed transport infrastructure.
Section 5: Development Impact – A review of the likely number of trips to be generated by the proposed development.
Section 6: Summary & Conclusions – A review of key issues and conclusions raised in the report.

2 EXISTING CONDITIONS

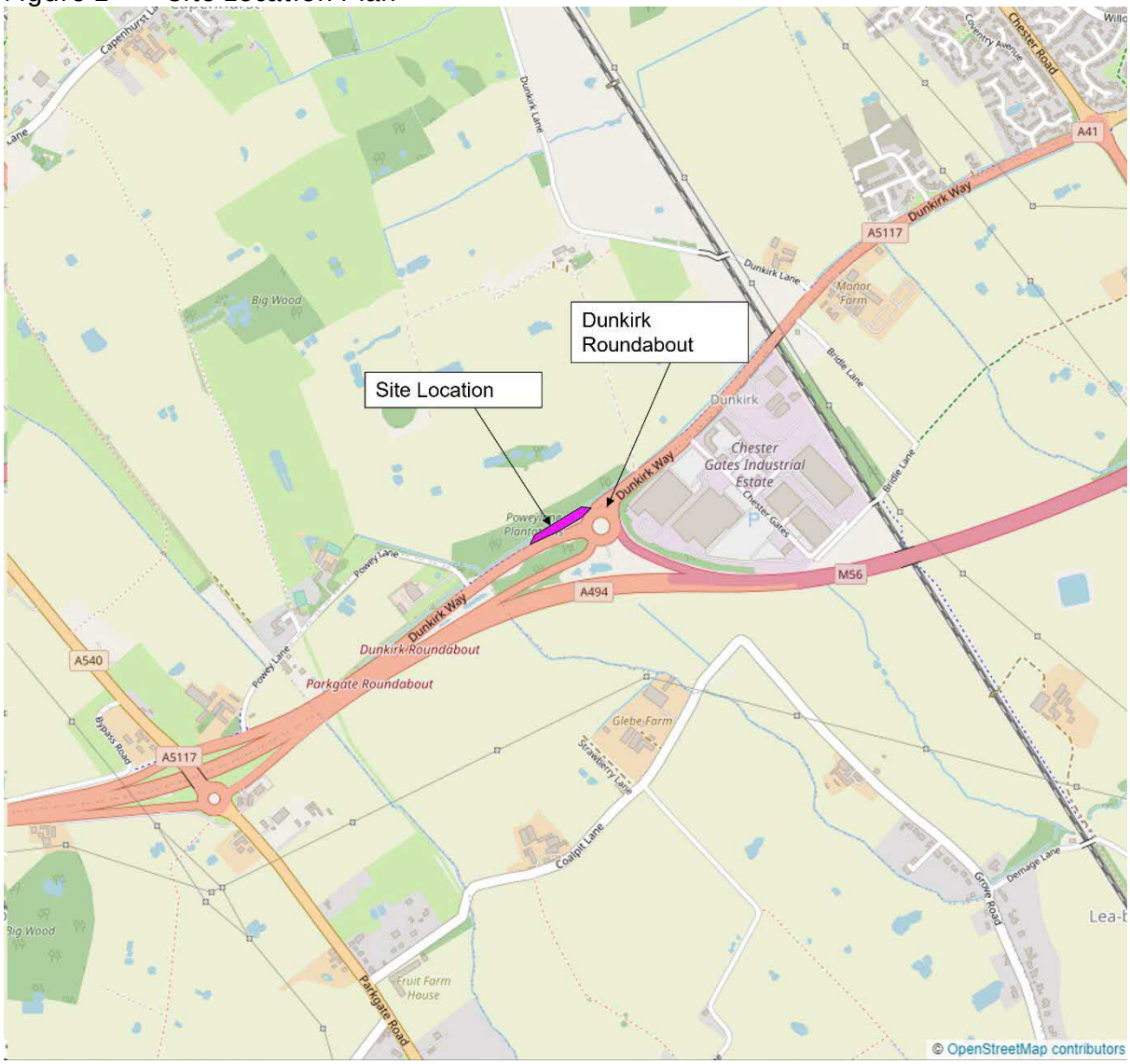
2.1 This section describes existing conditions at the site in relation to transport.

Site Location

2.2 The Site is located approximately 6km north west of Chester town centre and 5km south west of Ellesmere Port town centre.

2.3 The site access is on the northern side of the A5117, and immediately east of the Dunkirk Roundabout. Figure 1 shows the site location plan.

Figure 1 Site Location Plan



Local Highway Network

2.4 As noted above, the Site is accessed from the A5117 via a simple priority junction. The A5117 is a single carriageway two-way road operating in a broadly east-west alignment past the site, with an approximate carriageway width of 10m (from kerb on the northern edge to the verge on the southern edge). In the vicinity of the site, the A5117 is subject to the national speed limit, i.e. 60mph. However, given the proximity of the roundabout (approximately 100m from site access), vehicle speeds are likely to be lower as drivers either slow down to approach the roundabout or start accelerating away from the roundabout.

2.5 The Dunkirk roundabout is a five/six arm roundabout with an inscribed circle diameter of c.80m. Several of the arms are fairly minor or one-way.

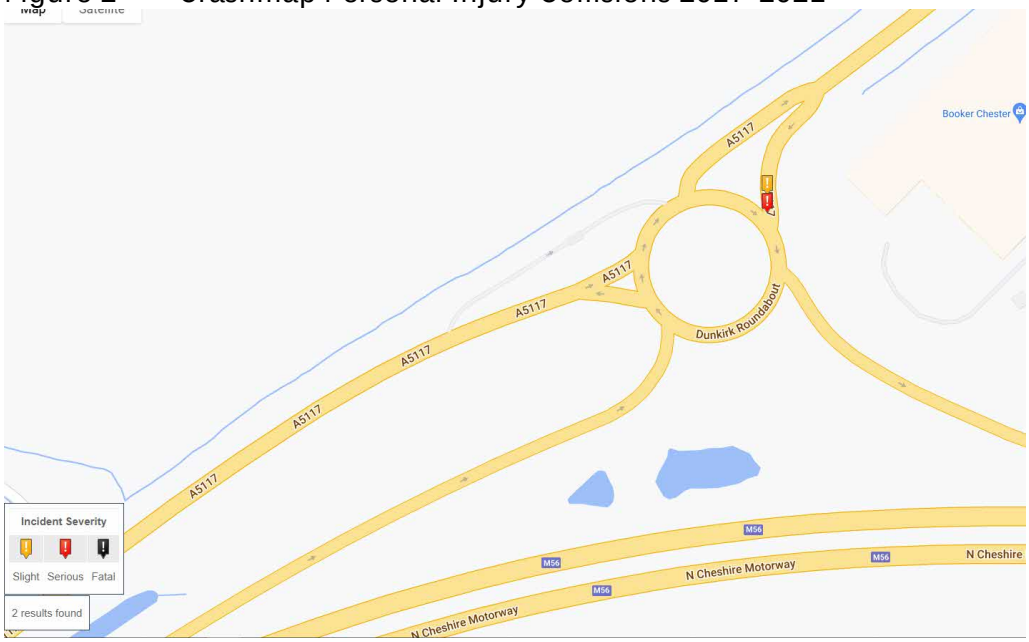
2.6 The roundabout serves the A5117, as well as an eastbound off-slip from the A494 and an eastbound on-slip onto the M56. There is also a very minor access to a pond to the south of the roundabout and the egress from the Site, at the northern edge of the roundabout.

2.7 Both the Dunkirk Roundabout and the section of the A5117 adjacent to the site (west of the roundabout) are maintained by and the responsibility of National Highways. The A5117 to the east of the Dunkirk Roundabout is maintained and controlled by CWAC.

2.8 The A494 is a dual carriageway that runs from the eastern extent of the M56 motorway towards (and into) Wales. The M56 motorway effectively starts south of the Dunkirk Roundabout and traverses eastwards past Manchester Airport up to the M60 motorway.

2.9 A review of the Crashmap website for the most recently available 5-year period (2017-2021), refer to extract in Figure 2, demonstrates that there were two collisions recorded in the vicinity of the site. Both of these collisions (one slight and one serious) occurred on the A5117 westbound approach to the Dunkirk Roundabout, and therefore were not related to the access, egress or operation of the Site. Given the above, the existing access/egress arrangements to the site are considered safe and suitable and would be retained for the proposed development.

Figure 2 Crashmap Personal Injury Collisions 2017-2021



3 POLICY REVIEW

Introduction

3.1 This section of the report considers the current and emerging planning policy guidance at national, regional and local level.

National Policy

National Planning Policy Framework (NPPF)

3.2 The revised NPPF was published in July 2018 (and recently updated in September 2023) and sets out the Government's planning policies for England and how these are expected to be applied. It replaces the previous document published in March 2012.

3.3 The NPPF reiterates that "*the purpose of the planning system is to contribute to the achievement of sustainable development*" and "*at the heart of the Framework is a presumption in favour of sustainable development*".

3.4 Section 9 deals with promoting sustainable transport. Paragraph 104 sets out the reasons transport issues should be considered from the earliest stages of plan-making and development proposals, i.e. so that:

a) the potential impacts of development on transport networks can be addressed;

b) opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;

c) opportunities to promote walking, cycling and public transport use are identified and pursued;

d) the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and

e) patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places.

3.5 Paragraph 105 states that the planning system should actively manage patterns of growth in support of the above objectives.

3.6 Paragraph 110 states that in assessing specific applications for development, the following should be ensured:

"appropriate opportunities to promote sustainable transport modes can be – or have been - taken up given the type of development and its location;

Safe and suitable access to the site can be achieved for all users;

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 Mode Design Code; and

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.

3.7 Paragraph 111 goes on to state:

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."

3.8 NPPF states that all developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment.

National Planning Practice Guidance (NPPG), 2014

3.9 On 6 March 2014 the Department for Communities and Local Government (DCLG) launched the National Planning Practice Guidance web-based resource. One section relates specifically to Transport and is titled 'Travel Plans, Transport Assessments and Statements in decision-taking' and this provides the overarching principles of Travel Plans, Transport Assessments and Statements.

3.10 The guidance explains the role of Transport Assessments and Statements as:

"ways of assessing the potential transport impacts of developments (and they may propose mitigation measures to promote sustainable development. Where that mitigation relates to matters that can be addressed by management measures, the mitigation may inform the preparation of Travel Plans)".

3.11 The guidance demonstrates that Transport Assessments and Statements and Travel Plans can positively contribute in the following ways:

"encouraging sustainable travel;
lessening traffic generation and its detrimental impacts;
reducing carbon emissions and climate impacts;
creating accessible, connected, inclusive communities;
improving health outcomes and quality of life;
improving road safety; and
reducing the need for new development to increase existing road capacity or provide new roads."

Local Policy

Cheshire West and Chester EV Strategy

3.12 The Council has declared a climate emergency and is working to achieve a 'net zero carbon' borough by 2045. The Council has acknowledged that to achieve this, there will need to be a reduction in motorised travel, substantially increased use of public transport and, where car travel is unavoidable, use of only fully zero-emission vehicles by 2050.

3.13 In July 2023, the Council's Cabinet endorsed the borough's local Electric Vehicle Charging Infrastructure Strategy.

Cheshire West and Chester Local Plan

3.14 Policy STRAT 10 sets out the 'Transport and Accessibility' key priorities for the unitary authority. In particular, it states that development and transport infrastructure should:

> Reduce carbon emissions from transport and take steps to adapt our transport networks to the effects of climate change
> Contribute to safer and secure transport and promote forms of transport that are beneficial to health

3.15 The policy also notes that new development will be required to demonstrate that:

> Additional traffic can be accommodated safely and satisfactorily within the existing, or proposed, highway network
> Satisfactory arrangements can be made to accommodate the additional traffic before the development is brought into use
> Measures have been incorporated to improve physical accessibility and remove barriers to mobility, especially for disabled and older people. The safety of all road users should be taken into account in the design and layout of new developments.

4 THE PROPOSED DEVELOPMENT

4.1 This section of the report provides a description of the proposed development with a focus on transport infrastructure. Appendix A contains the architect's layout.

4.2 The proposed development will comprise an Electric Vehicle charging station with 20 charging bays. The station has been designed to serve car/van drivers and will be open 24/7. Whilst the charging bays will not be available for pre-booking, drivers will be able to review the availability of the charging bays on-line or via an App.

4.3 The charging stations will incorporate rapid EV chargers to allow customers to charge quickly. It is estimated that each customer will charge for an average of 15 minutes.

4.4 Each charging space is a minimum of 3.3m wide (to allow for drivers to move comfortably around the vehicle and insert the necessary charging equipment) and 7m in length. The additional width (compared to a standard parking bay width of 2.4m) also allows drivers to manoeuvre their cars more comfortably within the forecourt area.

4.5 The proposals seek to retain the existing one storey brick building on the site. This will provide a dual purpose of providing an area for some modest facilities for the users of the charging facilities such as vending machines, and a compound for any onsite storage for maintenance and safety equipment (such as, for example, high visibility jackets).

Proposed Access

4.6 Vehicular access will be from the existing access along the A5117, whilst vehicles will exit using the existing egress on to Dunkirk Roundabout. As noted above, the access and egress into the site were previously utilised by large vehicles (e.g. HGVs) as part of the DVSA's operation within the site.

4.7 The majority of charging bays have been arranged as echelon bays to ensure more convenient access and egress. This will reduce any delays and minimise the likelihood of vehicles queueing back on to the A5117. In the unlikely event that all charging bays are occupied, drivers will be able to pass through the site.

4.8 Swept path analysis shows that each charging space can be accessed satisfactorily using a large van. These vehicles are not required to reverse into (or from) the public highway. The swept path analysis is shown in Appendix B.

Servicing

4.9 Servicing of the EV station will take place occasionally for maintenance using transit vans and infrequent deliveries. However, given that there are 22 spaces on site designed to accommodate vans, there should be ample spare capacity for servicing

and deliveries. During the very infrequent servicing requirements, the EV station will be closed. This will be highlighted on the relevant website/app.

5 DEVELOPMENT IMPACT

5.1 This section considers the likely number of trips that the development is forecast to generate.

Trip Generation

5.2 As EV stations are a relatively new type of development, there is a paucity of information on the trip generation characteristics of an EV station. Therefore, a "first-principles" approach has been taken to estimate the trip generation associated with the proposals.

5.3 As noted above, it is estimated that a driver will spend approximately 15 minutes on average to charge their car. Therefore, there will be (on average) a maximum of four cars using each EV charging bay per hour. For the 20 charging bays, this would result in 80 vehicles arriving and 80 vehicles departing per hour, assuming each bay is fully utilised. It should be noted that these are robust figures, and that it is unlikely all the EV charging bays would be in constant/full use during the whole day.

5.4 As the usage of the charging bays will be monitored, this information will be made available to prospective users of the charging station via the relevant website/app. As such, drivers are unlikely to travel to the site, if the station is very busy or fully occupied.

5.5 The vast majority of trips are expected to be passby or local diverted trips, i.e. vehicles that are already passing the site or on the local road network. Given the location of the site, the number of new primary trips (i.e. from home to the site and back home) would be very low. The pattern of trips is likely to be similar to a petrol filling station (albeit with a lower volume of trips).

5.6 Given the above, the level of trip generation for the proposed development is considered relatively low in the comparison to the overall number of vehicle movements on the A5117 and at Dunkirk Roundabout. Overall, the impact of the development is likely to be negligible on the road network.

6 SUMMARY & CONCLUSIONS

6.1 Leap 24 UK has commissioned Pulsar to provide transport advice to support a planning application for development at land adjacent to Dunkirk Roundabout in Cheshire.

6.2 The proposals involve the implementation of an Electric Vehicle charging station with 20 charging bays on land previously used by the Driver and Vehicle Standards Agency (DVSA) as an enforcement site. It is understood that the site was primarily used to ensure that vehicles adhered to legal weight limits. As such, the site would have accommodated large goods vehicles.

6.3 The site is located within Cheshire West and Chester but the adjacent road network is maintained and controlled by National Highways. The current access arrangements to the site (via a separate existing access and egress) would be retained.

6.4 The charging station would comprise 20 charging bays and would cater for car/van drivers. Details and the operation of the charging station would be highlighted on a relevant website/app to allow drivers to monitor the occupancy of the charging bays. This would assist in managing trips to the site.

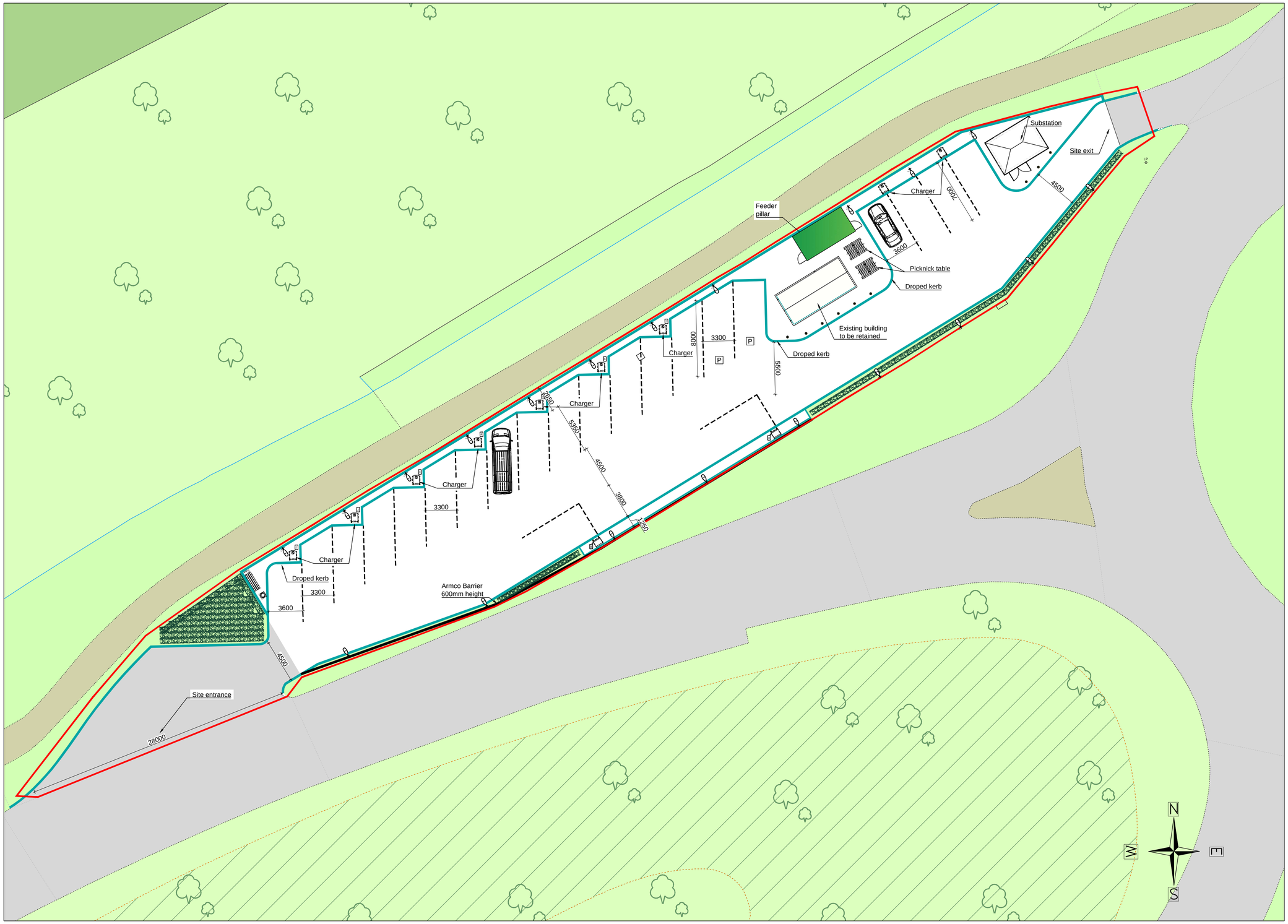
6.5 As noted above, the site has previously been used by the DVSA, and accommodated a variety of vehicle types including HGVs. A review of collision data shows that there were no personal injury collisions at either the access or egress, between the period of 2017-2021. As such, the proposals would incorporate safe and suitable access arrangements for EV drivers.

6.6 A trip generation assessment was undertaken using a "first-principles" approach. This demonstrated that the impact of the proposed development is expected to be negligible in relation to existing background traffic flows on the network. Furthermore, the majority of vehicle movements to/from the site, are likely to be passby or diverted trips, i.e. vehicles already on the road network.

6.7 The proposed development is expected to have a minimal impact on the public highway network and from a transport perspective meets local/regional policies to increase electric vehicle charging infrastructure in order to meet environmental objectives such as improved air quality and net zero targets.

6.8 In conclusion, and on the basis of the above, the proposed development should not be refused on transport grounds. The cumulative residual transport impacts of the proposal would be negligible. Furthermore, a safe and suitable access would be provided for the users of the site. As such, the proposals would comply with national and local policy.

APPENDIX A – ARCHITECT'S LAYOUT



1:200

4m 0 4m 8m 12m 16m 20m

KEY	
Symbol	Description
	Building area
	Vegatation
	Kerb lines
LP	Lightpole / CCTV
	Fence
	Site Boundery
	Bollard
	Trash can
P	Parking bay
5	Charger number
	New native shrub and tree planting to provide ecology enhancement

NOTES:
1. DRAWING ARE CONCEPTUAL ONLY AND DETAILED DESIGN TO BE DEVELOPED BY TSG
2. DRAWING IS FOR PLANNING AND INFORMATION ONLY AND NOT TO BE USED FOR INSTALLATION/CONSTRUCTION.
3. DIMENTIONES NEED TO BE CHECKED ON SITE.

PLANNING DRAWING

REV	DATE	DESCRIPTION	BY
C	19-10-2023	Vegatation added. Charger bay adjusted.	AWOU
B	06-10-2023	Bay 8 and 9 changed	AWOU
A	04-09-2023	Key updated, notes on drawing added.	AWOU

REVISION

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Barrow upon Soar
Leicestershire
LE12 8LD
Phone: +44 (0) 1162 437 476

Client

LEAP24

SITE NAME

Dunkirk Lane

Dunkirk Lane, Enforcement Site, Chester, CH1 6LX

Drawing Title

PROPOSED PLAN

Drawn By	Drawing Status	Date	Revision
AWOU	PLANNING DRAWING	22-09-2023	C
Checked By	Drawing No.	Scale	Media
TSG	45402-PLA003	1:200	A1

APPENDIX B – SWEPT PATH ANALYSIS

NOTES:

1. Do not scale from this drawing.
2. This drawing to be read & printed in colour.
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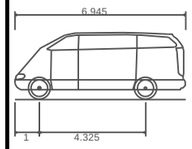
LARGE VAN/MERCEDES SPRINTER VAN



Mercedes Sprinter Traveliner Van 315CDI Long High Roof	
Overall Length	6.945m
Overall Width	1.993m
Overall Body Height	2.715m
Min Body Ground Clearance	0.400m
Track Width	1.993m
Lock to lock time	5.00s
Wall to Wall Turning Radius	7.800m

FORWARD MOVEMENTS *(design speed - 5kph)*

REVERSE MOVEMENTS *(design speed - 2.5kph)*

REV	DETAILS	DRAWN	CHECKED	DATE
...	...	...	...	...

CLIENT: LEAP24

PROJECT: Dunkirk Roundabout, Chester

DRAWING TITLE: Site Access & Egress Swept Path Analysis

SCALE	SIZE
1:250@A3	A3

DRAWN BY	CHECKED BY	DATE
AEG	KH	18.10.23

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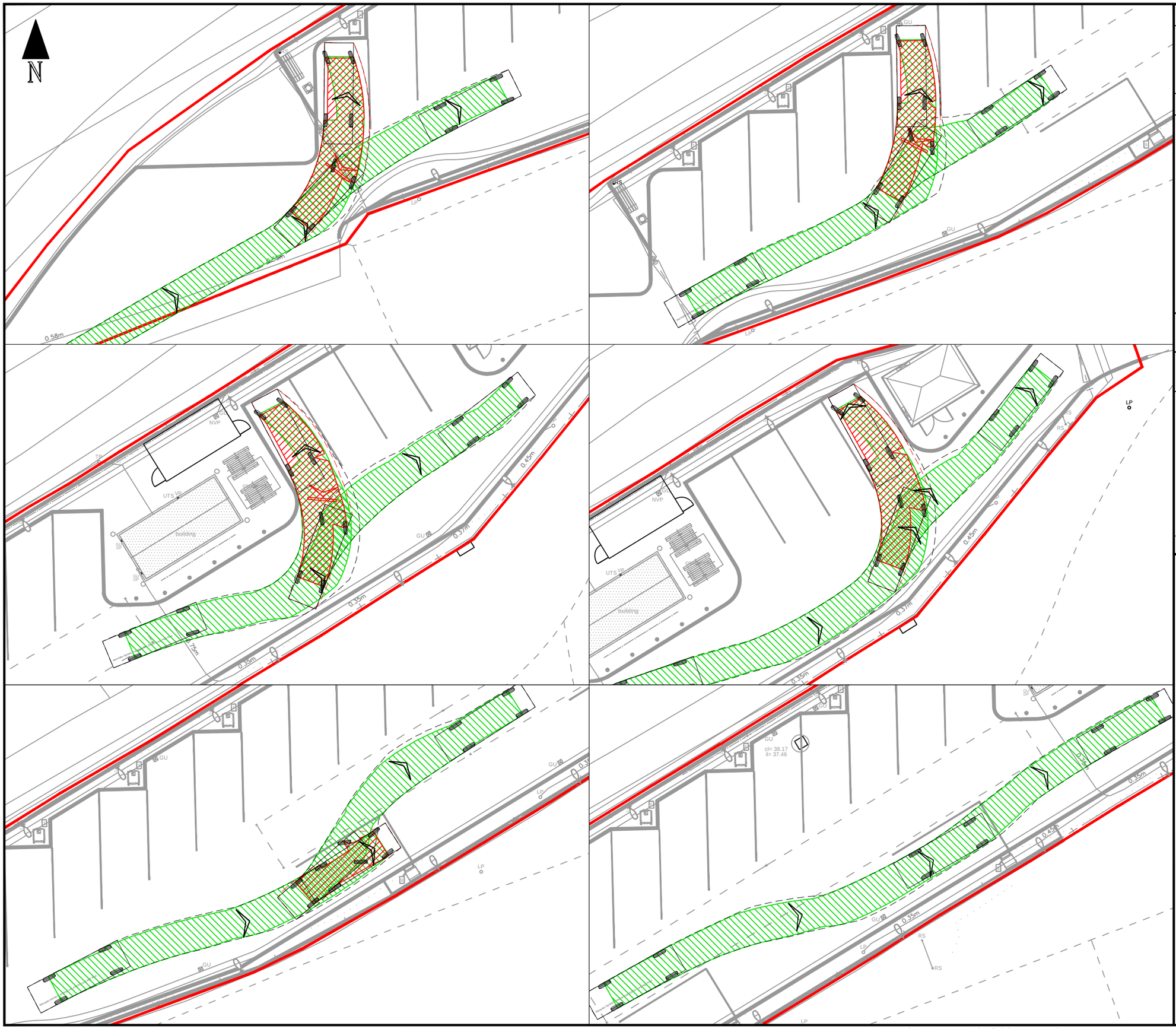
23106	TR002	



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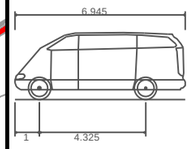
LARGE VAN/MERCEDES SPRINTER VAN



Mercedes Sprinter Traveliner Van 315CDI Long High Roof	
Overall Length	6.945m
Overall Width	1.993m
Overall Body Height	2.715m
Min Body Ground Clearance	0.400m
Track Width	1.993m
Lock to lock time	5.00s
Wall to Wall Turning Radius	7.800m

FORWARD MOVEMENTS *(design speed - 5kph)*

REVERSE MOVEMENTS *(design speed - 2.5kph)*

REV	DETAILS	DRAWN	CHECKED	DATE
A	Site Layout Updated	AEG	KH	12.10.23

CLIENT

LEAP24

PROJECT

Dunkirk Roundabout,
Chester

DRAWING TITLE

Swept Path Analysis
of Car Park
(Sheet 1 of 3)

SCALE	SIZE
1:250@A3	A3

DRAWN BY	CHECKED BY	DATE
AEG	KH	29.09.23

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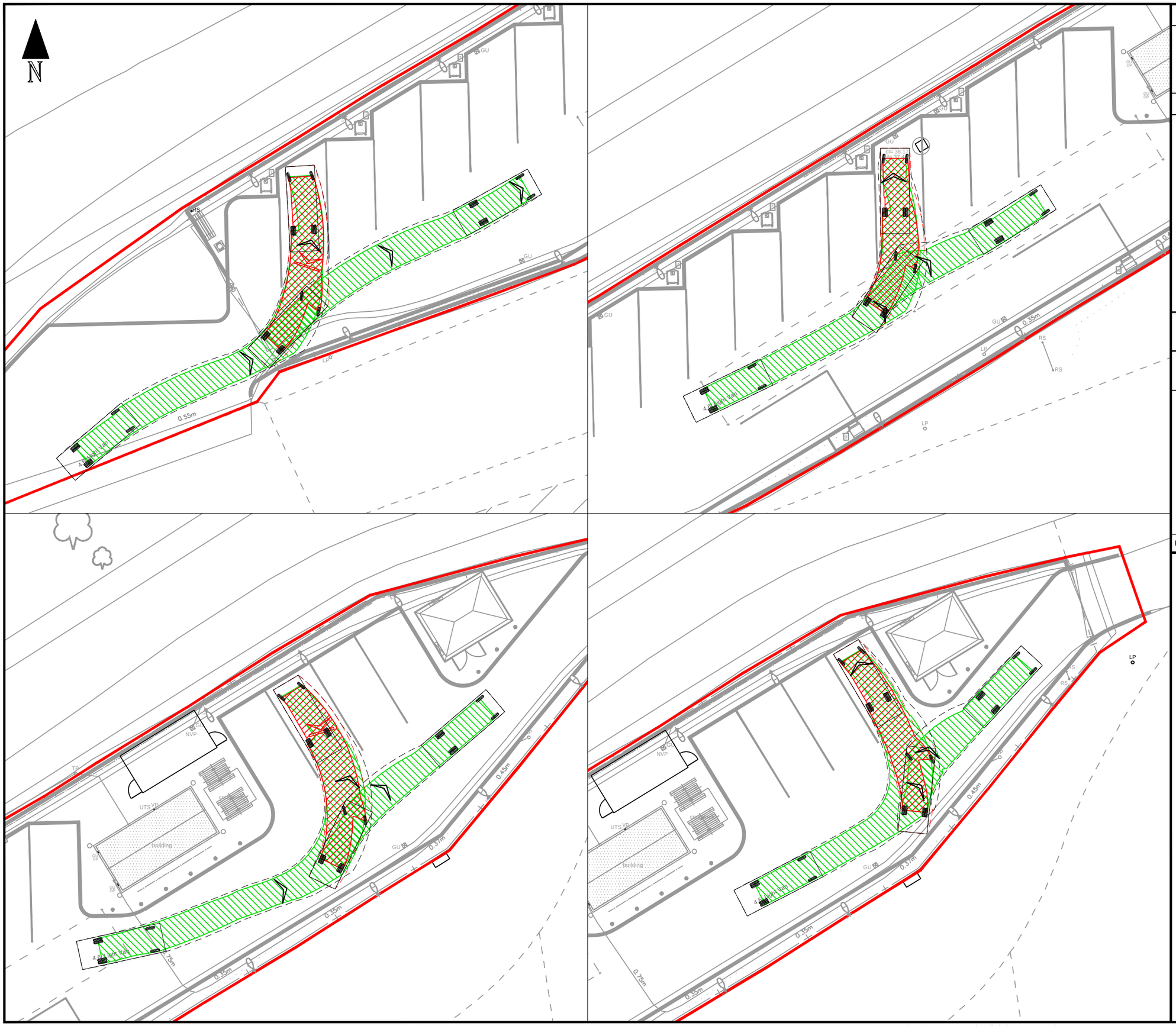
PROJECT REF	DWG NO	REV
23106	TR001	A



NOTES:

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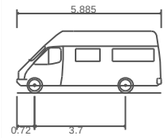
4.6T LIGHT VAN



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

FORWARD MOVEMENTS *(design speed - 5kph)*

REVERSE MOVEMENTS *(design speed - 2.5kph)*

REV	DETAILS	DRAWN	CHECKED	DATE
A	Site Layout Updated	AEG	KH	12.10.23

CLIENT: LEAP24

PROJECT: Dunkirk Roundabout, Chester

DRAWING TITLE: Swept Path Analysis of Car Park (Sheet 2 of 3)

SCALE	SIZE
1:250@A3	A3

DRAWN BY	CHECKED BY	DATE
AEG	KH	29.09.23

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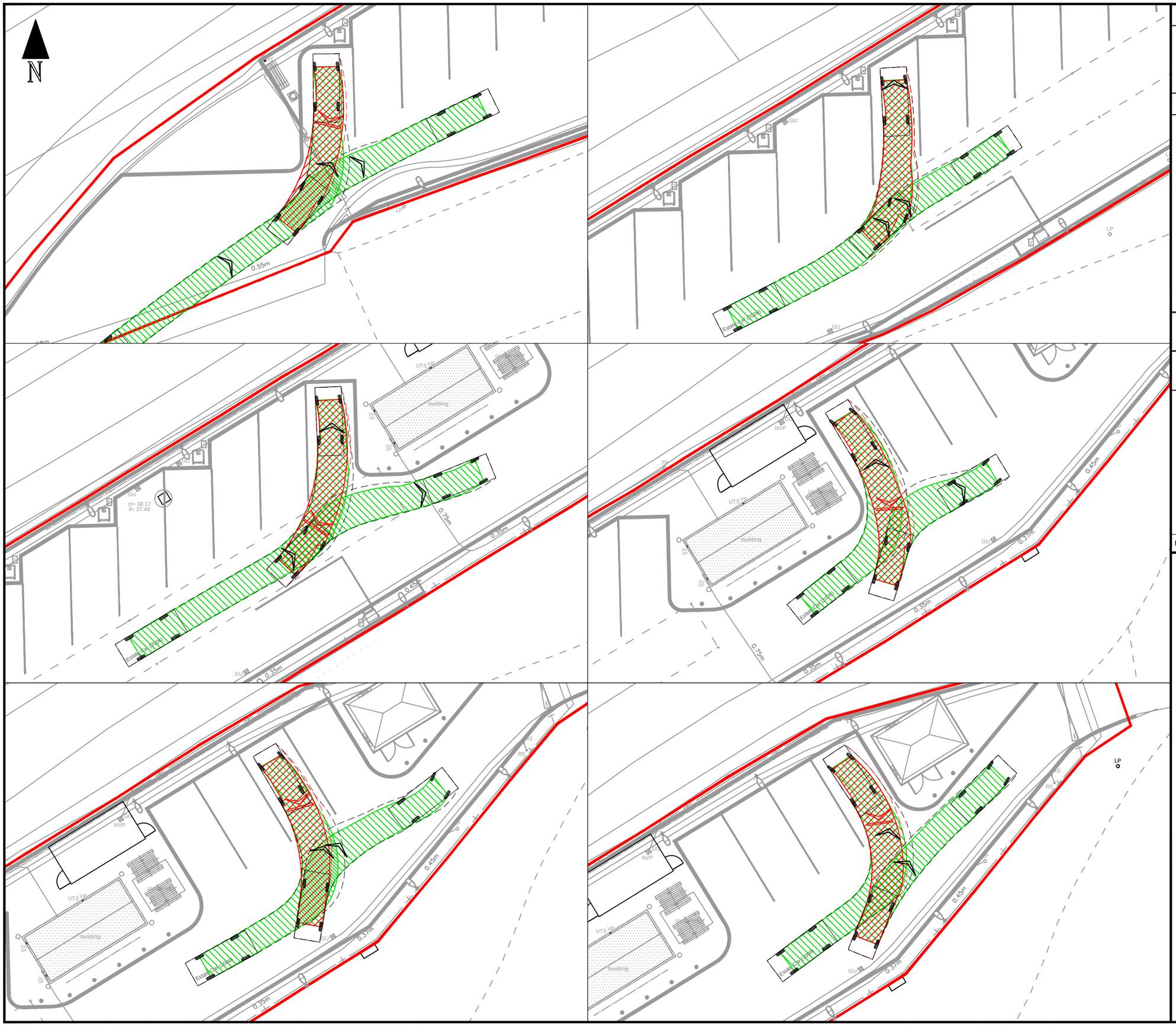
PROJECT REF	DWG NO	REV
23106	TR001	A



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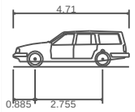
ESTATE CAR



Estate Car (2006)	
Overall Length	4.710m
Overall Width	1.804m
Overall Body Height	1.442m
Min Body Ground Clearance	0.207m
Max Track Width	1.756m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	5.950m

FORWARD MOVEMENTS
(design speed - 5kph)

REVERSE MOVEMENTS
(design speed - 2.5kph)

REV	DETAILS	DRAWN	CHECKED	DATE
A	Site Layout Updated	AEG	KH	12.10.23

CLIENT

LEAP24

PROJECT

Dunkirk Roundabout,
Chester

DRAWING TITLE

Swept Path Analysis
of Car Park
(Sheet 3 of 3)

SCALE	SIZE
1:250@A3	A3

DRAWN BY	CHECKED BY	DATE
AEG	KH	29.09.23

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