



Civic Engineers

Job Title

**Beeston Park Waste Water
Treatment Works**

Report Type

Transport Statement

Prepared for

Quinn Estates Ltd

Date

31 May 2024

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Transport Statement

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Civic Job No. 955-07

Original Issue 31-05-2024

Revision

1. Introduction

1.1 Purpose

This Transport Statement (TS) has been prepared for Quinn Estates Ltd to support a full planning application for the creation of a waste water treatment works (W/WTW) including associated engineering works and access' on land north of the A1270, between Spixworth and Rackheath in Norfolk.

The purpose of this TS is to consider how the site will be accessed during the construction and operational phases of the development and assess the impact of the proposed development on the local highway network.

1.2 Transport Statement Report Structure

The Transport Statement is set out into the following sections:

- Section 2: describes the site and existing local transport conditions;
- Section 3: describes the proposed development including site access and HGV routing;
- Section 4: describes the construction phase expected HGV routing and site access;
- Section 5: presents the trip generation for the construction and operational phases;
- Chapter 6: Summary and Conclusion

2. Existing Condition

2.1 The Site

The approximate Ordnance Survey National Grid Reference for the site is TG236133. The site is located on land north of Norwich and the A1270, between Spixworth and Rackheath in Norfolk. The site location is shown in Figure 1 and Figure 2.

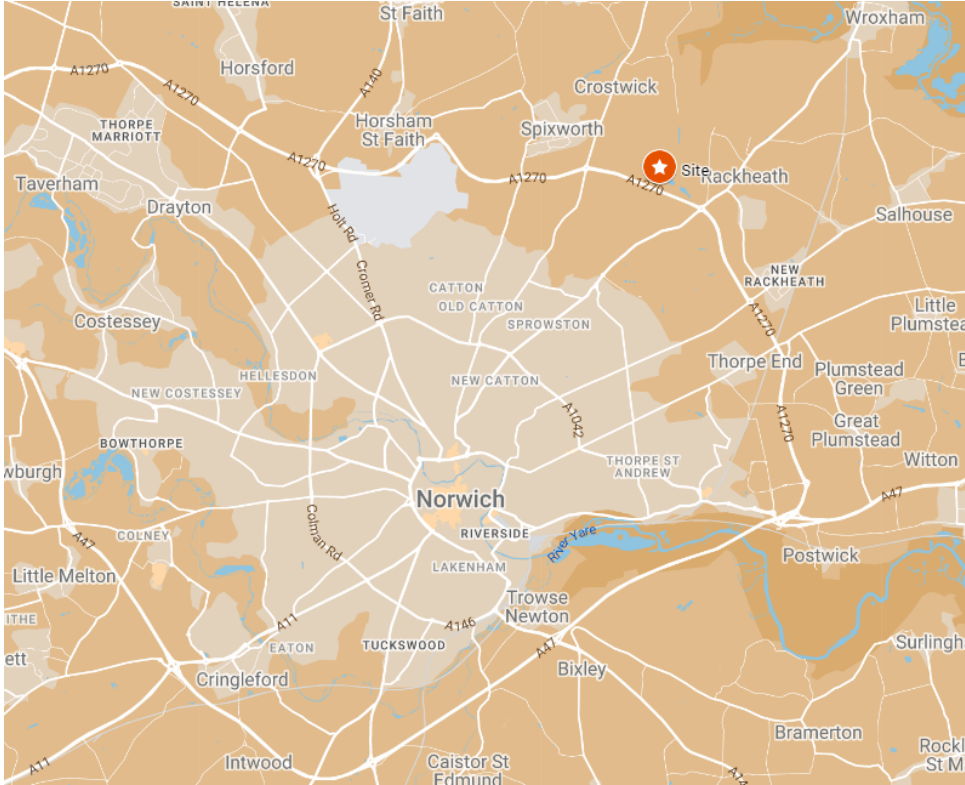


Figure 1 Site Location plan - Zoomed out Google Map

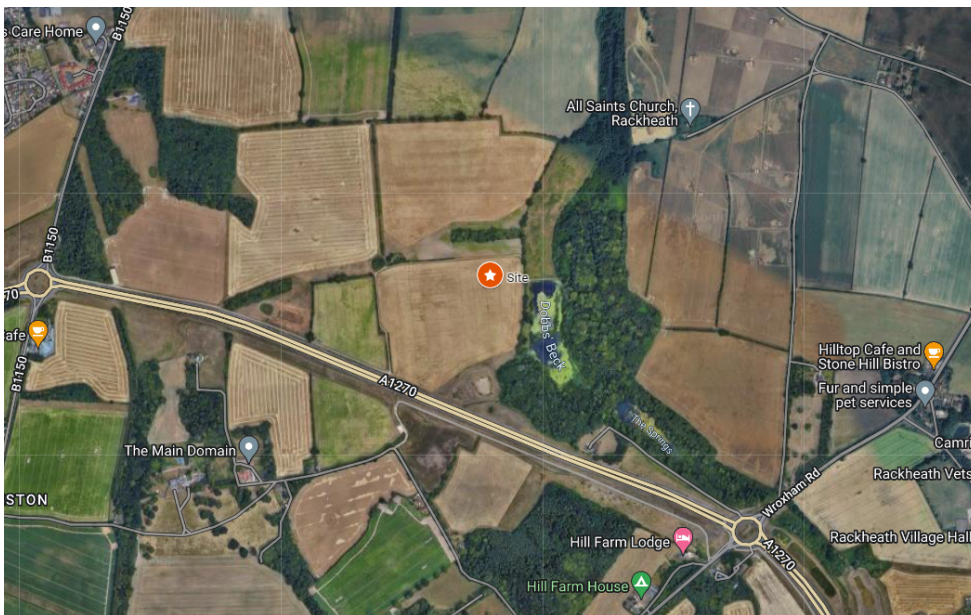


Figure 2 Site Location - Zoomed in satellite

2.2 Existing Use

The site comprises farmland with an access road parallel to the A1270 with a farm track providing access to the field system to the north and to the Dobbs' Beck watercourse to the west of the proposed development.

2.3 Site Access

The site is access off the North Walsham Road, B1150. The site access is located at National Grid reference TG 25242 14568, nearest postcode NR12 7DE.

The access is approximately 110m north of the North Walsham Road roundabout, constructed as part of the Northern Distributor Road (NDR). The access road was built in 2016 as part of the NDR to provide a link to fields north of the NDR and to Dobbs Creek, which were previously accessed from the south via Beeston Lane, before this route was severed by the NDR. The access route provided an access for heavy machinery to construct detention basins for the NDR approximately 760m east of the access with Walsham Road. The road provides access for farm machinery and for periodic maintenance associated with the detention basins, and as such has been constructed to accommodate large vehicles. Figure 3 show the current condition of the access road looking east.



Figure 3 Existing access road looking east

The entrance to the access road consists of a wide bell mouth measuring approximately 17m. There are clear sightlines with grass verges cut back to the north and south of the

entrance. To the north of the access, the hedges and trees are set back approximately 3.7m from the kerb. Images of the access are presented in Figure 3 and Figure 4.



Figure 4 Site access from North Walsham Road.



Figure 5 Existing entrance from North Walsham Road

2.4 Local Road Network

The site is adjacent to North Walsham Road (B1150) which is subject to the national speed limit of 60mph and connects to the A1270 approximately 100m to the south via the North Walsham roundabout.

2.5 Strategic Road Network

The Norwich Northern Distributor Road, officially named the A1270, The Broadland Northway is a 20.0 km dual-carriageway linking the A47 to the south east of the city to Norwich International Airport linking to the A1067 Fakenham Road to the north west of the city. The A1270 is accessible from the site via North Walsham Road roundabout.

2.6 Pedestrian and Cycle Network

There is no footway provision leading to the access to the site. There are on cycle tracks to the site with limited provision at the North Walsham roundabout to get cyclists across.

2.7 Local Transport Provision

No local bus services stop within vicinity of the site.

3. Proposed Development

3.1 General

The proposed development consists of the construction of a new WWTW, improvements to the existing access road and construction of an additional internal 570m of single lane access road with passing places to link the existing access road to the new WWTW. The redline boundary plan is presented in Appendix A.



Figure 6 Site Location

3.2 Site Access

It is proposed that existing site access is as outlined in Section 2.3 is retained.

The visibility from the existing entrance has been tested and the visibility splay is presented in Appendix B. The site access has also been tested using swept path analysis for vehicles expected to access the site during the construction and operational phases, The swept paths are presented in Appendix B and demonstrate that a 10m rigid tipper and an articulated lorry, will be able to access and exit the site entrance in a forward gear.

3.3 Sludge Treatment Centre

The WWTW will require periodic removal of sludge material. The nearest sludge treatment centre (STC) is the Whittingham STC, Kirby, Bedon Road, Trowse, Norwich, NR14 8TZ. The Whittingham STC is located approximately 20km south of the site and is accessed via the A1270 and A47. The route from the proposed development is presented in Figure 7.

Other STCs are located at, Thetford Water Recycling Centre, A11 Bypass Westbound, Thetford, Norfolk, IP24 1DS, approximately 65km from site and at Clockcase Road, Clenchwarton, King's Lynn, Norfolk, PE34 4BZ approximately 77km from site via the A1270, B1145.

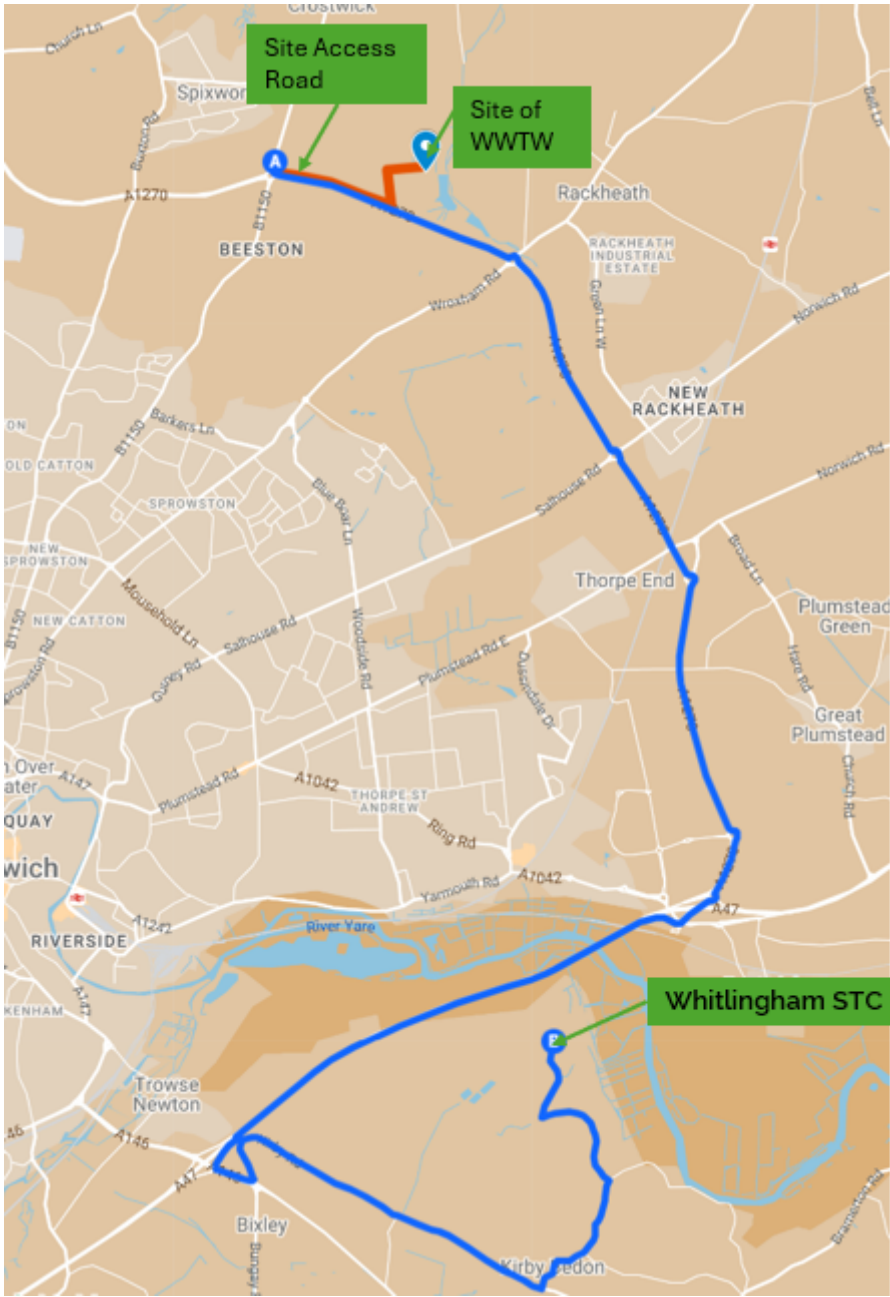


Figure 7 Route to nearest STC

Based on the distances of the STCs, the Whitlingham STC is the closest centre and is assumed will be the destination of sludge exports from the proposed WWTW.

4. Construction Period Access and HGV Routing

4.1 Site Access

The existing access will be used during the construction period. The gateway is set back approximately 16.5m from North Walsham Road. This allows room for one HGV to queue between the gateway and the carriageway. without impacting on the operation of the local road network.

The primary HGV routing will be via the A1270 to then join North Walsham Road, access the site from the existing access point and onwards towards the proposed development.

Figure 8 shows the location of the existing access which will be used during the construction and operational phase.



Figure 8 Access to the proposed site

Figure 9 shows the site location in relation to the strategic network and routing via the A-road network.

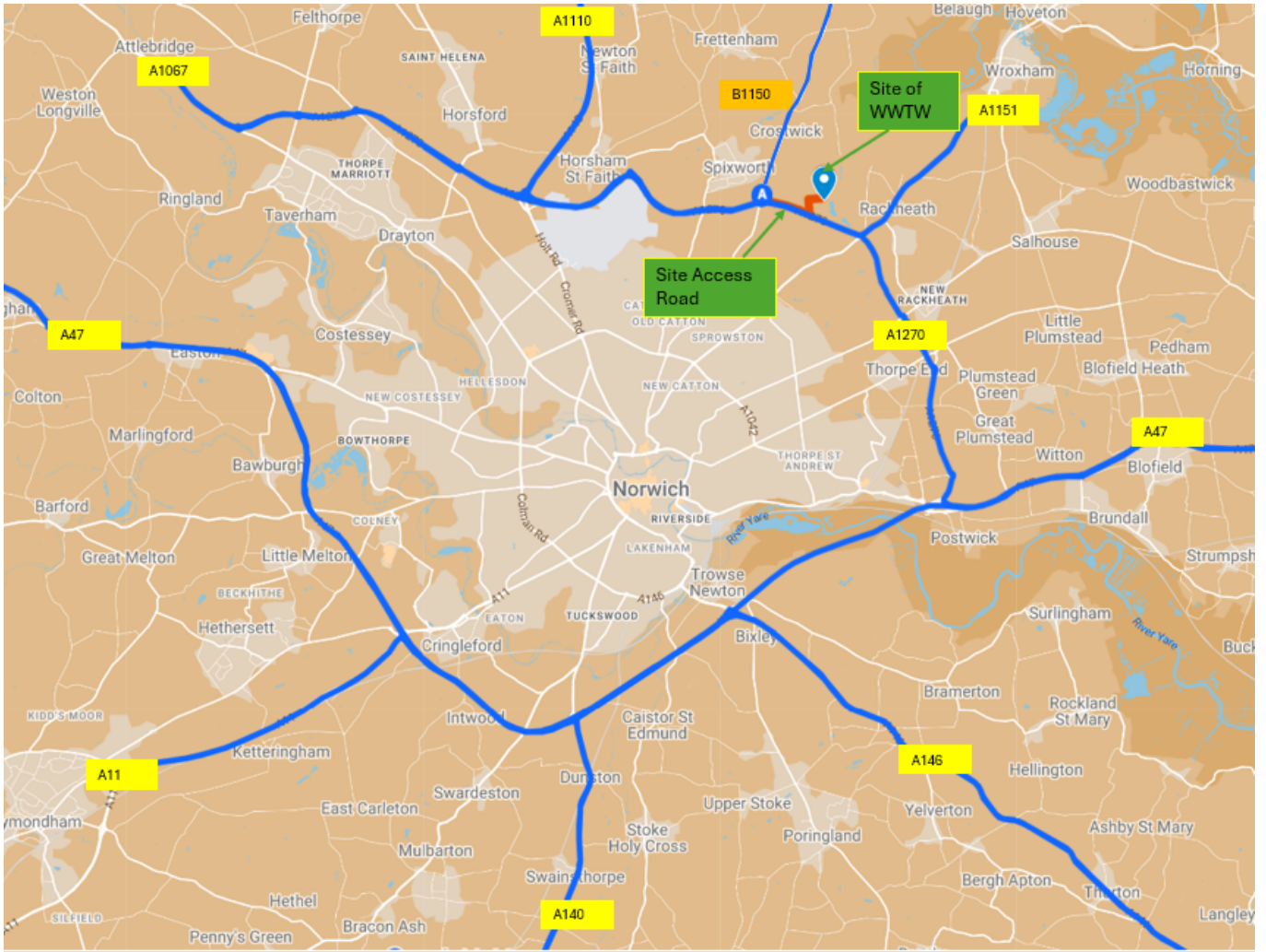


Figure 9 HGV Routes to site for construction and operation phases using the A-road network

4.2 Construction Operating Hours

It is expected that construction activities will take place between Monday – Friday 07:30 – 17:00 and Saturday 08:00 and 13:00 and at no time on Sunday or Bank Holiday unless otherwise agreed with the Local Planning Authority. Deliveries to site will take place within these times and be spread throughout the da.

Should any abnormal load be required, these are likely to be transported outside peak hours to minimise disruption to the network, and each case would require engagement from the Local Highway Authority and Highways Agency if their roads are utilised.

4.3 Parking

During the construction phase, on-site parking for construction workers will be provided within the application site.

5. Trip Generation

The TS has considered the peak number of construction vehicles during the construction phase of the proposed development. Forecast trip generation during the construction phase has been estimated by calculating of the volume of imported materials for the road construction and is based on information provided by the contractor Severn Trent relating to the delivery and construction and assembly of operational equipment.

5.1 Construction Movements

During construction phase, there will be a workforce on the site and deliveries of equipment and materials daily for the expected 5-day working week. It is expected that construction workers will travel by car to the site. There will be several large deliveries throughout the duration of the project on articulated wagons. Heavy vehicles will be required to deliver construction materials and plant associated with the WWTW (tanks, process equipment, kiosk-type buildings) and materials for the new road and road resurfacing works.

An estimate of the likely number of loads required to import materials to the site has been made and presented in Table 1. It is expected that earth works relating to the construction of the WWTW will mainly reuse material on site with a cut and fill balance.

The HGV estimation is based on the use of a large tippers, with a typical gross weight 32 tonnes, with a payload of 20 tonnes, and a cubic capacity of 15 cubic metres. The delivery of materials and pre-assembled components on typically on articulated flatbed trucks has been estimated.

Table 1 Estimation of HGVs

Detail	Quantity	No. of HGVs (one way)
New access road surfacing material	1240m.cu	83
Tanks and process equipment, pipes and associated concrete foundations/plinths	Estimated	30
Kiosks / cabins (operational and construction phase)	4	4
Estimated Total		117

5.2 Construction Activity

Deliveries will be planned to occur at intervals throughout the working day and the total number of HGV deliveries during the peak period could typically be between 6-8 vehicles at the height of operations, plus approximately 8 car / vans a day for operatives and smaller deliveries. The estimated peak construction period traffic movements are presented in Table 2.

Table 2 Peak construction period traffic movements

Vehicle Type	Arrivals	Departures	Total (2-way)
HGV	4	4	8
LGV	3	3	6
Car	5	5	10
Total			24

In highways terms, the trips generated from the construction of the proposed development will have an immaterial impact on the operation of the local highway.

5.3 Operation and Maintenance Movements Post Construction

Following construction during the operational phase, in addition to periodic site access for farm vehicles, there will be regular visits to the proposed development for operation and maintenance purposed and compliance checks. These are detailed in Table 3.

Table 3 Operational Phase Trips

Phase	Tanker (Sludge)	Operational Van	Tanker (Chemical)	Periodic deliveries of materials, spare parts & maintenance Van/Flatbed
Operational	4 visits per month	8 visits per month	1 visit per month	1 visit per month

In highways terms the trips generated from the proposed development will have an immaterial impact on the operation of the local highway.

6. Summary and Conclusions

Civic Engineers has prepared this TS on behalf of Quinn Estates Ltd in support of a full planning application for the creation of a waste water treatment works including associated engineering works and access. The access works include the construction of a section of extended access road to the proposed development and upgrade of the existing access road.

The development of the WWTW will use an existing site access off North Walsham Road. The access was recently constructed as part of the NDR works. This TS has tested the visibility splay and undertook swept path analysis, which demonstrate that the access has unobstructed visibility, and that large HGVs can easily access and exit the site in forward gear.

The site is easily accessible from the A-road network with access located approximately 100m to the south of the site to the A1270. This provides onward connections and connects to the nearest Sludge Treatment Centre at Whitingham, located 20km to the south of the site.

A review of the anticipated number of vehicles has been undertaken for the construction phase along with the proposed routing to the site and access to the site was tested.

It is anticipated that there will be a short-term increase in trip generation during the construction phase with a peak of 24 arrivals and departures per day. It is anticipated that there will be limited additional trips associated with the operation of the WWTW once the proposed development has been completed.

This TS has listed out the expected operational vehicle movements and it is concluded that the development of the proposed WWTW will have a non-material impact on the operation of the highway and on this basis, no mitigation is required.

Appendix A– Redline Development Boundary



STANDARD NOTES

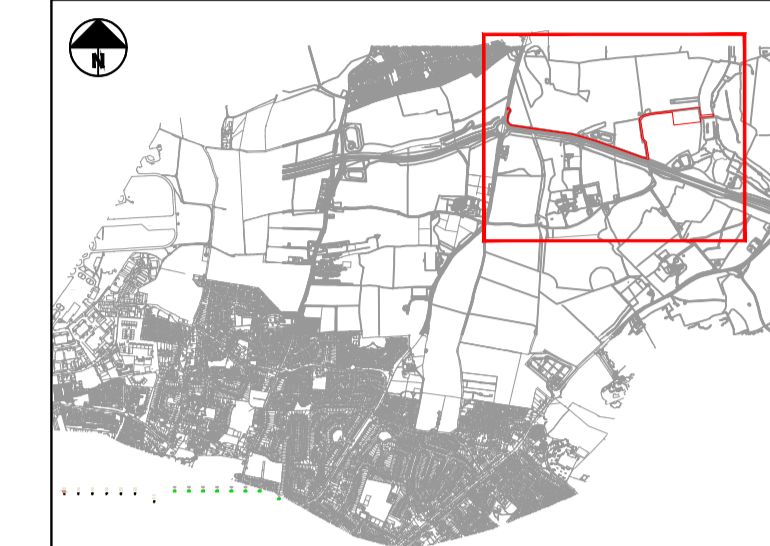
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KEY:

- RED LINE BOUNDARY FOR PLANNING - 3.14ha
- EXISTING TRACK

KEY PLAN:



31.05.24	P05	UPDATED FOR PLANNING REISSUE	AB	RWI
15.02.24	P04	ISSUED FOR INFORMATION	AS	BM
12.02.24	P03	REDLINE BOUNDARY UPDATED	BM	RWI
08.02.24	P02	REDLINE BOUNDARY UPDATED	BM	RWI
12.12.23	P01	ISSUED FOR INFORMATION	RS	RWI

DATE	REV	DESCRIPTION	DRAWN	CHKD
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MANCHESTER Carver's Warehouse, 77 Dale Street, Manchester, M1 2HG. Tel: 0161 228 6757
 LONDON Reeds Wharf, 33 Mill Street, London SE1 2AX. Tel: 020 7253 2977
 LEEDS 1 Saw Mill Street, Water Lane, Leeds, LS11 5WE. Tel: 0113 2025 130
 GLASGOW 33 Virginia Street, Glasgow, G1 1TH. Tel: 0141 370 8829

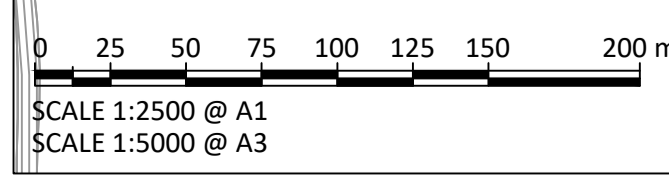
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PROJECT
**BEESTON PARK
 NORWICH**

TITLE
**WASTE WATER TREATMENT WORKS
 PLANNING
 SHEET 1**

DRAWING STATUS		STATUS CODE	
PRELIMINARY		S3	
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DRAWING No.		REV	
955-07-CIV-XX-XX-D-H-40004		P05	

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Appendix B - Visibility Splay & Swept Path



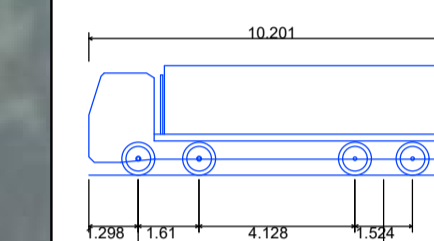
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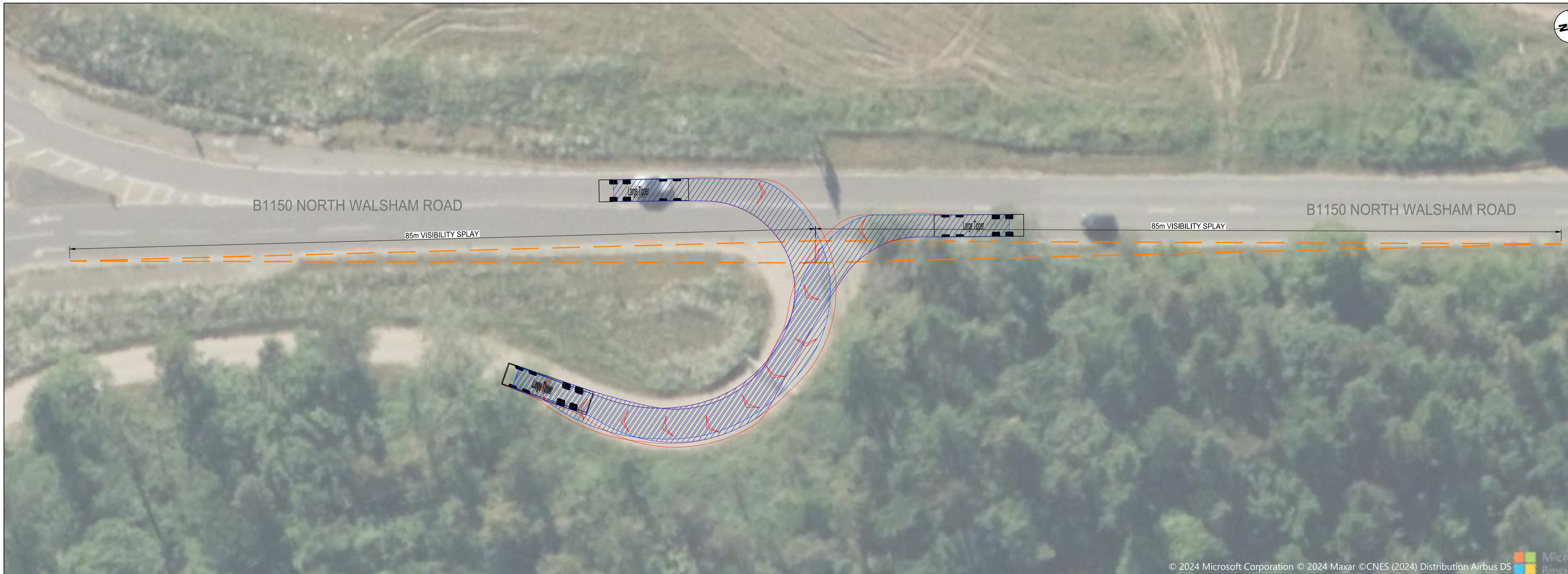
KEY:

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- VEHICLE BODY TRACKING
- WHEEL PATH TRACKING
- VISIBILITY SPLAY



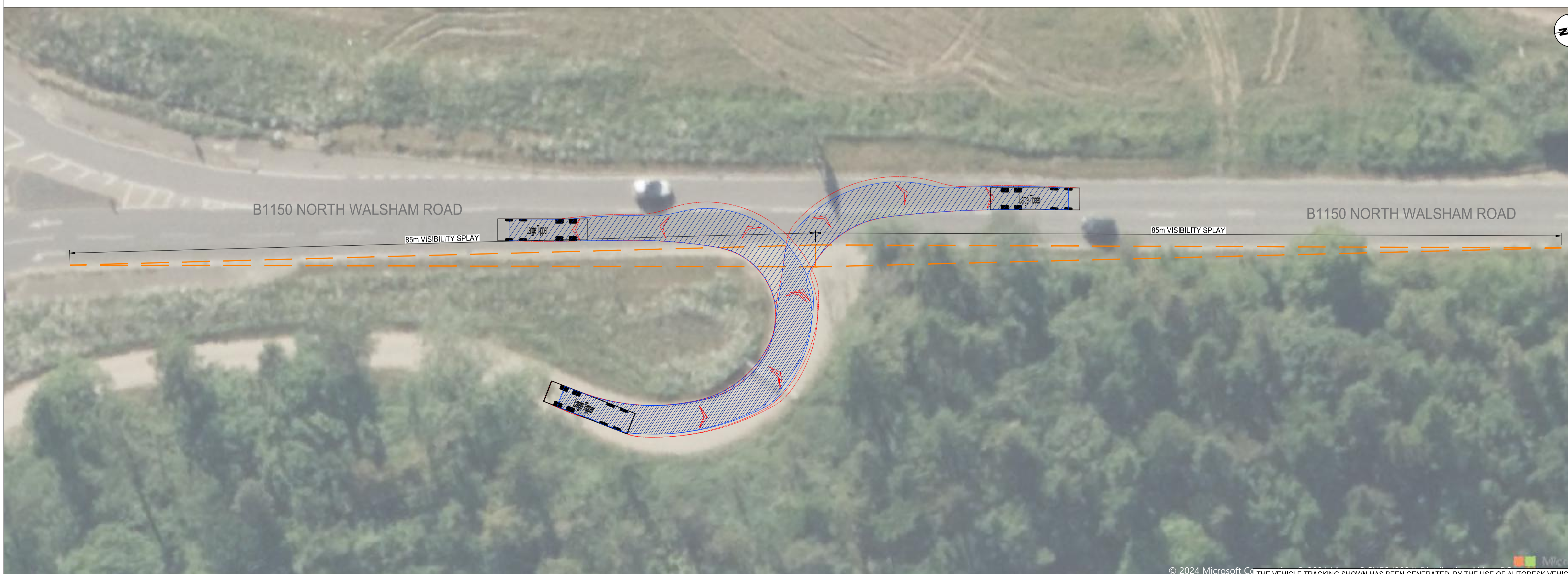
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 Overall Width 2.495m
 Overall Body Height 2.890m
 Min Body Ground Clearance 0.341m
 Track Width 2.471m
 Lock to lock time 6.00s
 Kerb to Kerb Turning Radius 11.550m

DESIGN SPEED 5kph FOR ALL FORWARD MOVEMENTS
 DESIGN SPEED 2kph FOR ALL REVERSE MOVEMENTS



WASTEWATER TREATMENT WORKS ACCESS ROAD - EXISTING JUNCTION - INCOMING

NTS



WASTEWATER TREATMENT WORKS ACCESS ROAD - EXISTING JUNCTION - OUTGOING

NTS

31.05.24	P01	INITIAL ISSUE	AGB	SK
DATE	REV	DESCRIPTION	DRAWN	CHKD



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PROJECT
 BEESTON PARK
 NORWICH

TITLE
 WASTEWATER TREATMENT WORKS
 TRACKING & VISIBILITY
 LARGE TIPPER

DRAWING STATUS		STATUS CODE	
INFORMATION		-	

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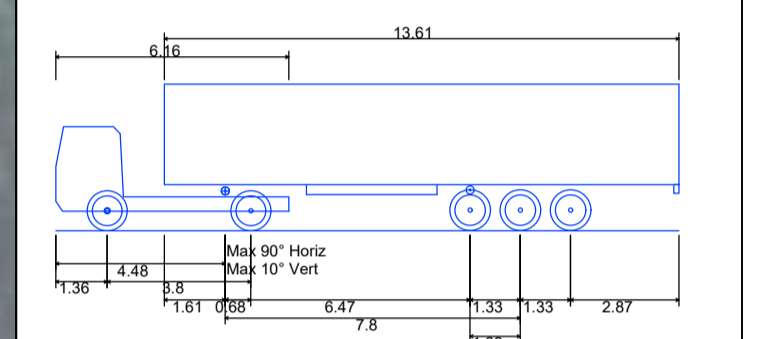
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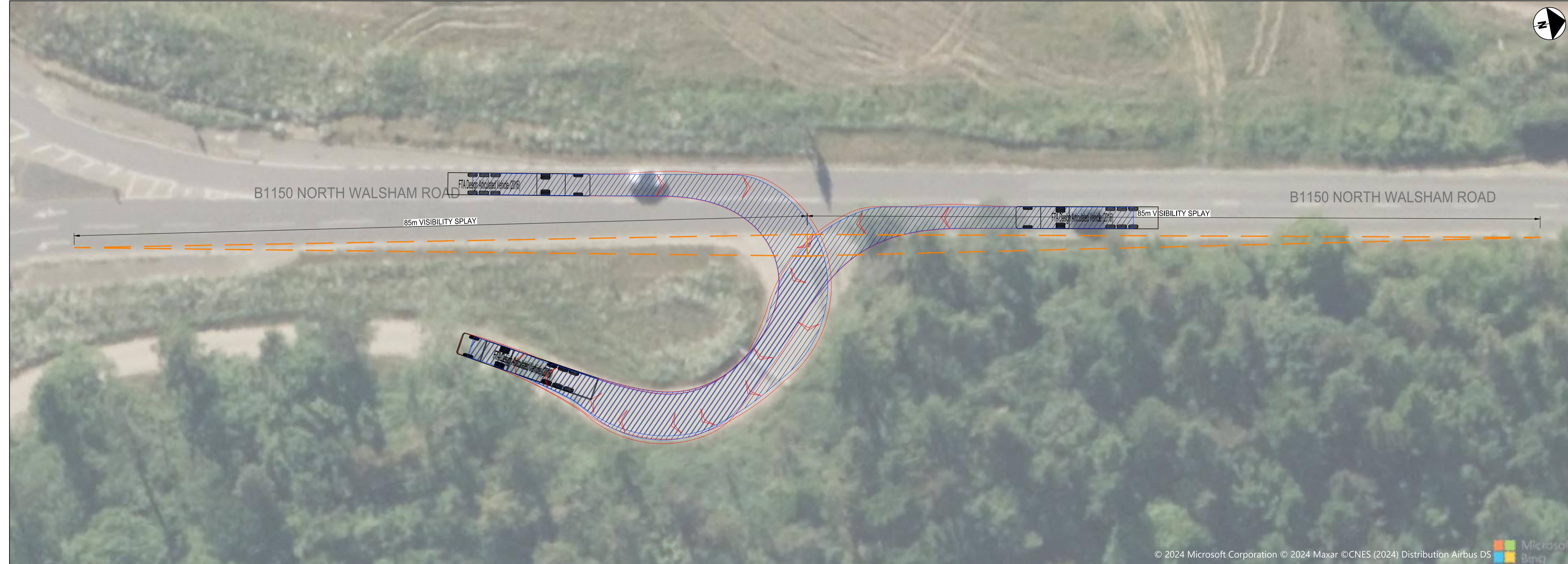
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- KEY:
- VEHICLE CHASSIS TRACKING
 - VEHICLE BODY TRACKING
 - WHEEL PATH TRACKING
 - VISIBILITY SPLAY

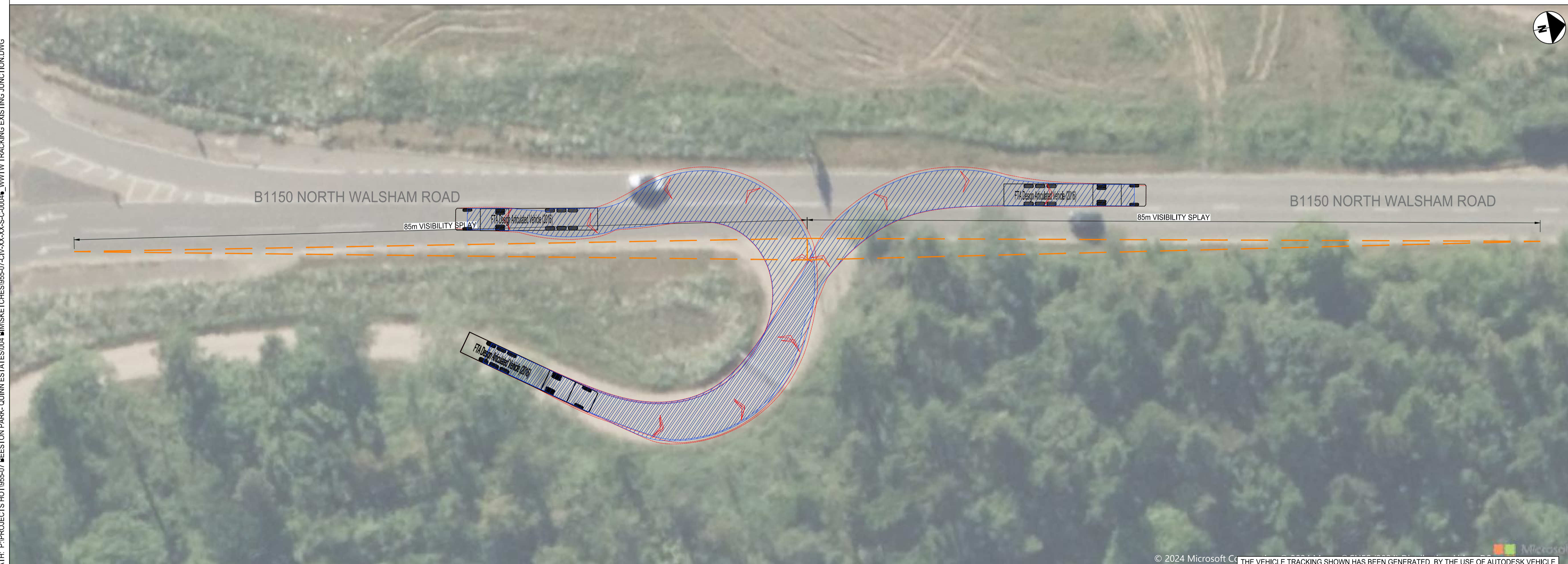


FTA Design Articulated Vehicle (2016)
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 Overall Width 2.550m
 Overall Body Height 3.870m
 Min Body Ground Clearance 0.515m
 Max Track Width 2.470m
 Lock to lock time 3.00s
 Kerb to Kerb Turning Radius 6.600m

DESIGN SPEED 5kph FOR ALL FORWARD MOVEMENTS
 DESIGN SPEED 2kph FOR ALL REVERSE MOVEMENTS



WASTEWATER TREATMENT WORKS ACCESS ROAD - EXISTING JUNCTION - INCOMING
 NTS



WASTEWATER TREATMENT WORKS ACCESS ROAD - EXISTING JUNCTION - OUTGOING
 NTS

31.05.24	P01	INITIAL ISSUE	AGB	SK
DATE	REV	DESCRIPTION	DRAWN	CHEK'D



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PROJECT
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 NORWICH

TITLE
 WASTEWATER TREATMENT WORKS
 TRACKING & VISIBILITY
 ARTICULATED VEHICLE

DRAWING STATUS		STATUS CODE	
INFORMATION		-	

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